IMPORTANT NOTICE

IMPORTANT: You must read the following disclaimer before continuing. By accessing the attached electronic offering memorandum (the "Offering Memorandum"), you agree to the following:

This Transmission is Personal to You and Must Not be Forwarded: You are reminded that the attached Offering Memorandum has been delivered personally to you on the basis that you are a person into whose possession the attached Offering Memorandum may be lawfully delivered in accordance with applicable laws. You may not nor are you authorized to deliver the attached Offering Memorandum to any other person. You will not transmit the attached Offering Memorandum (or any copy of it or part thereof) or disclose, whether orally or in writing, any of its contents to any other person.

Confirmation of Your Representation: In order to be eligible to view the attached Offering Memorandum or make an investment decision with respect to the notes described therein (the "Notes"), you must (1)(i) in the United States, be a "qualified institutional buyer" (within the meaning of Rule 144A under the U.S. Securities Act of 1933, as amended (the "Securities Act")) acting for your account or for the account only of another "qualified institutional buyer," or (ii) be a non-U.S. person outside the United States (within the meaning of Regulation S under the Securities Act), and (a) in the European Economic Area ("EEA") or the United Kingdom ("UK"), not be a retail investor (as defined below), and (b) in addition, in the UK, be a person having professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") or a high net worth entity falling within Article 49(2) to (d) of the Order or any other person to whom the attached Offering Memorandum may otherwise be lawfully distributed under the Order and (2) consent to delivery of the attached Offering Memorandum and any amendments or supplements thereto by electronic transmission.

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the EEA. For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU, as amended ("MiFID II") or (ii) a customer within the meaning of Directive 2016/97/EU (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129, as amended (the "Prospectus Regulation"). Consequently, no key information document required by Regulation (EU) No 1286/2014, as amended (the "PRIIPs Regulation"), for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

The attached Offering Memorandum has been prepared on the basis that any offer of Notes in any member state of the EEA will be made pursuant to an exemption under the Prospectus Regulation from the requirement to publish a prospectus for offers of notes. The attached Offering Memorandum is not a prospectus for the purposes of the Prospectus Regulation.

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the UK. For these purposes, a retail investor means a person who is one (or more) of the following: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018, as amended (the "EUWA"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000, as amended (the "FSMA"), and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of UK domestic law by virtue of the EUWA or (iii) not a qualified investor as defined in Article 2 of the Prospectus Regulation as it forms part of UK domestic law by virtue of the EUWA, as amended (the "UK Prospectus Regulation"). Consequently, no key information document required by the PRIIPs Regulation as it forms part of UK domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

The attached Offering Memorandum has been prepared on the basis that any offer of Notes in the UK will be made pursuant to an exemption from the obligation to publish a prospectus under Section 86 of the FSMA. The attached Offering Memorandum is not a prospectus for the purposes of Section 85 of the FSMA.

The attached Offering Memorandum has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of transmission, and consequently none of the sender or any person who controls it or any director, officer, employee or agent of it, or affiliate of any such person accepts any liability or responsibility whatsoever in respect of any such alteration or change.

Restrictions: Nothing in this electronic transmission constitutes an offer of securities for sale in any jurisdiction where such offer is not permitted. The securities will not be registered under the Securities Act or with any other securities regulatory authority of any State of the U.S. or other jurisdiction and may not be offered, sold, pledged or transferred in the United States unless registered under the Securities Act or pursuant to an available exemption from such registration.

Actions that You May Not Take: You should not reply by e-mail to this announcement, and you may not purchase any securities by doing so. Any reply e-mail communications, including those you generate by using the “Reply” function on your e-mail software, will be ignored or rejected.

Offering Memorandum

U.S.$900,000,000 4.203% Notes due 2029
Issue price: 100.000%

U.S.$1,000,000,000 4.592% Notes due 2034
Issue price: 100.000%

U.S.$600,000,000 reopening of 5.218% Notes due 2054
(to be consolidated and form a single class with the U.S.$1,000,000,000 5.218% Notes due 2054 issued on March 8, 2024)
Issue price: 103.678% plus accrued and unpaid interest of U.S.$86,966.67 from and including September 8, 2024, to, but excluding, September 9, 2024.

Strictly Confidential

Roche Holdings, Inc.

(Incorporated in the State of Delaware, USA)

Guaranteed by

Roche Holding Ltd

(Registered in Switzerland)

Roche Holdings, Inc. is offering U.S.$900,000,000 aggregate principal amount of 4.203% notes due 2029 (the "2029 Notes"), U.S.$1,000,000,000 aggregate principal amount of 4.592 % notes due 2034 (the "2034 Notes") and U.S.$600,000,000 aggregate principal amount of 5.218% notes due 2054 (the "2054 Notes" and, together with the 2029 Notes and the 2034 Notes, the "Notes" and each a "series"). The 2054 Notes offered hereby will constitute a further issuance of, and will be consolidated and form a single class with, the U.S.$1,000,000,000 5.218% Notes due 2054 issued on March 8, 2024 (the "Original 2054 Notes"). Upon completion of this offering, the aggregate principal amount of the 2054 Notes outstanding will be U.S.$1,600,000,000. Roche Holding Ltd will guarantee payment of principal of and premium, if any, and interest on the Notes pursuant to a guarantee (each a "guarantee"). The 2029 Notes will bear interest at a rate of 4.203% per year, the 2034 Notes will bear interest at a rate of 4.592 % per year, in each case from September 9, 2024. Interest will be paid on the 2029 Notes and the 2034 Notes semi-annually in cash in arrears on March 9 and September 9 of each year, commencing on March 9, 2025. The 2054 Notes will bear interest at a rate of 5.218% per year from September 9, 2024. Interest will be paid on the 2054 Notes semi-annually in cash in arrears on March 8 and September 8 of each year, commencing on March 8, 2025. Interest on the 2054 Notes will be deemed to have accrued from, and including, September 8, 2024 to, but excluding, September 9, 2024.

Unless earlier redeemed, the 2029 Notes will mature on September 9, 2029, the 2034 Notes will mature on September 9, 2034 and the 2054 Notes will mature on March 8, 2054. There is no sinking fund for the Notes.

The 2054 Notes will have identical terms (other than the issue date and issue price) to, and will be treated under the fiscal and paying agency agreement dated March 8, 2024, as a single class with, the Original 2054 Notes. The 2054 Notes will have the same ISINs and CUSIPs as, and will trade together with, the Original 2054 Notes, except that the 2054 Notes issued pursuant to Regulation S shall be issued and maintained under temporary ISINs and CUSIPs during a 40-day distribution compliance period commencing on September 9, 2024. See "*The Offering.*"

The Notes will be redeemable, in whole or in part, at any time and from time to time at the redemption prices determined in the manner described in this offering memorandum (the "offering memorandum"). Any series of Notes will be redeemable, in whole but not in part, before their stated maturity at a price equal to 100% of their principal amount plus accrued interest to the redemption date in the event of certain changes in U.S. or Swiss withholding taxes.

The Notes will be senior unsecured debt obligations of Roche Holdings, Inc. and will rank equally in right of payment with all of its other senior and unsecured debt obligations. The guarantees will be senior unsecured debt obligations of Roche Holding Ltd and will rank equally in right of payment with all of its other senior and unsecured debt obligations.

Investing in the Notes involves a high degree of risk. See "*Risk Factors*" beginning on page 14 for a discussion of certain risks that prospective investors should consider in connection with an investment in the Notes.

The Notes and guarantees have not been, and will not be, registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), or the securities laws of any other place. The Notes do not have the benefit of any exchange offer or registration rights. The Notes may not be offered or sold in the United States or to, or for the account or benefit of, U.S. persons (as defined in Regulation S under the Securities Act ("Regulation S")) except in transactions exempt from, or not subject to, the registration requirements of the Securities Act. Accordingly, the Notes will be offered and sold only to qualified institutional buyers (as defined in Rule 144A under the Securities Act ("Rule 144A")) in compliance with Rule 144A and outside the United States to persons other than U.S. persons in compliance with Regulation S.

The Notes will not be listed on any securities exchange.

The Notes will be delivered to purchasers in book-entry form only through the facilities of The Depository Trust Company for the accounts of its direct and indirect participants, including Clearstream Banking, *société anonyme* ("Clearstream"), and Euroclear Bank SA/NV ("Euroclear"), as operator of the Euroclear System, against payment in New York, New York on or about September 9, 2024.

Joint Book-Running Managers

Barclays **J.P.Morgan** **MUFG** **Santander**

The date of this offering memorandum is September 3, 2024.

The Group has not, and the initial purchasers have not, authorized anyone to provide any information other than that contained in this offering memorandum. The Group and the initial purchasers take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

In this offering memorandum, the term "Company" or "Issuer" refers to Roche Holdings, Inc., the term "Roche" or "Guarantor" refers to Roche Holding Ltd, and the term "Group" or "Roche Group" refers to Roche and its consolidated subsidiaries, including the Company.

The Company and the initial purchasers are offering to sell the Notes only in jurisdictions in which offers and sales are permitted.

Prospective investors should not assume that the information contained in this offering memorandum is accurate as of any date other than the date on the front cover of this offering memorandum.

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This offering memorandum is a confidential document that is being provided only to prospective investors in the Notes. As a prospective investor, you should read this offering memorandum carefully before making a decision whether to purchase any Notes. Prospective investors must not:

- use this offering memorandum, or the information it contains, for any other purpose;
- make copies of any part of this offering memorandum or give a copy of it to any other person; or
- disclose any information in this offering memorandum to any other person.

Prospective investors are responsible for making their own examination of the Company and Roche and their own assessment of the merits and risks of investing in the Notes. Prospective investors are urged to contact the Company

if they need any additional information. By purchasing any Notes, investors will be deemed to have acknowledged that:

- they have reviewed this offering memorandum;
- they have had an opportunity to request from the Company any additional information that they need; and
- the initial purchasers are not responsible for, and are not making any representation to investors concerning, the Roche Group's future performance or the accuracy or completeness of this offering memorandum.

None of the Company, Roche or the initial purchasers is providing prospective investors with any legal, business, tax or other advice in this offering memorandum. Prospective investors should consult with their own advisors as needed to assist them in making their investment decision and to advise them whether they are legally permitted to purchase Notes in this offering.

Investors and prospective investors must comply with all laws that apply to them in any place in which they buy, offer or sell any Notes or possess this offering memorandum. Investors must also obtain any consents or approvals that they need in order to purchase any Notes. The Company, Roche and the initial purchasers are not responsible for investors' and prospective investors' compliance with these legal requirements.

The Notes are being offered and sold in reliance on exemptions from the registration requirements of the Securities Act and Regulation S. These exemptions apply to offers and sales of securities that do not involve a public offering. The Notes will not have the benefit of any exchange or registration rights. The Notes have not been recommended by any federal, state or foreign securities authorities and no such authority has determined that this offering memorandum is accurate or complete. Any representation to the contrary is a criminal offense.

The Notes are subject to restrictions on resale and transfer as described under "*Transfer Restrictions*." By purchasing any Notes, investors will be deemed to have represented, acknowledged and agreed to all the provisions contained in that section of this offering memorandum. Investors may be required to bear the financial risks of investing in the Notes for an indefinite period of time.

The information set out in the sections of this offering memorandum describing clearing and settlement arrangements is subject to any change or reinterpretation of the rules, regulations and procedures of DTC as currently in effect. The information in such sections concerning these clearing and settlement arrangements has been obtained from sources that the Group believes to be reliable. This information has been accurately reproduced and as far as the Group is aware and able to ascertain from published information, no facts have been omitted which would render the reproduced information inaccurate or misleading. The Company and Roche accept responsibility only for the correct extraction and reproduction of such information, but not for the accuracy of such information. If you wish to use the facilities of the DTC clearing system you should confirm the applicability of the rules, regulations and procedures of the DTC clearing system. Neither the Company nor Roche will be responsible or liable for any aspect of the records relating to, or payments made on account of book-entry interests held through the facilities of the DTC clearing system or for maintaining, supervising or reviewing any records, relating to such book-entry interests.

THE NOTES MAY NOT BE OFFERED TO THE PUBLIC WITHIN ANY JURISDICTION. BY ACCEPTING DELIVERY OF THIS OFFERING MEMORANDUM, YOU AGREE NOT TO OFFER, SELL, RESELL, TRANSFER OR DELIVER, DIRECTLY OR INDIRECTLY, ANY NOTES TO THE PUBLIC.

Notice to U.S. Investors

The Notes have not been and will not be registered under the Securities Act or the securities laws of any state of the United States and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons (as defined in Regulation S), except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act.

The Notes are being offered and sold outside the United States to non-U.S. persons in reliance on Regulation S and within the United States to "qualified institutional buyers" ("QIBs") in reliance on Rule 144A. Prospective purchasers are hereby notified that the sellers of the Notes may be relying on the exemption from the provisions of Section 5 of the Securities Act provided by Rule 144A. For a description of these and certain other restrictions on offers, sales and transfers of the Notes and the distribution of this offering memorandum, see "*Plan of Distribution*," and "*Transfer Restrictions.*"

Notice to Certain Investors

Canada

The Notes may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions* and *Ongoing Registrant Obligations*. Any resale of the Notes must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this offering memorandum (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* ("NI 33-105"), the initial purchasers are not required to comply with the disclosure requirements of NI 33-105 regarding conflicts of interest in connection with this offering.

European Economic Area retail investors

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the European Economic Area (the "EEA"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU, as amended ("MiFID II"); or (ii) a customer within the meaning of Directive 2016/97/EU, as amended (the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129, as amended (the "Prospectus Regulation"). Consequently, no key information document required by Regulation (EU) No 1286/2014, as amended (the "PRIIPs Regulation"), for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

This offering memorandum has been prepared on the basis that any offer of Notes in any member state of the EEA will be made pursuant to an exemption under the Prospectus Regulation from the requirement to publish a

prospectus for offers of Notes. This offering memorandum is not a prospectus for the purposes of the Prospectus Regulation.

United Kingdom

The issue and distribution of this offering memorandum is restricted by law. This offering memorandum is not being distributed by, nor has it been approved for the purposes of Section 21 of the Financial Services and Markets Act 2000, as amended (the "FSMA"), by, a person authorized under the FSMA. Accordingly, this offering memorandum is only for distribution to and directed at: (i) in the United Kingdom (the "UK"), persons having professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and high net worth entities falling within Article 49(2)(a) to (d) of the Order; (ii) persons who are outside the UK; and (iii) any other person to whom it can otherwise be lawfully distributed (all such persons together being referred to as "Relevant Persons"). Any investment or investment activity to which this offering memorandum relates is available only to and will be engaged in only with Relevant Persons, and any person who is not a Relevant Person should not rely on it.

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the UK. For these purposes, a retail investor means a person who is one (or more) of the following: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018, as amended (the "EUWA"); (ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of UK domestic law by virtue of the EUWA or (iii) not a qualified investor as defined in Article 2 of the Prospectus Regulation as it forms part of UK domestic law by virtue of the EUWA, as amended (the "UK Prospectus Regulation"). Consequently, no key information document required by the PRIIPs Regulation as it forms part of UK domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

Each initial purchaser has represented and agreed that (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the Notes in circumstances in which Section 21(1) of the FSMA does not apply to the Company and the Guarantor, and (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the UK.

No part of this offering memorandum should be published, reproduced, distributed or otherwise made available in whole or in part to any other person without the prior written consent of the Company. The Notes are not being offered or sold to any person in the UK, except in circumstances which will not result in an offer of securities to the public in the UK within the meaning of Part VI of the FSMA.

Switzerland

The Notes may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the Swiss Financial Services Act of June 15, 2018, as amended (the "FinSA"), and no application has been or will be made to admit the Notes to trading on any trading venue (exchange or multilateral trading facility) in Switzerland. Neither this offering memorandum nor any other offering or marketing material relating to the Notes constitutes a prospectus as such term is understood pursuant to the FinSA and neither this offering memorandum nor any other offering or marketing material relating to the Notes may be publicly distributed or otherwise made publicly available in Switzerland.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (the "Financial Instruments and Exchange Law") and each initial purchaser has agreed that it will not offer or sell any Notes, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein

means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

Hong Kong

The Notes may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap.32) of Hong Kong, or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571) of Hong Kong and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap.32) of Hong Kong, and no advertisement, invitation or document relating to the Notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made thereunder.

Singapore

This offering memorandum has not been registered as a prospectus with the Monetary Authority of Singapore ("MAS"). Accordingly, this offering memorandum and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes may not be circulated or distributed, nor may the Notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person, or any person pursuant to Section 275(1A) and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired the Notes under Section 275, except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A) and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Solely for the purposes of its obligations pursuant to Sections 309(B)(1)(a) and 309(B)(1)(c) of the SFA, the Company has determined, and hereby notifies all relevant persons (as defined in Section 309A of the SFA) that the Notes are "prescribed capital markets products" (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Taiwan

The Notes have not been, and will not be, registered with the Financial Supervisory Commission of Taiwan, the Republic of China ("Taiwan") pursuant to applicable securities laws and regulations. No person or entity in Taiwan is authorized to distribute or otherwise intermediate the offering of the Notes or the provision of information relating to the offering of the Notes, including, but not limited to, this offering memorandum. The Notes may be made available for purchase outside Taiwan by investors residing in Taiwan (either directly or through properly licensed Taiwan intermediaries acting on behalf of such investors), but may not be issued, offered or sold in Taiwan.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

The Roche Group publishes its consolidated financial statements expressed in Swiss francs. The Company publishes its consolidated financial statements expressed in U.S. dollars. References to "CHF" or "Swiss franc" are to Swiss currency, and references to "U.S. dollars," "U.S. dollar," "dollars," "dollar," "U.S.$" or "$" are to United States currency.

Solely for convenience, with respect to the consolidated financial statements for the Roche Group, this offering memorandum contains translations of certain Swiss franc amounts into U.S. dollars at specified rates. These translations should not be construed as representations that the Swiss franc amounts actually represent such U.S. dollar amounts or could be converted into U.S. dollars at the rate indicated or at any other rate. Unless otherwise indicated, the translations of Swiss franc amounts into U.S. dollars have been made at the rate of CHF 0.8988 = U.S.$1.00, the Swiss franc market closing rate ("Swiss market closing price") on June 28, 2024, according to the London Bloomberg Composite Rate from Bloomberg Finance L.P. ("Bloomberg"). The Swiss market closing price on June 28, 2024 differs from the actual rates used in the preparation of the Roche Group's consolidated financial statements, and U.S. dollar amounts used in this offering memorandum differ from the actual U.S. dollar amounts that were translated into Swiss franc in the preparation of such consolidated financial statements.

Consolidated financial statements

The 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements (each as defined below) have been audited by KPMG AG, as stated in the reports of KPMG AG, appearing together with the 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements, respectively, each of which is included in this offering memorandum. The H1 2024 Interim Consolidated Financial Statements (as defined below) have been prepared in accordance with International Accounting Standard ("IAS") 34 (*Interim Financial Reporting*), and have been reviewed by KPMG AG.

Summary consolidated financial information for the Roche Group and the Company is included in this offering memorandum.

The Roche Group prepares consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS Accounting Standards") as issued by the International Accounting Standards Board ("IASB"). In 2023, the IFRS Foundation issued trademark guidelines indicating that the financial reporting standards issued by the IASB should be referred to as "IFRS Accounting Standards" (as opposed to "IFRS"). This change in IFRS reference has been reflected in this offering memorandum, the H1 2024 Interim Consolidated Financial Statements and the 2023 Consolidated Financial Statements.

The Company prepares consolidated financial statements in accordance with IFRS Accounting Standards as adopted by the European Union (the "EU").

Changes in accounting policies that arise from the application of new or revised standards and interpretations are applied retrospectively, unless otherwise specified in the transitional requirements of the particular standard of interpretation. Retrospective application requires that the results of the comparative period and the opening balances of that period are restated as if the new accounting policy had always been applied. In some cases, the transitional requirements of the particular standard or interpretation specify that the changes are to be applied prospectively. Prospective application requires that the new accounting policy only be applied to the results of the current period and the comparative period is not restated. In addition, comparatives may be reclassified or extended from the previously reported results to take into account any presentational changes. Accordingly, the financial information contained in the consolidated financial statements for a particular year may not be comparable with the financial information contained in the consolidated financial statements for another year due to changes in IFRS Accounting Standards and the Roche Group's accounting policies.

See Note 1 of the Roche Group's unaudited interim consolidated financial statements as of and for the six months ended June 30, 2024 and the notes thereto (the "H1 2024 Interim Consolidated Financial Statements"), Note 34 to Roche Group's audited consolidated financial statements as of and for the year ended December 31, 2023 and the notes thereto (the "2023 Consolidated Financial Statements") and Note 34 to Roche Group's audited consolidated financial statements as of and for the year ended December 31, 2022 and the notes thereto (the "2022 Consolidated

Financial Statements") for a summary of accounting policies applied to the H1 2024 Interim Consolidated Financial Statements, the 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements, respectively.

Except for the summary consolidated financial information for the Company included in this offering memorandum, the Company does not intend to furnish any financial statements or financial information of the Company to the holders of the Notes or the fiscal agent under the fiscal and paying agency agreement governing the Notes. The Company's payment obligations under the Notes will be fully and unconditionally guaranteed by Roche.

Presentational and cost allocation changes effective January 1, 2023

Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. This has been done to improve external comparability and to reflect changes in the internal reporting for functions with global accountability.

- The income statement now presents 'Selling, general and administration' costs, which is created from merging 'Marketing and distribution' costs and 'General and administration' costs.
- The income statement now presents 'Other revenue' in place of 'Royalties and other operating income'.
- The income statement now presents 'Other operating income (expense)' for non-revenue income and for expenses that do not fall into the regular functional costs.
- Allocations from functions with global accountability such as informatics, human resources and finance are no longer made to the Pharmaceuticals and Diagnostics Divisions.

These changes have no impact on sales, operating profit, net income and earnings per share of the Roche Group as a whole, for both the IFRS and core basis. There is no change to the core results concept. The cost allocation changes will reduce costs allocated to divisions and increase divisional margins. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected.

In the 2023 Consolidated Financial Statements, the full year information for 2022 has been restated. For a reconciliation to the previously published results, please see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Accounting policies—Presentational and cost allocation changes effective January 1, 2023"* and Note 34 to the 2023 Consolidated Financial Statements. For the restated core results, please see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated core results (selected items)-Year ended December 31, 2022*."

The 2022 Consolidated Financial Statements included in this offering memorandum have not been restated and have been retained as originally published and audited.

Change in operating segments effective January 1, 2024

Effective January 1, 2024, the Foundation Medicine business was moved under the responsibility of the Diagnostics Division from the Pharmaceuticals Division, while Foundation Medicine's independence was retained in this new reporting set-up. Accordingly, from January 1, 2024, the results of the Foundation Medicine business have been reported as part of the Diagnostics Division, and this represents a change in the Group's operating segments in its financial reporting. These changes had no impact on sales, operating profit, net income and earnings per share and non-voting equity security of the Group as a whole, for both the IFRS and core basis. There is no change to the core results concept.

No restatements have been made in the 2022 Consolidated Financial Statements and 2023 Consolidated Financial Statements for these changes. The changes have been applied retrospectively from January 1, 2024 and therefore the operating results of the divisions have changed as described in the paragraph below.

In the H1 2024 Interim Consolidated Financial Statements, the comparative information for 2023 has been restated. For a reconciliation to the previously published results please see Note 1 to the H1 2024 Interim Consolidated Financial Statements. For the restated core results, please see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Reconciliation from IFRS results to core results— For the six months ended June 30, 2024 and June 30, 2023*."

The full year 2023 results will be restated in Roche Group's consolidated financial statements as of and for the year ending December 31, 2024.

Non-GAAP Measures

The financial information included in this offering memorandum includes certain non-GAAP measures which are not accounting measures as defined by IFRS Accounting Standards, in particular, the core results, net working capital, net operating assets, free cash flow and operating free cash flow and measures at constant exchange rates ("CER") set forth under "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group.*" These non-GAAP measures should not be used instead of, or considered as alternatives to, the Roche Group's consolidated financial results based on IFRS Accounting Standards. These non-GAAP measures may not be comparable to similarly titled measures disclosed by other companies.

Core results

Core results measures have been included in this offering memorandum because management believes that they allow for a helpful assessment of both the Roche Group's actual results as prepared in accordance with IFRS Accounting Standards and the underlying performance of the business. The core results concept is explained in "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Core results—Core results concept.*"

For a description of core results and a reconciliation from IFRS results to core results, see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Core results—Reconciliation from IFRS results to core results.*"

Free cash flow and operating free cash flow

Free cash flow is used to assess the Roche Group's ability to generate the cash required to conduct and maintain its operations. It also indicates the Roche Group's ability to generate cash to finance dividend payments, repay debt and to undertake merger and acquisition activities. The free cash flow concept is used in the internal management of the business.

Operating free cash flow on a Roche Group level is calculated based on the IFRS cash flows from operating activities and adjusted for income taxes paid, capital expenditures (investments in property, plant and equipment and intangible assets as well as the principal portion of lease liabilities paid for leased assets), cash flows from defined benefit plans and other operating items (such as payments for acquisition-related costs). Operating free cash flow is different from cash flows from operating activities as defined by IAS 7 in that it includes capital expenditures (which is within the responsibility of divisional management) and excludes income taxes paid (which is not within the responsibility of divisional management). Cash outflows from defined benefit plans are allocated to the operating free cash flow based on the current service cost with the residual allocated to treasury activities.

On a divisional basis operating free cash flow is calculated based on the divisional IFRS operating profit and adjusted for certain cash items, movements in net working capital and capital expenditures (investments in property, plant and equipment and intangible assets as well as the principal portion of lease liabilities paid for leased assets).

Divisional operating free cash flow is calculated using divisional operating profit as a starting point rather than IAS 7 cash flows from operating activities, as the divisional performance is not monitored at such a level and data is not readily available below divisional operating profit.

Free cash flow on a Roche Group level is based on cash flows from operating activities as defined by IAS 7 and adjusted to include movements in capital expenditures for investments in property, plant and equipment and

intangible assets as well as the principal portion of lease liabilities paid for leased assets, treasury activities (including interest paid) and other operating items (such as payments for acquisition-related costs). Free cash flow is different from total cash flows as defined by IAS 7 in that it excludes dividend payments, cash inflows/outflows from financing activities such as issuance/repayment of debt, purchase/sale of marketable securities and cash inflows/outflows from mergers, acquisitions and divestments. Treasury activities include the following: interest and dividends received, interest paid, realized gains and losses from the sale of marketable securities, net proceeds and outflows from disposal and purchase of financial long-term assets, net other financial receipts, related foreign exchange gains and losses as well as the residual of allocations of cash outflow from defined benefits plans not included in the operating free cash flow.

For a description of operating free cash flow and free cash flow and a reconciliation of free cash flow to cash flows from operating activities (IFRS basis in accordance with IAS 7) to both operating free cash flow and free cash flow, see each of "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Operating free cash flow and free cash flow—Operating free cash flow reconciliation and free cash flow reconciliation*," "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of six months ended June 30, 2024 and 2023—Group cash flow – Divisional Breakdown*," "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of years ended December 31, 2023 and 2022—Group cash flow - Divisional breakdown*" and "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of years ended December 31, 2022 and 2021—Group cash flow - Divisional breakdown*."

Net operating assets

Net operating assets allow for an assessment of the Roche Group's operating performance of the business independently from financing and tax activities. Net operating assets are calculated as property, plant and equipment, leased assets (reported on the Roche Group's balance sheet as "right-of-use assets"), goodwill, intangible assets, net working capital and long-term net operating assets minus provisions. Long-term net operating assets is the net of total non-financial non-current assets and total other non-current liabilities.

Net debt

Net debt is used to monitor the Roche Group's overall short- and long-term liquidity. Net debt is calculated as the sum of total debt (long-term and short-term) less marketable securities, cash and cash equivalents.

Net working capital and net trade working capital

Net working capital is used to assess the Roche Group's efficiency in utilizing assets and short-term liquidity. Net trade working capital is calculated as trade receivables and inventories minus trade payables. Net working capital is calculated as net trade working capital adjusted for other receivables and other payables.

Measures at constant exchange rates

Certain percentage changes and certain changes in absolute numbers presented in this offering memorandum have been calculated using CER which allow for an assessment of the Roche Group's financial performance with the effects of exchange rate fluctuations eliminated. The percentage changes and certain changes in absolute numbers at constant exchange rates are calculated using simulations by reconsolidating both the current reported period and the prior period numbers at constant currency exchange rates, equaling the average exchange rates for the prior period. For example, a CER change between a 2024 line item and its 2023 equivalent is calculated using the average exchange rate for the year ended December 31, 2023 for both the 2024 line item and the 2023 line item and subsequently calculating the change in percent with respect to the two recalculated numbers.

In countries where there is a significant devaluation in the local currency in 2024, the simulations use the average exchange rate of the current year instead of the prior year to avoid that CER growth rates are artificially inflated.

Market share and other information

The Group makes statements in this offering memorandum about its market share in the pharmaceutical and diagnostic industries. The Group has made these statements on the basis of information obtained from third-party sources that the Group believes are reliable. Unless stated otherwise, the Group has calculated its pharmaceutical market share with respect to specific products by dividing its net sales volumes of these products for the applicable geography by the total net sales volumes of these products as estimated by IMS Health Inc. or other industry or Group sources. Unless stated otherwise, the Group has calculated its diagnostic market share with respect to specific products by dividing its net sales volumes of these products for the applicable geography by the total net sales volumes of these products as estimated by Boston Biomedical Consultants or other industry or Group sources. Although the Group has no reason to believe that any of this information is inaccurate in any material respect, none of the Company, Roche, the Group or the initial purchasers has independently verified the market share, market size or similar data provided by third parties or derived from industry or general publications.

Rounding

The Company and Roche have made rounding adjustments to reach some of the figures included in this offering memorandum. As a result, amounts shown as totals in some tables may not be arithmetic aggregations of the amounts that precede them.

Product names

Product names appearing in *italics* herein are covered by registered trademarks.

Trademarks, service marks and trade names

The Group owns or has rights to use various trademarks, service marks or trade names that the Group uses in connection with the operation of its business. Other trademarks, service marks and trade names appearing in this offering memorandum are, to the Group's knowledge, the property of their respective owners. Solely for convenience, the trademarks, service marks, and trade names referred to in this offering memorandum are listed without the ®, SM and TM symbols, but such references are not intended to indicate, in any way, that the Group will not assert, to the fullest extent permitted under applicable law, its rights or the rights of the applicable licensors to these trademarks, service marks and trade names. Use or display by the Group of other parties' trademarks, trade names or service marks is not intended to and does not imply a relationship with, or endorsement or sponsorship by the Group of, the trademark, trade name or mark owner.

FORWARD-LOOKING STATEMENTS

Certain statements contained in this offering memorandum are forward-looking statements concerning the business, results of operations or financial condition of the Company, Roche and the Group. Forward-looking statements are included, for example, in the discussions about:

- the Group's strategy;
- geopolitical developments or events, such as global tensions and conflicts, protectionist policies implemented by governments and impact of uncertain macroeconomic policies of central banks and other economic or political developments;
- product sales, royalties and contract revenues;
- execution and realization of expected benefits from alliances, acquisitions and divestments;
- new product development, product introductions or new uses of existing products;
- unexpected results of clinical trials;
- efficacy or safety concerns with respect to marketed products, whether or not scientifically justified, leading to product recalls, withdrawals or declining sales;
- the Group's ability to obtain, maintain or enforce patent or other intellectual property rights;
- competition;
- digitalization and technological transformation in the healthcare industry;
- potential disruptions of information technology systems, data breaches, cybersecurity incidents or threats and other digitalization risks as well as industrial espionage;
- legal claims or proceedings involving the Group;
- stringent and evolving privacy laws, information security laws, regulations, and policies related to data privacy and security;
- the impact of managed care or other initiatives to reduce healthcare costs, including government austerity measures and reduced rebates;
- the Group's expenses and net income;
- the Group's liquidity and financial resources;
- the Group's debt profile;
- the Group's credit risk management;
- the Group's asset/liability risk management;
- operational, legal and regulatory risks affecting the Group; and
- other factors identified or discussed under "*Risk Factors*."

The Roche Group's forward-looking statements are not guarantees of future performance, and its actual results or other developments may differ materially from the expectations expressed in the forward-looking statements. As for forward-looking statements that relate to future financial performance and other projections, actual results will be

different due to the inherent uncertainty of estimates, forecasts and projections. Because of these uncertainties, prospective investors should not rely on these forward-looking statements.

Any forward-looking statement that the Company or Roche makes in this offering memorandum speak only as of the date of such statement. Neither the Company nor Roche undertakes any obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

SUMMARY

This summary highlights information presented in greater detail elsewhere in this offering memorandum. This summary is not complete and does not contain all the information prospective investors should consider before investing in the Notes. Prospective investors should carefully read this entire offering memorandum before investing, including, without limitation, "Risk Factors," "Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group" and the Group's consolidated financial statements.

Roche Group

Roche Holding Ltd is the parent company of an international research-based healthcare group, which was founded in 1896 and is active in more than 150 countries and as of December 31, 2023, employed more than 100,000 people worldwide. In 1989, Roche Holding Ltd assumed its present name following a capital and corporate restructuring which created Roche Holding Ltd as a holding company and transferred operating businesses and related assets and liabilities to a newly-established operating subsidiary, F. Hoffmann-La Roche Ltd, also incorporated in Basel. Roche is a limited liability joint-stock company incorporated under the laws of Switzerland. Roche's registered office is Grenzacherstrasse 124, 4058 Basel, Switzerland (telephone number: +41 61 688 11 11).

As of June 30, 2024, the Roche Group was one of the largest companies in Switzerland in terms of market capitalization across all industries (source: Bloomberg). Based on 2023 sales, the Roche Group was among the world's largest producers of pharmaceuticals and was one of the world's leading suppliers of *in vitro* diagnostics (source: Roche Group internal analysis, IQVIA Boston Medical Consultants). The Roche Group has two operational divisions: pharmaceuticals and diagnostics. These divisions offer products for screening and early detection, prevention, diagnosis of disease, treatment and treatment monitoring. Combining the strengths of both divisions provides the Roche Group with a competitive advantage in driving personalized healthcare solutions.

The Roche Group's principal strengths are its long tradition of research, its clinical development of new products, its balanced and diversified portfolio of innovative products, its strategic alliances and its position among the leaders in important market segments.

The Roche Group is one of the world's largest biotech companies and a leading provider of cancer treatment drugs worldwide. The Roche Group is also the world leader of *in vitro* diagnostics and tissue-based cancer diagnostics and a frontrunner in diabetes management (source: Roche Group internal analysis, IQVIA Boston Medical Consultants). The Pharmaceuticals Division is active in major therapeutic areas, such as oncology, hematology, neurology, immunology, ophthalmology, and infectious diseases. Furthermore, the Roche Group has one of the strongest drug development pipelines in the industry with 77 new molecular entities in clinical development as of July 18, 2024 and 41 projects in phase III overall (i.e., in the phase of efficacy testing) with 11 projects in registration. The Roche Group's personalized healthcare strategy, which allows doctors to pinpoint those patients most likely to benefit from a drug, aims at providing medicines and diagnostics that enable tangible improvements in the health, quality of life and survival of patients.

As of June 30, 2024, the Roche Group held a majority interest (61.1%) in Chugai Pharmaceutical Co., Ltd ("Chugai") (Japan). On September 26, 2022, the Roche Group acquired a 100% controlling interest in Good Therapeutics, Inc. ("Good Therapeutics"). On December 14, 2023, the Roche Group acquired a 100% controlling interest in Telavant Holdings, Inc. ("Telavant"), a U.S. company owned by Roivant Sciences Ltd. ("Roivant") and Pfizer Inc. ("Pfizer"). On January 26, 2024, the Roche Group acquired a 100% controlling interest in Carmot Therapeutics, Inc. ("Carmot"), a privately owned U.S. company based in Berkeley, California. On July 29, 2024, the Roche Group acquired a 100% controlling interest in selected subsidiaries of LumiraDx Limited ("LumiraDx") obtaining access to LumiraDx's point-of-care technology.

Group strategy

Focusing on the patient

The Roche Group puts the patient at the center of its business model: in 2023, 22.8 million people received treatment with one of Roche Group's medicines. In addition, 29.2 billion tests were conducted with Roche Diagnostics products. 32 Roche Group medicines are on the World Health Organization ("WHO") Essential Drug

list. The Roche Group's current products improve and prolong lives in the important disease areas of oncology, hematology, neurology, immunology, ophthalmology, and infectious diseases.

Setting new standards of care

In 2023, the Roche Group spent CHF 14.2 billion (IFRS basis) or CHF 13.2 billion (R&D core investments) on research and development to create medically differentiated products. In pursuing excellence in science, the Roche Group's research is focused on the areas of oncology, hematology, neurology, immunology, ophthalmology, infectious diseases and its recent expansion into cardiovascular & metabolism through the acquisition of Carmot and the collaboration with Alnylam Pharmaceuticals, Inc. ("Alnylam").

The Roche Group is one of the leaders in oncology treatment, having further improved the standard of care in HER2-positive breast cancer with the launches of *Kadcyla* and *Perjeta*, and in 2015 with *Perjeta's* EU approval in early HER2-positive breast cancer, i.e. for neoadjuvant (pre-surgical) treatment. The Roche Group has improved the standard of care in hematology, moving from *MabThera/Rituxan* to new medicines like *Gazyva/Gazyvaro*, *Venclexta*, *Polivy*, *Lunsumio* and *Columvi*. The Roche Group has also seen important progress in the field of cancer therapy over the course of 2020 with the EU/Japan approval of *Rozlytrek*, EU/U.S. approval of *Venclexta+Gazyva*, EU/U.S. approval of *Phesgo*, a fixed-dose combination of *Perjeta* and *Herceptin* for subcutaneous injection, and EU/U.S./Japan approval of *Tecentriq* in hepatocellular carcinoma. In the first half of 2022, following U.S. Food and Drug Administration ("FDA") approval in 2021, *Tecentriq* was approved in the EU for treatment of early stage non-small cell lung cancer as an adjuvant treatment following resection and platinum-based chemotherapy. In 2022, *Lunsumio* was approved in the United States and EU for the treatment of relapsed or refractory follicular lymphoma and in early 2023, following EU approval in 2022, *Polivy* was approved in the United States for first line diffuse large B-cell lymphoma in combination with a rituximab product, cyclophosphamide, doxorubicin, and prednisone (R-CHP) for the treatment of adult patients that meet certain criteria. In 2023, *Columvi* was approved in 3L+ DLBCL in the United States and EU. Outside oncology, the Roche Group also made significant progress in its product portfolio, most notably with *Ocrevus* for multiple sclerosis and *Hemlibra* for the treatment of hemophilia A and more recently, with the U.S. approvals of *Evrysdi* and *Enspryng.* In ophthalmology, in October 2021, the Roche Group received U.S. approval for *Susvimo* for the treatment of "wet" age-related macular degeneration (AMD), a form of eye disease and *Vabysmo* was approved in 2022 in the United States and EU for the treatment of neovascular "wet" AMD and diabetic macular edema (DME). In 2022, *Xofluza* was approved in the United States for treatment of acute uncomplicated influenza and for post-exposure prophylaxis in children aged five years and older and in the EU, *Xofluza* is approved for use in children aged one year and older. In 2022, *Actemra* was approved by the FDA for treatment of COVID-19 in hospitalized adults who are receiving systemic corticosteroids and require supplemental oxygen, non-invasive or invasive mechanical ventilation or extracorporeal membrane oxygenation. In 2024, Xolair was approved for the reduction of allergic reactions, including anaphylaxis, that may occur with accidental exposure to one or more foods in adult and pediatric patients aged one year and older with IgE-mediated food allergy. As of July 18, 2024, there were 77 new molecular entities (NMEs) in the clinical pipeline of the Roche Group's Pharmaceuticals Division.

Building on strength in biotechnology

The Roche Group believes in the enormous potential of modern biological sciences. As the Roche Group's understanding of the underlying mechanisms grows, so does its ability to develop targeted treatments that can make an important contribution to managing the challenges currently confronting healthcare systems. The Roche Group's strengths in biotechnology research, development and manufacturing mean that it is ideally equipped to translate insights in cell biology into new treatments and tests. The Roche Group is the world's biggest biotechnology company, with a substantial biopharmaceutical medicines portfolio on the market. Over half of the compounds in the Roche Group's pipeline are biopharmaceuticals. The Roche Group is a leading diagnostics company worldwide and most of the diagnostic tests it supplies are also based on biotechnology. The Roche Group plans to continue its research and investments in this area.

Driving personalized healthcare

Personalized healthcare ("PHC") is about providing the right treatment for the right patient at the right time. PHC has enormous potential for combating cancer and other diseases more effectively. By drawing on insights into patients' genetic and other biological differences, medicines can be increasingly tailored to specific patient populations. These populations can be identified with modern diagnostic tests. With the Roche Group's combined

strength in pharmaceuticals and diagnostics and proven expertise in molecular biology, management believes the Roche Group is in a good position to further drive personalized healthcare, allowing doctors to pinpoint those patients most likely to benefit from a drug and thus enabling healthcare systems to allocate their resources more effectively.

The Roche Group was one of the first companies to bring targeted treatments to patients with the launch of *Herceptin* in 1998 and more recently with *Cotellic* (in combination with *Zelboraf*, 2015), *Alecensa* (2015) and *Rozlytrek* (2019). At the heart of the Roche Group's approach is the use of biomarkers to predict therapy outcomes in the clinic, but also to refine the process of developing drugs and diagnostics.

Making innovation accessible

Despite remarkable breakthroughs in diagnosing and treating disease, ensuring that patients have access to these breakthroughs remains a significant challenge. The Roche Group aims to reduce barriers that prevent people from being diagnosed or being treated with the Roche Group's products. As healthcare systems around the world are very different and complex, the Roche Group does not pursue one single global approach, but instead provides tailored country-specific solutions to address the needs of individuals, including international differential pricing, flexible pricing solutions, patient support programs, health infrastructure and health education programs.

The Company

The Company was incorporated in the State of Delaware on December 4, 1987 and is an indirect wholly owned subsidiary of Roche. The Company is the holding company for Roche's principal operating subsidiaries and equity investments in the United States.

The Company and its subsidiaries operate businesses in two different areas, pharmaceuticals and diagnostics. The Pharmaceuticals Division includes Hoffmann-La Roche Inc. and Genentech, Inc. as well as a 100% interest in Flatiron Health since April 5, 2018, and Spark Therapeutics since December 17, 2019. The Pharmaceuticals Division is engaged in the research and development, manufacture and marketing of pharmaceutical products, sold primarily to wholesalers and hospitals. Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. The Diagnostics Division includes Roche Diagnostics Corporation, Roche Diagnostics Operations, Inc. and Roche Molecular Systems, Inc. The Diagnostics Division is engaged in the research and development, manufacture and marketing of diagnostic reagents, test kits and equipment. The Diagnostics Division includes the supply of diagnostic equipment, reagents and services in the field of *in vitro* diagnostics and life sciences. The diagnostics products are sold primarily to retailers, wholesalers, hospitals, laboratory companies and research institutions.

The Company's registered office is located at 1209 Orange Street, Wilmington, Delaware 19801, United States, and its corporate office is located at 1 DNA Way, Building 20 – MS24, South San Francisco, California 94080, United States (telephone number: +1-650-225-7893).

Risks relating to the Group's business

The Roche Group faces risks and uncertainties that may affect its future financial and operating performance, including, among others, the loss of patent protection for key products, product liability claims for adverse health effects caused by its products, increased pricing pressures from customers and intense competition from other pharmaceutical, generic, biosimilars and non-comparable biologics manufacturers. See "*Risk Factors*."

THE OFFERING

The following is a brief summary of some of the terms of the Notes. For a more complete description of the terms of the Notes see "*Description of the Notes*" in this offering memorandum.

Issuer	Roche Holdings, Inc.
Notes	U.S.$900,000,000 aggregate principal amount of 4.203% Notes due 2029; U.S.$1,000,000,000 aggregate principal amount of 4.592% Notes due 2034; and U.S.$600,000,000 aggregate principal amount of 5.218% Notes due 2054 (to be consolidated and form a single class with the U.S.$1,000,000,000 5.218% Notes due 2054 issued on March 8, 2024). Upon completion of this offering, the aggregate principal amount of 2054 Notes outstanding will be U.S.$1,600,000,000.
Guarantor.....	Roche Holding Ltd
Guarantees	Roche Holding Ltd will fully and unconditionally guarantee the payment of principal, premium, if any, interest and additional amounts, if any, payable in respect of the Notes.
Maturity Date	The 2029 Notes will mature on September 9, 2029 (the "2029 Notes Maturity Date"), the 2034 Notes will mature on September 9, 2034 (the "2034 Notes Maturity Date"), and the 2054 Notes will mature on March 8, 2054 (the "2054 Notes Maturity Date").
Interest Rates	The 2029 Notes will bear interest at a rate of 4.203% per annum, the 2034 Notes will bear interest at a rate of 4.592% per annum, each from September 9, 2024, and the 2054 Notes will bear interest at a rate of 5.218% per annum from September 9, 2024.
Interest Payment Dates	Interest will be paid on the 2029 Notes and 2034 Notes semi-annually in cash in arrears on March 9 and September 9 of each year, commencing on March 9, 2025, subject to the Business Day Convention (as defined below) (each, an "Interest Payment Date"). Interest will be paid on the 2054 Notes semi-annually in cash in arrears on March 8 and September 8 of each year, commencing on March 8, 2025, subject to the Business Day Convention (as defined below) (each, a "2054 Interest Payment Date"). Interest will be deemed to have accrued from and including September 8, 2024, to, but excluding, September 9, 2024.
Regular Record Dates for Interest.....	The regular record dates for interest on the 2029 Notes and 2034 Notes will be February 22 and August 25 of each year. The regular record dates for interest on the 2054 Notes will be February 21 and August 24 of each year.
Calculation of Interest.....	Interest on the Notes will be calculated on the basis of a 360-day year consisting of twelve 30-day months.
Interest Periods.....	For the 2029 Notes and the 2039 Notes, each semi-annual period from and including, an Interest Payment Date (or, in the case of the first Interest Period, September 9, 2024) to, but excluding, the next Interest Payment Date (or, in the

	case of the final Interest Period, the 2029 Notes Maturity Date or the 2034 Notes Maturity Date, as applicable). For the 2054 Notes, each semi-annual period from and including, a 2054 Interest Payment Date (or, in the case of the first 2054 Interest Period, September 9, 2024) to, but excluding, the next 2054 Interest Payment Date (or, in the case of the final 2054 Interest Period, the 2054 Notes Maturity Date).
Business Day	Any weekday that is not a legal holiday in New York, New York or Basel, Switzerland and is not a date on which banking institutions in those cities are authorized or required by law or regulation to be closed.
Business Day Convention	Following; unadjusted for each Interest Period. If an Interest Payment Date, a 2054 Interest Payment Date, redemption date or maturity date, for the Notes would fall on a day that is not a Business Day, then such interest, principal or premium, if any, as the case may be, will be paid on the next succeeding Business Day, but no additional interest will accrue or be payable unless the Company fails to make payment on such next succeeding Business Day.
Fungibility	The 2054 Notes are being offered as a reopening and further issuance of the U.S.$1,000,000,000 5.218% Notes due 2054 (the "Original 2054 Notes"), which were issued on March 8, 2024 and are governed by a fiscal and paying agency agreement dated as of March 8, 2024 (the "2054 Notes fiscal and paying agency agreement") among the Company, the Guarantor and Citibank, N.A., as fiscal agent, registrar, transfer agent and paying agent. The 2054 Notes will be consolidated and form a single class with the Original 2054 Notes. The 2054 Notes will have terms identical to the Original 2054 Notes, other than the issue date and the issue price. The 2054 Notes will become fully fungible with the Original 2054 Notes following the termination of certain U.S. selling restrictions. During the periods subject to certain U.S. selling restrictions, the 2054 Notes offered pursuant to Regulation S will have a temporary CUSIP and ISIN.
Qualified Reopening.....	The Issuer expects the 2054 Notes offered hereby will be issued in a "qualified reopening" of the Original 2054 Notes for U.S. federal income tax purposes. If the 2054 Notes are so treated, they will be considered to have the same issue date and issue price as the Original 2054 Notes for U.S. federal income tax purposes and will be fungible with the Original 2054 Notes for such purposes. See "*Certain Tax Considerations–U.S. federal income taxation.*"
Optional Redemption	Prior to the Par Call Date (as defined herein) applicable to any series of the Notes, the Notes of such series may be redeemed, in whole or in part, at any time and from time to time, at the option of the Company, at a redemption price (expressed as a percentage of principal amount and rounded to three decimal places) equal to the greater of: (1) (a) the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the relevant redemption date (assuming the applicable series of Notes matured on the applicable Par Call Date) on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 10 basis points with respect to the 2029 Notes, 12.5 basis points with respect to the 2034 Notes and 15 basis points with respect to the 2054 Notes, as applicable, less (b) interest accrued to the relevant date of redemption, and

(2) 100% of the principal amount of the relevant Notes of the relevant series to be redeemed,

plus, in either case, accrued and unpaid interest to (but excluding) the redemption date and any additional amounts payable with respect thereto.

On or after the applicable Par Call Date, the relevant Notes of the relevant series will be redeemable, in whole or in part, at any time and from time to time, at the option of the Company, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to (but excluding) the redemption date and any additional amounts payable with respect thereto.

See "*Description of the Notes—Redemption—Optional redemption.*"

Ranking ..... The Notes will be senior unsecured debt obligations of Roche Holdings, Inc. and will rank equally in right of payment with all of its other senior and unsecured debt obligations. The guarantees will be senior unsecured debt obligations of Roche Holding Ltd and will rank equally in right of payment with all of its other senior and unsecured debt obligations.

Tax Redemption ..... The Notes of any series will be redeemable, at the Company's option, in whole but not in part, at any time, at a redemption price equal to 100% of their principal amount plus accrued and unpaid interest to the redemption date in the event of certain changes in law or treaty of the United States, Switzerland or a successor tax jurisdiction that require the Company or the Guarantor to pay additional amounts on payments in respect of such Notes. See "*Description of the Notes—Redemption—Redemption for tax reasons.*"

Payment of Additional Amounts .. If the Company or the Guarantor is required to withhold or deduct any amount for or on account of any Swiss or U.S. withholding tax from any payment made on the Notes, the Company or the Guarantor, as the case may be, will, subject to certain exceptions, pay additional amounts on those payments so that the amount received by noteholders will equal the amount that would have been received if no such taxes had been applicable. See "*Description of the Notes—Payment of additional amounts.*"

No Repayment at Option of Holders ..... The Notes will not be subject to repayment at the option of the holders prior to maturity.

No Sinking Fund..... The Notes will not be entitled to the benefit of any sinking fund.

Denominations ..... The Notes will be issued only in book-entry form, in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

Book-Entry Issuance, Settlement and Clearance..... The Company will issue the Notes as global notes in book-entry form registered in the name of The Depository Trust Company ("DTC") or its nominee. The sale of the Notes will settle in immediately available funds through DTC. Investors may hold interests in a global note through organizations that participate, directly or indirectly, in the DTC system, including Clearstream Banking, *société anonyme* and Euroclear Bank S.A./N.V., as operator of the Euroclear System.

Governing Law	The Notes, the guarantees and the fiscal and paying agency agreement for the 2029 Notes and the 2034 Notes will be governed by, and construed in accordance with, the law of the State of New York. The 2054 Notes and the guarantees for the 2054 Notes will be, and the 2054 Notes fiscal and paying agency agreement dated March 8, 2024 is, governed by, and are to be construed in accordance with, the law of the State of New York.
Further Issuances	The Company may from time to time, without the consent of the holders of a series of Notes, create and issue additional notes of the same series having the same terms and conditions in all respects as the Notes of that series being offered hereby, except for the issue date, the issue price and the first payment of interest thereon, so that any further issue may be consolidated with and form a single series of securities with such Notes; provided that if such additional notes are not fungible with the previously issued Notes of the relevant series for U.S. federal income tax purposes, such additional notes will be issued with different CUSIP, ISIN and Common Codes than the CUSIP, ISIN and Common Codes of such previously issued Notes.
No Listing	The Notes will not be listed on any securities exchange.
Use of Proceeds	The net proceeds from the issuance of the Notes will be used for general corporate purposes. See "*Use of Proceeds.*"

ROCHE GROUP
SUMMARY CONSOLIDATED FINANCIAL INFORMATION

The following tables set forth summary consolidated financial information for the Roche Group as of and for the six months ended June 30, 2024 and 2023 and as of and for the years ended December 31, 2023, 2022 and 2021. The consolidated financial statements of the Roche Group as of the dates and for the periods presented have been prepared in accordance with IFRS Accounting Standards, as issued by the IASB.

For the six months ended June 30, 2024 and 2023, the summary consolidated financial information in this section has been derived from the H1 2024 Interim Consolidated Financial Statements, which are included in this offering memorandum. For the years ended December 31, 2023, 2022 and 2021, the summary consolidated financial information in this section has been derived from the 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements, which are each included in this offering memorandum.

The summary consolidated financial information should be read in conjunction with, and is qualified by reference to, "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group*" as well as the consolidated financial statements and related notes included in this offering memorandum.

As of and for the six months ended June 30, 2024 and 2023

	Six months ended June 30,	
	2024	**2023**
	(CHF in millions)	
Income statement data:		
Sales	29,848	29,779
Other revenue	908	837
Cost of sales	(7,870)	(7,931)
Research and development	(7,388)	(6,918)
Selling, general and administration	(6,852)	(6,850)
Other operating income (expense)	425	847
Operating profit	9,071	9,764
Financing costs	(708)	(490)
Other financial income (expense)	(140)	(100)
Profit before taxes	8,223	9,174
Income taxes	(1,526)	(1,611)
Net income	6,697	7,563
Cash flow statement data:		
Net cash provided by (used in):		
Operating activities	7,914	7,898
Investing activities	(2,865)	(482)
Financing activities	(5,449)	(8,293)
Net effect of currency translation on cash and cash equivalents	(152)	(394)
Increase (decrease) in cash and cash equivalents	(552)	(1,271)
Balance sheet data (at end of period):		
Non-current assets	62,157	53,394
Current assets	33,629	30,976
Total assets	95,786	84,370
Non-current liabilities	(36,311)	(27,818)
Current liabilities	(26,599)	(26,208)
Total liabilities	(62,910)	(54,026)
Total equity	32,876	30,344

As of and for the years ended December 31, 2023 and 2022 (restated)

	Year ended December 31,	
	2023	2022[1]
	(CHF in millions)	
Income statement data:		
Sales	58,716	63,281
Other revenue	1,725	2,533
Cost of sales	(16,357)	(19,737)
Research and development	(14,200)	(15,225)
Selling, general and administration	(14,881)	(14,201)
Other operating income (expense)	392	825
Operating profit	15,395	17,476
Financing costs	(996)	(665)
Other financial income (expense)	(320)	(484)
Profit before taxes	14,079	16,327
Income taxes	(1,721)	(2,796)
Net income	12,358	13,531
Cash flow statement data:		
Net cash provided by (used in):		
Operating activities	16,095	17,803
Investing activities	(10,643)	(2,924)
Financing activities	(4,239)	(16,275)
Net effect of currency translation on cash and cash equivalents	(828)	(463)
Increase (decrease) in cash and cash equivalents	385	(1,859)
Balance sheet data (at end of period):		
Non-current assets	57,022	54,335
Current assets	33,446	33,816
Total assets	90,468	88,151
Non-current liabilities	(32,381)	(28,897)
Current liabilities	(24,824)	(27,239)
Total liabilities	(57,205)	(56,136)
Total equity	33,263	32,015

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023*."

As of and for the years ended December 31, 2022 and 2021

	Year ended December 31,	
	2022	2021
	(CHF in millions)	
Income statement data:		
Sales	63,281	62,801
Royalties and other operating income	3,145	3,049
Cost of sales	(20,397)	(19,647)
Marketing and distribution	(9,639)	(9,920)
Research and development	(16,023)	(14,799)
General and administration	(2,891)	(3,329)
Operating profit	17,476	18,155
Financing costs	(665)	(418)
Other financial income (expense)	(484)	(339)
Profit before taxes	16,327	17,398
Income taxes	(2,796)	(2,463)
Net income	13,531	14,935
Cash flow statement data:		

	Year ended December 31,	
	2022	2021
Net cash provided by (used in):		
Operating activities	18,415	20,976
Investing activities	(3,536)	(6,552)
Financing activities	(16,275)	(13,108)
Net effect of currency translation on cash and cash equivalents	(463)	(193)
Increase (decrease) in cash and cash equivalents	(1,859)	1,123
Balance sheet data (at end of period):		
Non-current assets	54,335	56,690
Current assets	33,816	35,627
Total assets	88,151	92,317
Non-current liabilities	(28,897)	(25,556)
Current liabilities	(27,239)	(38,416)
Total liabilities	(56,136)	(63,972)
Total equity	32,015	28,345

THE COMPANY
SUMMARY CONSOLIDATED FINANCIAL INFORMATION

The following tables set forth summary consolidated financial information for the Company as of and for the six months ended June 30, 2024 and 2023 and as of and for the years ended December 31, 2023, 2022 and 2021. The consolidated financial statements of the Company as of the dates and for the periods presented have been prepared in accordance with IFRS Accounting Standards as adopted by the EU.

For the six months ended June 30, 2024 and 2023, the summary consolidated financial information in this section has been derived from the Company's interim consolidated financial statements as of and for the six-month period ended June 30, 2024, which are not included or incorporated by reference in this offering memorandum. For the years ended December 31, 2023, 2022 and 2021, the summary consolidated financial information in this section has been derived from the Company's 2023 audited consolidated financial statements and the Company's 2022 audited consolidated financial statements, which are not included or incorporated by reference in this offering memorandum.

As of and for the six months ended June 30, 2024 and 2023

	Six months ended June 30,	
	2024	2023
	(U.S.$ in millions)	
Income statement data:		
Sales (including sales to related parties[1])	16,873	15,874
Other revenue	2,941	2,855
Cost of sales	(9,524)	(8,706)
Research and development	(4,926)	(3,954)
Selling, general and administration	(2,848)	(2,875)
Other operating income (expense)	(6)	184
Operating profit	2,510	3,378
Financing costs	(583)	(367)
Financing costs—related parties[1]	(477)	(370)
Other financial income (expense)	(23)	(10)
Other financial income (expense)—related parties[1]	23	16
Profit before taxes	1,450	2,647
Income taxes	(434)	(558)
Net income	1,016	2,089
Cash flow statement data:		
Net cash provided by (used in):		
Operating activities	1,917	3,139
Investing activities	(3,651)	(691)
Financing activities	1,745	(2,398)
Net effect of currency translation on cash and cash equivalents	0	(1)
Increase (decrease) in cash and cash equivalents	11	49
Balance sheet data (at end of period):		
Non-current assets	39,227	29,635
Current assets	14,580	12,907
Total assets	53,807	42,542
Non-current liabilities	(42,774)	(33,107)
Current liabilities	(21,732)	(22,761)
Total liabilities	(64,506)	(55,868)
Total equity	(10,699)	(13,326)

(1) The Company is a member of the Roche Group. All of the Company's related-party transactions are with Roche Group affiliates. The transactions include purchases of inventory and other materials, sales of inventory and other materials, services received and rendered, allocation of research and development costs under cost-sharing agreements and collaborations, allocation of marketing and distribution costs under cost-sharing agreements, allocation of other expenses attributable to the U.S. business, interest on intercompany financing as well as transfers of intangible assets, the payment and receipt of royalties and income from out-licensing agreements.

As of and for the years ended December 31, 2023 and 2022 (restated)

	Year Ended December 31,	
	2023	2022[1]
	(U.S.$ in millions)	
Income statement data:		
Sales (including sales to related parties[2])	32,317	31,981
Other revenue	5,877	5,769
Cost of sales	(17,953)	(18,379)
Research and development	(8,635)	(8,941)
Selling, general and administration	(6,999)	(5,949)
Other operating income (expense)	(476)	130
Operating profit	4,131	4,611
Financing costs	(757)	(555)
Financing costs—related parties[2]	(737)	(922)
Other financial income (expense)	(33)	(36)
Other financial income (expense)—related parties[2]	42	11
Profit before taxes	2,646	3,109
Income taxes	522	(162)
Net income	3,168	2,947
Cash flow statement data:		
Net cash provided by (used in):		
Operating activities	6,518	6,267
Investing activities	(9,135)	(1,823)
Financing activities	2,667	(4,454)
Net effect of currency translation on cash and cash equivalents	0	0
Increase (decrease) in cash and cash equivalents	50	(10)
Balance sheet data (at end of period):		
Non-current assets	36,595	29,247
Current assets	12,768	12,064
Total assets	49,363	41,311
Non-current liabilities	(40,384)	(37,881)
Current liabilities	(20,820)	(19,123)
Total liabilities	(61,204)	(57,004)
Total equity	(11,841)	(15,693)

(1) Effective January 1, 2023, the Company has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

(2) The Company is a member of the Roche Group. All of the Company's related-party transactions are with Roche Group affiliates. The transactions include purchases of inventory and other materials, sales of inventory and other materials, services received and rendered, allocation of research and development costs under cost-sharing agreements and collaborations, allocation of marketing and distribution costs under cost-sharing agreements, allocation of other expenses attributable to the U.S. business, interest on intercompany financing as well as transfers of intangible assets, the payment and receipt of royalties and income from out-licensing agreements.

As of and for the years ended December 31, 2022 and 2021

	Year ended December 31,	
	2022	2021
	(U.S.$ in millions)	
Income statement data:		
Sales (including sales to related parties[1])	31,981	31,405
Royalties and other operating income	5,824	5,958
Cost of sales	(18,571)	(16,489)
Marketing and distribution	(4,339)	(4,432)
Research and development	(9,205)	(7,855)
General and administration	(1,079)	(1,238)
Operating profit	4,611	7,349
Financing costs	(555)	(337)

	Year ended December 31,	
	2022	2021
	(U.S.$ in millions)	
Financing costs—related parties[1]	(922)	(1,453)
Other financial income (expense)	(36)	53
Other financial income (expense)—related parties[1]	11	(19)
Profit before taxes	3,109	5,593
Income taxes	(162)	(628)
Net income	2,947	4,965
Cash flow statement data:		
Net cash provided by (used in):		
Operating activities	6,322	8,929
Investing activities	(1,878)	(3,944)
Financing activities	(4,454)	(5,001)
Net effect of currency translation on cash and cash equivalents	0	0
Increase (decrease) in cash and cash equivalents	(10)	(16)
Balance sheet data (at end of period):		
Non-current assets	29,247	30,511
Current assets	12,064	10,624
Total assets	41,311	41,135
Non-current liabilities	(37,881)	(41,873)
Current liabilities	(19,123)	(17,944)
Total liabilities	(57,004)	(59,817)
Total equity	(15,693)	(18,682)

(1) The Company is a member of the Roche Group. All of the Company's related-party transactions are with Roche Group affiliates. The transactions include purchases of inventory and other materials, sales of inventory and other materials, services received and rendered, allocation of research and development costs under cost-sharing agreements and collaborations, allocation of marketing and distribution costs under cost-sharing agreements, allocation of other expenses attributable to the U.S. business, interest on intercompany financing as well as transfers of intangible assets, the payment and receipt of royalties and income from out-licensing agreements.

RISK FACTORS

Any investment in the Notes may be affected by risks relating to the Group's business, results of operations or financial condition, as well as risks affecting the market for the Notes. Prospective investors should consider carefully the following information about these risks, together with the other information contained in this offering memorandum, before buying the Notes offered hereby. Any of the following risks could materially adversely affect the business, results of operations or financial condition of the Group. In such case, investors may lose all or part of their investment.

Risks relating to the Group

Due to the international nature of the Group's business, geopolitical developments or events, such as global tensions and conflicts, protectionist policies by governments and impact of uncertain macroeconomic policies of central banks and other economic or political developments could materially adversely affect the Group's business, results of operations and financial condition.

The Group's extensive global operations and business activity exposes the Group to certain financial, economic, legal, social and political risks, including those listed below.

(i) Macroecnomic trends, local and regional economic environments in the markets the Group operates or conducts business activity in, including interest rates, monetary policy, inflation, economic contraction and supply chain disruptions.

The global inflationary environment and elevated interest rates have had, and continue to have, a direct and material impact on the global economy and thereby on the Group and its business and results of operations.

The continuing economic volatility in many countries where the Group does business could affect sales of the Group's pharmaceuticals and diagnostics in those markets, as the ability of patients and payers (such as health insurance plans) to pay for these products could be adversely impacted. In addition, unfavorable economic conditions have reduced, and may in the future reduce, the sources of funding for national social security systems, leading to austerity measures including heightened pressure on drug prices, increased substitution of generic drugs and biosimilars, and the exclusion of certain products from formularies. These and other effects of recent global economic conditions could materially adversely affect the Group's business, results of operations and financial condition.

Many countries, including some EU member states, have experienced in the past severe economic problems combined with a high level of sovereign debt and/or fiscal deficits. Governments and regulators have implemented austerity programs and other remedial measures to respond to such challenges and stabilize the economy and the financial system in such instances. There is a possibility that one or more countries may default and/or leave the European Monetary Union and re-establish their own national currency or that the European Monetary Union may collapse. In such an event, it is likely that there would be significant, extended and generalized market dislocation with unpredictable and materially adverse effects on the Group's business, results of operations and financial condition. In addition, the departure of one or more countries from the European Monetary Union may lead to the imposition of, inter alia, exchange control laws. Furthermore, economic recovery in the Eurozone could stall, as demand in the core countries fails to pick up sufficiently to offset the deflationary adjustment in the periphery and global demand remains weak.

Growth of the global pharmaceutical market has become increasingly tied to global economic growth. In this context, the global economic crisis caused by supply chain disruptions, global inflation and tightened monetary policies across major economies, or any other substantial and prolonged slowdowns of the global economy, major national economies or emerging markets could negatively impact growth in the global pharmaceutical market and, as a result, materially adversely affect the Group's business.

The economic and political conditions and/or the economic development are uncertain in many regions of the world. A prolonged economic downturn in one major country, for example in connection with the current global inflation and interest rate pressures, may also lead to a prolonged international economic downturn and financial crises.

(ii) Geopolitical events, including armed conflicts, terrorism, political upheavals, epidemics or pandemics.

The operations and earnings of the Group continue, from time to time and in varying degrees, to be affected by geopolitical, political, legislative and regulatory developments. For example, the Israel-Hamas conflict, the Russia-Ukraine conflict and its consequences, including heightened cybersecurity risks, actions taken in response to the Russia-Ukraine conflict, including the imposition of export controls and broad financial and economic sanctions against Russia, Belarus and specific areas of Ukraine and the trade war between the United States and China have had, and continue to have, a direct and material impact on the global economy and thereby on the Group and its business and results of operations.

The Russia-Ukraine conflict and the implementation of extensive sanctions, including those by the United States, UK and the EU on Russia and Russia's counter-measures, exacerbated the energy supply shortage, resulting in further increases in energy and commodity prices and contributing to global inflationary and elevated interest rate pressure. The Russia-Ukraine conflict, if escalated further, could result in further geopolitical instability, trade restrictions, supply chain disruptions, increases in energy prices and global inflationary pressure, which could in turn have further material adverse impacts on the regional and global economic environment.

An armed conflict between Israel and Palestinian militant groups led by Hamas began on October 7, 2023 and is ongoing as of the date of this offering memorandum. The conflict, if escalated further, could result in further geopolitical instability, trade restrictions, volatility in energy prices and increased inflationary pressure, in turn having material adverse impacts on the regional and global economic environment.

In the past, terrorist attacks have had an impact on global economic conditions. Any additional terrorist attacks that may occur in the future and any significant military conflict around the world could have a similar effect, which could adversely affect the Group's business and financial performance.

Epidemics or pandemics, such as the COVID-19 pandemic, have impacted the Group's business in the past and could cause political, social and economic upheavals, leading to future effects such as global and/or regional lockdowns, supply chain disruptions, constraints in manufacturing capacity for companies, restricted access to logistics and restricted access to patients and/or markets, any of which could individually or in the aggregate have a material adverse effect on the Group's business and financial performance.

(iii) Protectionist economic policies adopted by governments, such as trade protection measures and import/export licensing requirements.

Other relevant factors that may adversely affect the Group's business and financial performance include protectionist policies implemented by governments in countries where the Group operates or conducts business activity. Protectionist policies (for instance, the recently proposed BIOSECURE Act in the United States) may lead to an increasing amount of trading barriers and tariffs, which may result in trade wars causing disruptions in the supply of goods, production, transport, and movement of people. Even though the Group operates the business of pharmaceuticals and diagnostics for most of which demand will typically continue in such scenarios, the production and supply chains of the pharmaceuticals and diagnostic business could be adversely affected, and as a result, the Group may not be able to produce the same volume of products, although urgently needed, that the Group otherwise would be able to offer and distribute.

Further, a withdrawal, similar to Brexit, of another EU member state may have a significant negative impact on the economy of such member state and the EU, which may have adverse effects on the Group's business, results of operations and financial condition. Similarly, if a referendum similar to the Swiss referendum on the immigration limitation initiative held on September 27, 2020, were to be successful in

the future, the currently rather flexible bilateral immigration arrangement between Switzerland and the EU may become unsustainable. The immigration arrangement is a key constituent of the bilateral economic arrangements between the EU and Switzerland. Therefore, if this bilateral immigration arrangement is not upheld, this change could have an adverse impact on other bilateral arrangements between Switzerland and the EU. As a consequence, access of Swiss companies such as the Roche Group to the EU market would likely be adversely affected.

Any one or more of the factors outlined above could result in countries, or health organizations, insurances and patients in such countries reducing order volumes of Group products and/or cause an increase in the production cost of the Group or defaults of the Group's creditors, which may in turn adversely affect the business and performance of the Group.

The exact nature of the risks that the Group faces is difficult to predict in light of (i) the inter-related nature of the risks involved, (ii) difficulties in predicting the outcomes of austerity programs and other remedial measures in Europe, (iii) the extent to which the high level of sovereign debt and fiscal deficits, including in particular in the Eurozone and the United States, slowdown in growth or recession in Europe and elsewhere, uncertainty about the European Monetary Union, Brexit and loss of consumer confidence will impact the global or European economy, (iv) Switzerland's introduction of immigration quotas and their impact on bilateral accords between Switzerland and the EU, (v) the uncertainty about the continued access of Swiss companies to the EU market and the proposed institutional framework agreement between the EU and Switzerland governing bilateral relations, and (vi) the fact that the risks are entirely or partially outside of the Group's control. It is not known for how long these risks will continue nor whether they will worsen. It is difficult to predict whether and to what extent the Group's business, results of operations and financial condition will be adversely affected.

The Group's business depends on its ability to replace sales of older products through the development of new products such as new medicines and diagnostic solutions, which involves a lengthy and complex process as well as significant investments, and the Group may be unable to commercialize, or may be delayed in commercializing, any of its product candidates currently under development.

The Group's pharmaceuticals business strategy focuses on the sale of products that are either acquired or developed by the Group and the Group's commercial success therefore depends on the continued development of commercially viable new products that are protected by exclusive marketing rights. After expiration of exclusive marketing rights, sales of products typically decline significantly due to generic, biosimilar or non-comparable biological versions of the same or a similar medicine being marketed by other manufacturers at significantly lower prices. Accordingly, the development of new key products is critical to the Group's ability to replace sales of older products that decline upon expiration of exclusive rights, and to increase overall sales.

Developing new pharmaceutical products is a costly, lengthy and uncertain process. The process of developing a new product (from the start of research until commercial launch) takes 10 to 13 years on average. While patents and their protection are an integral part of the Group's business, a business strategy that focuses on innovation entails the risk that a new product candidate can fail at any stage of the process. Furthermore, one or more late-stage product candidates could fail to receive regulatory approval or patent protection and any issued patents covering the products could be challenged by third parties, which may result in such patents being narrowed, invalidated or held unenforceable. New product candidates may appear promising in development but, after significant investments, they may fail to reach the market or have only limited commercial success for a variety of reasons, including among others, efficacy or safety concerns, inability to obtain necessary regulatory approvals, difficulty or excessive costs to manufacture, inability to obtain, maintain or enforce intellectual property rights, third party claims of infringement of patents or other intellectual property rights or inability to differentiate the product adequately from competing products.

Similarly, the development of innovative devices and diagnostic solutions requires a significant amount of expenditures on research and development. It is uncertain whether these investments will ultimately be commercially successful and while the Group performs due diligence with respect to acquisitions, it may not be possible for these reviews to be comprehensive in all respects, unanticipated liabilities may be assumed, expected synergies may not be realized in whole or in part in a timely fashion or at all and the Group may suffer losses or reputational damage or the transactions may give rise to costs that are unexpected or higher than foreseen. See also

"*—The Group's financial performance may be negatively impacted if its acquisitions or strategic alliances are unsuccessful*."

The Group's pharmaceuticals business faces patent expirations and competition from producers of generic, biosimilar and non-comparable biological products.

The Group's pharmaceutical products are generally protected by patent rights which are intended to provide the Group with exclusive marketing rights in various countries. However, patent rights are of varying scope and duration. Loss of market exclusivity for one or more major products could have a material adverse effect on the Group's business, results of operations or financial condition. Market exclusivity has traditionally been challenged by competition from identical generic products that are introduced after the expiration of the relevant patent rights for the original, innovative product. Today, many of the innovative products of the Group are biological products and, with respect to such products, market exclusivity is challenged by competition from so-called "biosimilars" and "non-comparable biologics." A biosimilar is a biologic medicinal product which is similar to a reference medicinal product and is submitted for a marketing authorization by a company manufacturing generic products. Based on potential structural differences, there might be uncertainty about whether biosimilar products are covered by the patent rights of the company that created the reference medicinal product. The Group regards a product as a non-comparable biologic if, like biosimilars, it is intended to be a copy of a reference product and is approved by a national healthcare authority but does not meet the criteria of the WHO for biosimilars, i.e., it has not been demonstrated to be similar with regard to quality or non-clinical properties as well as clinical safety and efficacy in head-to-head comparative studies. The introduction of a generic or biosimilar version of the same or a similar medicine or of a non-comparable biological product typically results in a significant and sharp reduction in net sales for the relevant product, as manufacturers of generic, biosimilar and non-comparable biological products typically offer their versions of the same or biosimilar or non-comparable reference product at sharply lower prices.

For instance, some of the Group's biological medicine products that, in the past, made significant contributions to the Group's revenue and financial performance, face significant competition due to the expiration of the exclusive marketing rights. For example, following the expiration of the relevant basic, primary patents in key markets such as the EU, Japan and the United States, biosimilar versions were launched with respect to the Group's major biologic medicines *MabThera/Rituxan, Herceptin*, and *Avastin* resulting in a sharp decline of total global sales from CHF 21.1 billion (*MabThera/Rituxan*: CHF 7.4 billion; *Herceptin*: CHF 7.0 billion; *Avastin*: CHF 6.7 billion) in 2017 to CHF 4.8 billion (*MabThera/Rituxan*: CHF 1.6 billion; *Herceptin*: CHF 1.6 billion; *Avastin*: CHF 1.6 billion) in 2023. See "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of years ended December 31, 2022 and 2021—Competition from biosimilar and generic medicines",* "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of years ended December 31, 2023 and 2022—Competition from biosimilar and generic medicines"* and "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Comparison of the six months ended June 30, 2024 and 2023—Competition from biosimilar and generic medicines."*

In addition, some manufacturers of generic, biosimilar or non-comparable biological products are conducting so-called "launches at risk" of products that are still under legal challenge for patent infringement and before final resolution of legal proceedings. See "*—The Group's products face intense competition*." Launches at risk may in effect shorten the period of market exclusivity and could have an adverse effect on the Group's sales, results of operations and financial position.

Furthermore, the scope of patent protection, as it applies to pharmaceutical and life sciences products, is increasingly uncertain, including in the United States. If, due to a significantly weakened patent system, the Group was not able to effectively protect its innovative products against copyist products, the Group's business model would come under significant pressure, which may result in high financial losses for the Group. See also "*—The Group may not be able to adequately obtain, protect or enforce its patents and other intellectual property rights and intellectual property protection in some countries may be weak*." In addition, digitalization and related technologies have become more critical for the pharmaceutical and diagnostics business and patent protection for innovations in these areas is weaker than for pharmaceutical products and typically does not provide market exclusivity. To the extent that the Group is not able to protect its investments in digitalization and related technologies, investments therein

may not have the expected positive impact on the Group's business, results of operations and financial position. See also "—*The Group's products face intense competition*."

The Group may not be able to adequately obtain, protect or enforce its patents and other intellectual property rights and intellectual property protection in some countries may be weak.

The Group relies on a combination of patent, copyright, trademark and trade secret laws, licenses, assignment of invention agreements, non-disclosure and confidentiality agreements and other restrictions on disclosure and use to protect the Group's intellectual property rights. The Group's business significantly depends on its ability to successfully obtain and maintain patent protection for its products and to protect and enforce its patents and other intellectual property rights. There can be no assurance that any of the Group's pending patent applications will mature into issued patents and, even if they do, that such patents will be enforceable or include claims with a scope sufficient to protect the Group's products or otherwise provide any competitive advantage. Accordingly, other parties may compete with the Group's business, for example, by independently developing or obtaining similar or competing technologies, designing around the Group's patents or marketing competing products that do not claim the Group's patented uses. Additionally, any issued patents may be challenged by third parties, and a successful challenge of the Group's patents could result in such patents being narrowed, invalidated or held unenforceable, which could result in a loss in market exclusivity for the products protected by such patents and have a material adverse effect on the Group's sales, results of operations or financial condition.

In addition, the Group's portfolio and offerings are increasingly expanding into areas of digital health, which imposes new challenges in connection with the protection of intellectual property rights. Patents covering inventions relating to digital innovations typically do not provide the same exclusivity as is the case for pharmaceutical products, because often multiple technical solutions are possible. Further, patents in this area have shown to be more susceptible to third-party challenges compared to patents covering pharmaceutical entities.

Healthcare reforms similar to the Inflation Reduction Act introducing a pricing reform in the United States could indirectly affect the profitability of certain patents with high expenditures which could materially adversely affect the Group's results of operations in those markets. This could also lead to a shift in the Group's research and development priorities, possibly limiting its ability to generate new profitable patents within the relevant markets. In addition, the Group may choose not to file for or not to enforce its patents that could fall under the pricing reform further affecting such product's market exclusivity and growth potential. See also "— *Healthcare reform in the United States and further modification or repeal of, or the outcome of judicial challenges to current healthcare policies could materially adversely affect the Group's business*."

Furthermore, patent protection may be significantly weaker in some countries in which the Group operates, as compared to Switzerland, the United States or the EU, and, in countries where this protection has in the past been strong, the scope of patent protection is becoming increasingly uncertain. Decisions from international organizations, such as the World Trade Organization, could weaken the Group's existing patent protections or lead to waivers of patent protection in different jurisdictions. Proposals to change existing patent and data exclusivity laws and regulations in major markets in which the Group sells its products are a continuing feature of the political process in those countries. Such proposals could have the effect of making the prosecution of patents more difficult and time-consuming, or adversely affect the exclusivity period especially for the Group's pharmaceutical products. If these proposals are enacted they could have an adverse impact on the Group's future sales and overall financial performance.

In addition, in an effort to control public health crises, some developing countries, such as India and Indonesia, have considered plans for substantial reductions in the scope of patent protection for biologics and other pharmaceutical and diagnostic products. In particular, these countries could facilitate competition within their markets from generic, biosimilar and non-comparable biological products manufacturers which would otherwise be unable to introduce competing products for a number of years, for example via compulsory licensing.

Further, most countries, including developed countries, have laws and regulations in place that provide for the ability to grant compulsory licenses or issue direct use orders which suspend patent rights in certain circumstances, including to mitigate a health crisis, e.g., a pandemic. Any loss of patent protection, including abrogation of patent rights, compulsory licensing or direct use orders, could materially adversely affect the Group's business, results of

operations and financial condition in those markets. Additionally, the Group has decided not to file patents or enforce patent rights in Least Developed Countries, as defined by the United Nations, or in Low-Income Countries, as defined by the World Bank. The absence of adequate patent protection could limit the opportunity to look to such markets for future sales growth. See also "—*Public pressure on the pharmaceutical industry could affect the Group's business, results of operations and financial condition*."

The Group cannot be certain that its products and its business do not, or will not, infringe or otherwise violate the intellectual property rights of a third party. Third parties may assert claims against the Group, or the Group's third-party licensors, to the effect that the Group is infringing, misappropriating or otherwise violating their intellectual property rights. Claims made by others that the Group's products infringe or otherwise violate patent or other intellectual property rights of third parties, regardless of merit, may result in costly litigation that could divert both resources and attention of management from the rest of the business. Moreover, the Group may have to enter into settlement or license agreements to resolve such claims, and such agreements may not be available on commercially reasonable terms or at all. In addition, if intellectual property infringement claims were successfully asserted against the Group, the Group could become liable for damages or be required to cease the development or commercialization of products. Any of the foregoing could materially adversely affect the profitability of such products and the Group's business, results of operations or financial condition.

The Group may not be able to successfully manage changes in its business model as a result of the digitalization and technological transformation in the healthcare industry and faces new competitors from digital technology companies.

Technological developments and digitalization (e.g. machine learning, artificial intelligence ("AI"), robotics, and the broad use of digital technologies) have become critical for the pharmaceutical and diagnostics business and, thus, the digitalization and technological transformation have an impact on the business models of the players in the healthcare industry, including the Group. As a consequence, the Group is exposed to risks related to these technology driven changes, such as not having the right capabilities to successfully develop, integrate or adapt to digital therapeutics that go beyond the traditional medicine or diagnostic test. In addition, the Group may be unable or fail to compete in the digital health area against new competitors or to integrate companies from other business areas such as healthcare software and technology or to attract people with the right capabilities to drive the Group's digitalization and technological transformation.

The rapid pace of innovation in the field of AI has led to developing and evolving regulatory frameworks globally, which are expected to become increasingly complex as the AI technology evolves. Regulators and lawmakers around the world have started proposing and adopting regulations and guidance specifically on the use of AI. On August 1, 2024, the European Commission enacted the Artificial Intelligence Act designed to regulate artificial intelligence technologies. AI-related safety concerns would arise from various scenarios, including potential misuse of AI technology, algorithmic bias, data breaches, unintended consequences from AI-driven decisions, and ethical dilemmas. While still in its early stages, AI and machine learning algorithms are being developed across the Group in connection with data and image analysis. The Group may become subject to upcoming AI regulations, which may expose the Group to reputational damage arising from AI-related safety concerns or could limit the extent to which and the ways in which the Group could leverage the AI technology in its business and hence may adversely affect the Group's result of operations.

In the digital health area, current or future competitors of the Group do not only include pharmaceutical companies but also include digital technology companies such as Amazon, Apple, Alibaba and Google. These technology companies have, in the past years, already filed numerous healthcare patents and made significant healthcare investments. Significant product innovations and substitution, technological advances or the intensification of price competition by competitors and the inability or failure by the Group to compete in the digital health area could adversely affect the Group's results of operations. See also "—*The Group's products face intense competition*."

Additionally, investment into innovation may not yield the expected results and trends in the healthcare industry may lead to reduced spending into development of innovative medicines and/or solutions, consequently leading to a limited mix of products in the Group's portfolio. On the other hand, the growing availability and use of innovative pharmaceutical medicines had led to smaller patient populations across diverse disease areas, leading to a transition from fewer high-volume key assets to multiple low-volume assets. This transition may increase the complexity of

the Group's product portfolio and reliance on multiple low-volume niche medicines may lead to lower revenue generation.

If one or more of these risks materialize, this could materially affect the Group's business, financial condition and results of operations.

The Group may face substantial fines, other costs and restrictions on its business activities if it fails to comply with legal and regulatory requirements governing the healthcare industry.

The Group operates globally in complex legal and regulatory environments that often vary among jurisdictions. The failure to comply with applicable laws, rules and regulations in these jurisdictions may result in civil and criminal legal proceedings. Such proceedings may result in damages or fines to be paid in respect of each violation of law. Criminal proceedings may also be initiated against Group companies or individuals.

Geopolitical events and trade wars could lead to the imposition of export controls and broad financial and economic sanctions in certain markets where the Group operates. Such export controls or economic sanctions could be imposed with very short notice and have a longstanding impact on the markets. The Group may not be able to comply swiftly and may face further fines, damages or civil or criminal proceedings for non-compliance which would have a negative impact on the Group's business and results of operations. Furthermore, geopolitical developments and trade wars could impede the Group's ability to conduct its business profitably, cause the Group to cede its business activity or to divest assets in certain countries, which could materially adversely affect the Group's business, results of operations and financial condition in these markets. See also "—*Due to the international nature of the Group's business, geopolitical developments or events, such as global tensions and conflicts, protectionist policies by governments and impact of uncertain macroeconomic policies of central banks and other economic or political developments could materially adversely affect the Group's business, results of operations and financial condition.*"

Unfavorable resolution of proceedings and governmental investigations in which the Group is currently involved and similar future proceedings or investigations may have a material adverse effect on the Group's business, results of operations or financial condition. As at June 30, 2024, the Group had CHF 149 million in legal provisions. The status of significant legal cases is described in Note 10 of the H1 2024 Interim Consolidated Financial Statements. These estimates consider the specific circumstances of each legal case, relevant legal advice and are inherently uncertain due to the highly complex nature of legal cases. The estimates could change substantially over time as new facts emerge and each legal case progresses.

The Group buys risk transfer insurance coverage where legally required or operationally needed. If, due to claims against the Group, significant risks materialize that are not covered by insurance, then there could be a material adverse effect on the Group's business, results of operations or financial condition.

Healthcare reform in the United States and further modification or repeal of, or the outcome of judicial challenges to current healthcare policies could materially adversely affect the Group's business.

The U.S. healthcare industry is highly regulated and subject to frequent and substantial changes. The Group cannot predict future U.S. federal or state legislative or administrative changes relating to healthcare reform, the impact of any alternative provisions, or the introduction of new health reform initiatives.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively "ACA"), was signed into law and established a major expansion of healthcare coverage, financed in part by a number of new rebates, discounts, and taxes that had a significant effect on the Group's expenses and profitability. Although the revenues generated for the Group by the health insurance exchanges under the ACA are minor, the Group has faced and may face uncertainties due to court challenges and federal legislative and administrative efforts to substantially modify or invalidate some or all of the provisions of the ACA. It is unclear how healthcare reform measures enacted by Congress or implemented by the Biden administration, or other challenges to the ACA, if any, will impact the ACA. The Group cannot predict with certainty whether any such healthcare reform measures will be enacted or what impact they may have on the Group, but healthcare reform and changes in U.S. federal or state regulation could impose new and more stringent regulatory requirements on the Group's activities and require the Group to change its business practices or financial

arrangements. As such, any future replacement, modification or repeal of the ACA may materially adversely affect the Group's business and financial results, particularly if executive, administrative or legislative actions reduce incentives for employer-sponsored insurance coverage. For example, renewed calls for health insurance reform could cause significant uncertainty in the U.S. healthcare market and could increase the Group's costs, decrease the Group's revenues or inhibit the Group's ability to sell its products.

In November 2020, the Trump administration announced a new most-favored nation drug pricing model aimed at lowering certain drug prices. The model was later challenged in U.S. courts and on December 29, 2021, the U.S. Centers for Medicare & Medicaid Services ("CMS") published a final rule rescinding the model. However, regulatory or legislative alternatives that present similar, or even more substantial, patient access, provider reimbursement, and other concerns and the Group cannot predict the impact of such alternative policy decisions.

On August 16, 2022, the Inflation Reduction Act of 2022 was signed into law by President Biden. Under the Inflation Reduction Act, Medicare will be able to negotiate maximum fair prices on up to 60 drugs by 2029, starting with ten in 2026, 15 in each of 2027 and 2028, and 20 drugs in 2029 and each subsequent year. The drugs that are eligible for negotiation will be determined based on total expenditures under Medicare Parts B and D. The drugs must be FDA-approved and marketed for at least seven years (small molecule drugs) or at least eleven years (biologics). Drug makers will pay rebates for any Medicare drug price increases above the rate of inflation. In 2025, the Inflation Reduction Act will also cap at U.S.$2,000 patients' annual out-of-pocket costs under Medicare Part D prescription drug plans and Medicare Advantage Part D plans. The implementation of the provisions of the new law could have an adverse impact on the Group's pricing strategy and commercial prospects.

Other U.S. federal or state executive, legislative or regulatory action or policy efforts could materially adversely affect the Group's business, including, among others, changes in patent laws, the importation of prescription drugs from Canada or other countries outside the United States, in some cases at prices that are regulated by governments of various foreign countries, restrictions on U.S. direct-to-consumer advertising, limitations on interactions with healthcare professionals, or the use of comparative effectiveness methodologies that could be implemented in a manner that focuses primarily on cost differences and minimizes the therapeutic differences among pharmaceutical products and restricts access to innovative medicines. Moreover, the Group cannot predict if the current U.S. Congress and administration will pass legislation or take measures to lower or otherwise address drug prices and price increases.

In addition, U.S. entitlement reform could materially adversely affect the Group's business. In the United States, government action to reduce federal spending on entitlement programs including Medicare and Medicaid may affect payment for, or services provided using, the Group's products. Any reduction in funding for Medicare, Medicaid and welfare programs and any other significant spending reductions or cost controls could have an adverse impact on the Group's business, results of operations or financial condition.

The Group is subject to antitrust laws and regulations.

(i) Antitrust litigation may negatively impact the Group's financial performance.

Some of the Group's currently patented products may, in the future, become the subject of antitrust actions. Governments and regulatory authorities have in recent years been stepping up their compliance with law enforcement activities in the antitrust area.

Furthermore, in the United States, it has become increasingly common that following an adverse outcome in patent infringement cases, private litigants, such as the defendants in patent infringement suits, direct and indirect purchasers and other payers initiate antitrust actions against the Group or certain of its members. Claims by direct and indirect purchasers and other payers are typically filed as class actions, and the relief sought may include treble damages and restitution claims. Damages in antitrust cases are subject to automatic trebling in the United States and can be substantial.

While the outcome of government and regulatory authority investigations are unpredictable, they are costly, divert management's attention from the Group's business and may affect the Group's reputation. An adverse result in any antitrust proceeding could have a material effect on the Group's business, results of operations or financial condition.

(ii) Requirement for approvals from antitrust authorities for future acquisitions or business combinations

Acquisitions or business combination opportunities and mergers, either currently in progress or in the future, may require approvals from antitrust authorities under antitrust regulations in force at the time and in the relevant jurisdictions. Even if such approvals are obtained, they might require, based on the relevant antitrust authority's evaluation of prevailing market conditions and the Group's position in the market, that the Group divests certain businesses in order to carry out the transaction. The Group may otherwise be unable to obtain the required approvals, which would likely result in the relevant transaction being aborted or revised in a way that may be detrimental to the Group's strategy and/or financial position. Furthermore, as a consequence of the Group's positions in certain of its markets, it may be deemed by the relevant antitrust regulatory authorities to hold a dominant position in such markets, which could result in limitations being imposed on its ability to operate in such markets by adjusting its market behavior or otherwise. Any of these factors could materially adversely affect the Group's business, prospects, financial position and results of operations, and the Group's ability to execute its strategy. See "*—The Group's financial performance may be negatively impacted if its acquisitions or strategic alliances are unsuccessful*."

The Group may be required to pay substantial damages for product liability claims.

The Group may be subject to substantial product liability damages claims, settlements and awards for injuries allegedly caused by the use of its products, particularly given the widespread impact that prescription drugs may have on the health of large patient populations. Product liability claims, regardless of their merits or their outcome, may be costly, may divert management's attention, and may materially adversely affect the Group's reputation and demand for the Group's products. Adverse publicity relating to the safety of a product or of other competing products may increase the risk of product liability claims. Litigation, particularly in the United States, is inherently unpredictable and unexpectedly high awards of damages can result. Substantial product liability claims that result in court decisions against the Group or in the settlement of proceedings could have a material adverse effect on the Group's business, results of operations or financial condition, particularly where such circumstances are not covered by insurance. Furthermore, pharmacovigilance risks related to the lack of reporting of side effects may exist, which could result in potential fines or warning letters or other regulatory action. See "*—The Group may face substantial fines, other costs and restrictions on its business activities if it fails to comply with legal and regulatory requirements governing the healthcare industry*."

Stricter regulatory controls and increasing regulatory scrutiny of drug safety and efficacy may have a negative effect on the Group's financial performance.

The Group must comply with a broad range of regulatory controls on the testing, approval, manufacturing and marketing of many of its pharmaceutical and diagnostic products, particularly in the United States and within the EU, which affect not only the cost of product development but also the time required to reach the market and the uncertainty of doing so successfully. Healthcare authorities, particularly those in the United States and the EU, have continuously raised their standards in assessing the therapeutic benefits and safety of new drugs. It takes 10 to 13 years, on average, to bring a new pharmaceutical product to market, while new diagnostic tests require increasingly higher upfront investments to generate clinical data and demonstrate medical value. Furthermore, following Brexit, the Group faces uncertainty over future drug regulation in the UK.

Pre-clinical experiments and clinical trials are conducted during the development of potential products to determine the safety and efficacy of products for use by humans following approval by regulatory bodies. Notwithstanding these efforts, when drugs and vaccines are introduced into the marketplace, unanticipated side effects may become evident. Such side effects may necessitate changes in labelling and marketing or even product withdrawal. Any such event may also give rise to litigation against the Group. Post-marketing studies, whether conducted by the Group or by others and whether mandated by regulatory agencies or voluntary, and other emerging data about marketed products, such as adverse event reports, may also materially adversely affect sales of the Group's products. In addition, the discovery of significant problems with a product similar to one of the Group's products that implicate (or are perceived to implicate) an entire class of products could have a material adverse effect on sales of the affected products. Accordingly, new data about the Group's products, or similar products of other manufacturers, could negatively impact demand for the Group's products due to actual or perceived side effects, risks, uncertainty

regarding efficacy or misinformation about such data and, in some cases, could result in product withdrawal, and may also give rise to litigation against the Group.

Stricter regulatory controls and increased regulatory scrutiny of drug safety also heighten the risk of withdrawal by regulators of approvals previously granted, which would reduce sales and can result in product recalls and product liability lawsuits. In addition, in some cases the Group may voluntarily cease marketing a product or face declining sales based on concerns about efficacy or safety, whether or not scientifically justified, even in the absence of regulatory action. The development of a post-approval adverse effect profile for a product or the product class may have a major impact on the marketing and sale of that product or product class.

The Group's products face intense competition.

The Group operates in highly competitive markets. In its pharmaceuticals business, it faces competition both from proprietary products of large international manufacturers and producers of generic, biosimilar and non-comparable biological pharmaceuticals. The Group's most innovative pharmaceutical products include biotechnology products, such as monoclonal antibodies, which may face competition from biosimilars and non-comparable biologics. The thresholds for market entry of non-comparable biologics are even lower than for biosimilars while, at the same time, there may be a lack of transparency as to non-compliance of such non-comparable biologics with the WHO criteria for biosimilars.

Continued consolidation and cooperation in the pharmaceutical industry and increasing competition from digital technology companies could materially adversely affect the Group's competitive position, while continued consolidation and cooperation among the Group's customers and new virtual platforms and other initiatives for comparing drugs and their prices and joint purchasing may increase pricing pressures. See also "*—The Group may not be able to successfully manage changes in its business model as a result of the digitalization and technological transformation in the healthcare industry and faces new competitors from digital technology companies*" and "*—Government restrictions on pricing and reimbursement and consolidation among the Group's customers may negatively impact its financial performance*."

The diagnostics business is also highly competitive and the Group encounters competition from several international manufacturers. Some competitors who traditionally did not compete in the diagnostics business, some of whom historically operated with lower profit margins, have now entered the diagnostics business.

If any of the Group's major products were to become subject to a problem such as loss of patent or other intellectual property protection, unexpected side effects, regulatory proceedings, publicity affecting doctor or patient confidence or pressure from competitive products, or if a new, more effective product should be introduced, the adverse impact on the Group's revenues and operating results could be material.

A substantial share of the revenue and income of the Group continues to depend on the performance of certain flagship products.

A substantial share of the Group's revenue is generated from the sale of certain blockbuster drugs with finite patent protection. Sales of the five best-selling drugs (*Ocrevus*, *Hemlibra*, *Perjeta*, *Tecentriq*, *Vabysmo*) reached CHF 11,015 million representing 49% of the Group's Pharmaceutical Division sales for the six months ended June 30, 2024 and CHF 20,419 million representing 46% of the Group's Pharmaceutical Division sales for the year ended December 31, 2023. There can be no assurances that new products will be as successful as the Group's prior flagship products or successful at all. The Group's flagship products benefit from certain intellectual property protections such as patents and exclusivity periods but patent and proprietary rights, even if they are not challenged, are subject to expiration dates. Expiration of effective intellectual property protections for the Group's products typically results in the entry of one or more lower-priced generic or biosimilar competitors, often leading to a rapid and severe decline in revenues on those products. See also "*—The Group's pharmaceuticals business faces patent expirations and increasing competition from producers of generic, biosimilar and non-comparable biological products.*" If the Group is unable to replace its flagship products upon the expiration of the patents and exclusive marketing rights related thereto with new flagship products that are as successful or at all, the Group's revenues, results of operations and financial position may be materially adversely affected.

Furthermore, in general, if one or more of the Group's flagship products were to encounter problems such as successful challenges to intellectual property rights, material product liability litigation, unexpected side effects, recall obligations, regulatory proceedings, publicity affecting doctor or patient confidence, pressure from existing competitive products, or changes in labeling, or if a new, more effective treatment were introduced, or if there were a reduction in sales or a decline in sales growth of one or more of the Group's flagship products, the adverse impact on the Group's business, results of operations or financial condition could be material.

Government restrictions on pricing and reimbursement and consolidation among the Group's customers may negatively impact its financial performance.

Pharmaceutical products are subject to price controls or pressures and other restrictions in many markets. Some governments intervene directly in setting prices. In China, significant price discounts are required to have products added to the National Reimbursement Drug List by the Chinese government. In Europe, several countries have imposed significant price reductions on pharmaceutical products. In the United States, healthcare reforms have resulted in increased rebates on pharmaceutical products under government health insurance plans and have granted Medicare the ability to negotiate maximum fair prices on certain drugs, and Japan has implemented price cuts. See also "*—Healthcare reform in the United States and further modification or repeal of, or the outcome of judicial challenges to, the Affordable Care Act could materially adversely affect the Group's business.*"

In addition, in some markets major purchasers of pharmaceutical products (whether government agencies or private healthcare providers) have the economic power to exert substantial pressure on prices or the terms of access to product formularies. The growth in the number of patients covered through large managed-care institutions may also increase pricing pressure on the Group's products. Changes to government reimbursement policies could also reduce the funding that healthcare service providers have available for diagnostic and pharmaceutical product expenditures, which could have a material adverse impact on the Group's sales and profit margins.

The Group cannot predict whether existing controls will increase or new controls (or other restrictions or reforms) will be introduced that will reduce the Group's margins or materially adversely affect its ability to introduce new products profitably. Changes in the healthcare market could also force Roche to alter the Group's approach to selling, marketing, distributing and servicing the Group's customer base.

Risk of interruption of product supply, failure to predict demand or insufficient production capacity could affect the Group's business, results of operations and financial condition.

The products the Group markets, distributes and sells are either manufactured at the Group's own dedicated manufacturing facilities, or through toll manufacturing arrangements or supply agreements with third parties. The volume of production of most products cannot be rapidly altered to meet demand levels as many of the Group's products require technically complex manufacturing processes and are sometimes dependent on highly specialized raw materials or regulatory approval and the Group can provide no assurances that supply sources will not be interrupted. In addition, if the Group should fail to accurately predict market demand or if it should not have sufficient production capacity to meet demand (for example as a result of a shortage of personnel or machinery) for any of the Group's products, the Group may not be able to produce enough of the relevant product to meet that demand, or may produce volumes exceeding current demand, either of which could have a material adverse effect on the Group's business, results of operations or financial condition.

The manufacture of pharmaceutical products and their constituent materials requires compliance with good manufacturing practice regulations. The Group's manufacturing sites are subject to review and approval by the FDA and other regulatory agencies. Compliance failure by suppliers of key materials or the Group's own manufacturing facilities could lead to product recalls and seizures, interruption of production and delays in the approvals of new products. Non-compliance can also result in fines and disgorgement of profits. Any interruption of supply or government interventions such as restrictions on exports of products during pandemics or fines or disgorgement of profits could materially adversely affect the Group's financial results. While the Group undertakes business continuity planning, single sourcing for certain components, bulk active materials and finished products put the Group at risk of having insufficient supplies of key ingredients for its products in the event of regulatory non-compliance or physical disruption at the manufacturing sites.

The Group is subject to strict environmental, health and safety laws and regulations that may lead to significant liabilities.

The Group and its operations are subject to various foreign, national, regional and local environmental, health and safety laws and regulations governing, among other matters, the following: the emission and discharge of hazardous materials into the air, water or ground; the generation, storage, handling, processing, use and transportation of regulated materials; the registration, evaluation and authorization of its chemical products; and employee health and safety. These laws and regulations require the Group to obtain permits for certain of its operations. The Group cannot assure investors that it has been or will be at all times in compliance with such laws, regulations and permits. If the Group violates or fails to comply with these laws, regulations or permits, it could be subject to fines or other sanctions. The Group incurs, and expects in the future to incur, capital expenditures and other costs to comply with environmental laws and regulations. There can be no assurances these environmental compliance costs will not increase materially.

Certain environmental laws assess liability on current or previous owners or operators of real property for the cost of removal or remediation of hazardous substances at such properties or at properties to which these persons have sent waste. Environmental laws often impose liability even if these persons did not know of, or were not responsible for, the release of hazardous substances. The Group has incurred, and expects to incur, costs to address contamination with respect to its current and former properties, as well as with respect to third-party sites to which it has sent waste. In addition, completion of remediation projects may be a prerequisite to the completion of transactions involving the Group. While the Group has established reserves with respect to its current remediation projects, the actual costs to address these and any future environmental matters are subject to various factors, including the potential discovery of new facts or other conditions, changes in technology and changes in law or the enforcement thereof. Accordingly, there can be no assurances that the cost of addressing current and future environmental matters will not materially adversely affect the Group's business, results of operations or financial condition.

The Group could also be held liable for the release of hazardous substances, including exposure or other environmental damage. Risks inherent to biotechnological and diagnostic production include fires and explosions, personal injury and death, property or natural resource damage and hazardous substance releases. While the Group has corporate policies aimed at preventing such incidents, there can be no assurances that similar or more severe accidents will not occur in the future.

There is also increased investor, regulatory and public scrutiny regarding how businesses address climate, environmental, social and other sustainability issues and there is a growing sense of urgency around the pace and scale of action needed to address sustainability issues in general and climate change in particular. Any failure or delay by the Group to successfully adapt its business strategy and to establish and maintain effective governance, procedures, systems and controls in response to these issues, and to manage these emerging sustainability-related risks and opportunities may have a material adverse impact the Group's reputation.

Changes in labor laws may materially adversely affect the Group's business.

As of December 31, 2023, the Group had more than 100,000 employees around the world. The Group is subject to laws and regulations concerning its employees—including discrimination and harassment, personal privacy, labor relations and working conditions—that vary significantly from jurisdiction to jurisdiction. Changes in such laws and regulations can increase compliance costs and failure to comply with applicable requirements could have a material adverse effect on the Group.

An inability to attract and retain qualified personnel could materially adversely affect the Group's business.

The Group is highly dependent upon skilled personnel in key parts of the organization, and invests heavily in recruiting, training and retaining qualified individuals, including significant efforts to enhance the diversity of its workforce. The loss of the service of key members of the organization—including senior members of the scientific and management teams, high-quality researchers and development specialists, and skilled personnel in emerging growth markets—could delay or prevent the achievement of major business objectives.

The Group's future growth will demand talented associates and leaders, yet the market for talent has become increasingly competitive. In particular, emerging markets have a limited pool of executives with the training and international experience needed to work successfully in a global organization like the Group.

The Group faces intense competition for an increasingly limited pool of qualified individuals from numerous pharmaceutical and biotechnology companies, universities, governmental entities, other research institutions, other companies seeking to enter the healthcare space, and companies in other industries. As a result, despite significant efforts on the Group's part, it may be unable to attract and retain qualified individuals in sufficient numbers, which could have a material adverse effect on the Group's business, results of operations or financial condition.

Public pressure on the pharmaceutical industry could affect the Group's business, results of operations and financial condition.

There is considerable public sentiment against the pharmaceutical industry, and the industry is under the close scrutiny of the public and the media. In addition, there is significant pressure on the pharmaceutical industry from certain disadvantaged nations and non-governmental groups to make products available at drastically lower costs. Any increase in negative public sentiment against the pharmaceutical industry or increase in public scrutiny or pressure from disadvantaged countries could lead, among other things, to changes in legislation, demand for the Group's products at lower prices (which may include additional pricing pressures with respect to the Group's products also in less disadvantaged and developed countries based on the reasoning that the Group is able to offer its products at significantly lower prices in certain other countries) or increased efforts to undercut intellectual property protections including by way of promoting the development of local generics and biosimilars. Such changes could affect the Group's business and financial performance. See also "*—The Group may not be able to adequately protect its patents and other intellectual property and the intellectual property protection in some countries may be weak.*"

Additionally, the expansion of social media platforms and new mobile technologies present risks and challenges for the Group's business and reputation. The use of these digital channels requires specific attention, including efforts to ensure compliance with regulatory requirements and guidance from the FDA, monitoring programs and moderation of comments. For example, patients may use these channels to comment on the effectiveness of a product and to report an alleged adverse event. When such questions arise, the nature of evidence-based health care and restrictions on what pharmaceutical manufacturers may say about their products are not always well suited to rapidly defending the Group or the public's legitimate interests in the face of the political and market pressures generated by social media and rapid news cycles, and this may result in commercial harm, overly restrictive regulatory actions and erratic share price performance. Negative or inaccurate posts, misinformation or comments about the Group, the Group's business, directors or officers on any social media or networking website could seriously damage the Group's reputation. In addition, the Group's employees and partners may use social media and mobile technologies inappropriately, which may give rise to liability for the Group, or which could lead to breaches of data security, loss of trade secrets or other intellectual property or public disclosure of sensitive information, including information about the Group's employees, clinical trials or customers or other information. Such uses of social media and mobile technologies could have a material adverse effect on the Group's reputation, business, results of operations or financial condition.

In addition, public pressure with respect to environmental, social and corporate governance (ESG) topics, for example relating to a company's efforts to fight climate change and reduce its carbon footprint, has significantly increased in the recent past. The Group could become subject of such public pressure, including on social media, which could have a material adverse effect on the Group's reputation, business, results of operations or financial condition.

Significant disruptions of information technology systems and damages resulting from data breaches and cybersecurity incidents or threats and other digitalization risks as well as industrial espionage could materially adversely affect the Group's business.

The Group and third parties with whom the Group interacts in the course of its business are increasingly dependent on information technology ("IT") systems and digital data, including internet-based systems, for internal communication as well as communication with customers and suppliers. The Group has implemented measures

designed to protect the integrity and operation of its systems and data. However, the systems of the Group and its third-party service providers (including critical information infrastructure such as the Internet, satellites and IT networks) are potentially vulnerable to disruptions, slowdowns, outages or other failures which could be caused by a number of factors such as: power outages; computer and telecommunications failures; computer viruses, defects and other errors; security breaches; cyber-attacks; catastrophic events such as pandemics, fires, floods, earthquakes, tornadoes, or hurricanes; acts of war or terrorism; and design or usage errors by the Group's employees, contractors or third-party service providers. Any such incident could materially adversely affect the Group's operations.

The Group collects, receives, uses, stores, maintains, discloses, transmits and processes a large and increasing amount of data, including patient data and other sensitive or regulated data. Using real world patient data in connection with cancer therapy collected as part of routine healthcare practice and data collected from portable devices is an integral part of the Group's business strategy and thus critical for the Group's commercial success. In addition, as part of its business model, the Group organizes and participates in data driven processes such as clinical trials and healthcare delivery, and in particular the Group has activities involving particularly sensitive personal data (including data taken from patient files) collected as part of routine healthcare practice. Any inability on the Group's part to protect the security of its platforms or the privacy or integrity of the information and data collected, in particular at a time before it is de-identified, could materially and adversely affect the Group's operations and the Group's reputation and may lead to costly fines, damages and other sanctions. As a result of the increasing dependence by the Group on information technology and digital data, cybersecurity threats represent a constantly increasing risk to the Group and the Group has regularly been subject to cyber-attacks, and expects that it will be subject to such attacks in the future. While in the past the Group was able to protect its operations against such attacks, there is no certainty that the Group will be able to successfully prevent any damages in the future. The Group may not be able to identify security issues, including cybersecurity threats, or prevent outages, security incidents or other breaches of its systems or data. Further, due to technological developments, industrial espionage has significantly increased in the recent years, which affects the countries of the Group's major operations including Switzerland and the pharmaceutical industry generally and thus is a significant threat to the industry and the Group. A cyber-attack or industrial espionage could affect the security, integrity and confidentiality of the Group's data, including data relating to trade secrets, results of scientific research and other proprietary information. In addition, because techniques used to obtain unauthorized access or to sabotage systems change frequently and may not be recognized until launched against a target, the Group may be unable to anticipate these techniques or to implement adequate preventative measures. If any such compromise of the Group's security, or the security of the Group's clients, were to occur, it could result in misappropriation of confidential information, proprietary information or interruptions in operations, and have an adverse impact on the Group's reputation or the reputation of the Group's clients. If the Group is unable to detect and prevent unauthorized use or disclosure of sensitive, confidential or other regulated data, including personal information, its business, financial condition and/or results of operations could be materially and adversely affected.

The Group could be held responsible for the cyber-attacks, including incidents which cause a loss or improper disclosure or use of personal information, confidential information and other sensitive or regulated data, which may have a negative effect on the Group's reputation and business. Further, data-related risks include the lack of access by the Group to such data in the event of a disruption, slowdown, outage or other failure of the Group's systems, and the manipulation or publication of personal data of patients or employees of the Group. In addition, any compromise or breach of the Group's security measures, or those of its third-party service providers, could violate applicable privacy, data protection, data security, network and information systems security and other laws and regulations. If any of such risks materialize, the Group's business, financial condition and results of operations could be materially adversely affected.

The Group is subject to stringent and evolving privacy laws, information security laws, regulations, and policies related to data privacy and security and changes in such laws, regulations and policies could adversely affect the Group's business.

The Group is subject to increasingly stringent laws, regulations and policies with respect to privacy and the collection, transmission, storage, use, disclosure, protection and processing of personal data, the scope of which is changing, subject to differing interpretations, and may be inconsistent between states within a country or between countries. For example, the EU General Data Protection Regulation ("GDPR") became effective on May 25, 2018, and has resulted and will continue to result in significantly greater compliance burdens and costs for companies with

users and operations in the EU and EEA. Under the GDPR, fines of up to 20 million euro or 4% of the annual global revenues, whichever is greater, can be imposed for violations. The GDPR imposes several stringent requirements for controllers and processors of personal data and to the extent applicable to the Group's business, could make it more difficult and/or more costly for the Group to use and share personal data.

Further, Brexit created uncertainty with regard to the regulation of data protection in the UK. Certain aspects of EU/UK data protection law remain unclear, for example, what may be required for data transfers between EU member states and the UK beyond 2025. In addition, developments impacting data transfers from the EU more generally have also caused uncertainty about the legal basis for transfers of personal data from the EU to other countries without a European Commission adequacy decision. On July 10, 2023, the European Commission adopted its adequacy decision for the EU-U.S. Data Privacy Framework ("Data Privacy Framework") and on October 12, 2023, the UK's extension to the Data Privacy Framework ("UK Data Bridge") went into effect, each of which aims to ensure data can be safely transferred between the EU/UK and the United States. While these frameworks permit freer flow of data transfers between the EU/UK and the United States, the Group may face costs or other challenges in complying with the Data Privacy Framework and the UK Data Bridge, and their adoption does not foreclose future legal challenges to the same.

In addition, the California Consumer Privacy Act ("CCPA") went into effect on January 1, 2020 and the CCPA was amended and expanded by the California Privacy Rights and Enforcement Act of 2020 ("CPRA"), which went into effect on January 1, 2023. The amendment included expanding data privacy and security compliance requirements and establishing a regulatory agency dedicated to enforcing compliance. In addition to the California laws, several other U.S. states have enacted or are in the process of enacting comprehensive privacy laws similar to the CCPA and CPRA, and some states have also pursued sector specific privacy laws that specifically target personal data in the health sector. This trend of new comprehensive and sector specific U.S. state privacy laws is expected to continue, and the legislative and regulatory landscape for privacy and data protection continues to evolve in jurisdictions worldwide, with an increasing focus on privacy and data protection issues with the potential to affect the Group's business. Additionally, the Federal Trade Commission has recently taken several actions to enforce its health breach notification rule and has proposed amendments to strengthen and modernize that rule so that it would apply to health apps and other direct-to-consumer health technologies.

Any failure to comply with applicable laws, regulations, policies, industry standards or other legal obligations regarding privacy or data protection could result in penalties, regulatory action or significant legal liability to the Group as well as reputational harm and may adversely affect the Group's business.

Earthquakes, extreme weather events and other natural disasters could affect the Group's business, results of operations and financial condition.

The Group's corporate headquarters and some of the Group's major production facilities are located near major earthquake fault lines in Basel, Switzerland, California, United States and Tokyo, Japan and as a result, any earthquakes in any of these locations could have a material adverse effect on the Group's business and results of operations. For example, the Group incurred costs and experienced reduced sales as a result of the March 2011 earthquake and tsunami in Japan.

Additionally, in recent years, extreme weather events and changing weather patterns such as storms, flooding, drought, and temperature changes, appear to have become more common. The Group operates in more than 150 countries around the world which exposes the Group to varying natural disaster or extreme weather risks like earthquakes, hurricanes, tornadoes or floods, or other events that may result from the impact of climate change on the environment. Moreover, certain natural disasters or acts of God may not be insurable or the Group's insurance may not be sufficient to cover all losses sustained as a result of such events. Furthermore, insurance costs may be affected by natural catastrophes, fear of terrorism, governmental interventions or a decrease in the number of insurance carriers. In addition, the carriers with which the Group holds its policies may go out of business, or may be otherwise unable to fulfill their contractual obligations. The Group may determine that certain types or levels of risk, such as risks associated with earthquakes, hurricanes or terrorist attacks, are not commercially insurable at acceptable prices, if at all. The Group may face significant disruption to its operations, suffer significant losses and be required to make significant payments for which it would not be compensated, if an uninsured loss were to occur. As a result of such events or other natural disasters, the Group could experience business interruptions, destruction

of facilities and loss of life, all of which could have a material adverse effect on the Group's business, results of operations or financial condition.

Changes in tax laws could materially adversely affect the Group's earnings.

Changes in the tax laws of the countries in which the Group does business, as well as changes in the Group's effective tax rate caused by other factors, including changes in the interpretation of tax laws by local tax authorities, could affect the Group's net income. Changes in tax laws may in particular be driven by international initiatives which seek to ensure that companies pay appropriate taxes in the markets where profits are effectively made and business is effectively performed and to minimize profit shifting.

In this context, the Organization for Economic Co-operation and Development ("OECD") and the G20 countries have issued a statement in October 2019 according to which a new global tax framework shall be introduced that is designed to re-allocate certain rights of taxation to market jurisdictions under the so-called Unified Approach (Pillar One) and to reduce tax rate differences between jurisdictions by, among others, providing for a minimum tax rate level (Pillar Two). While this initiative is intended to reach a consensus-based long-term solution to the tax challenges arising from the digitalization of the economy, the Unified Approach, as currently envisaged, may result in all large multinational enterprises being taxed in jurisdictions where consumption of their products and services takes place irrespective of whether they have a physical presence in such jurisdiction. If the Unified Approach is implemented, as currently envisaged, this could, in particular, adversely affect large international groups such as the Group that have their headquarters in jurisdictions with small home markets and that market their products and services in large foreign markets where the tax rates are higher. This may have a significant adverse effect on the Group's net profits.

In December 2021, the OECD published the Tax Challenges Arising from the Digitalisation of the Economy–Global Anti-Base Erosion Model Rules (Pillar Two): Inclusive Framework on BEPS (the "GloBE Model Rules"). The GloBE Model Rules provide for a coordinated system of taxation consisting of an Income Inclusion Rule ("IIR"), an Undertaxed Profits Rule ("UTPR") and a Qualified Domestic Minimum Top-up Tax ("QDMTT"). The system is intended to ensure large multinational enterprise groups pay a minimum level of tax on the income arising in each of the jurisdictions where they operate. The GloBE Model Rules create a "top-up tax" to be applied on profits in any jurisdiction whenever the effective tax rate, determined on a jurisdictional basis in accordance with the GloBE Model Rules, is below the minimum 15% rate. Various countries have enacted or intend to enact legislation to either fully or partially implement the GloBE Model Rules. The status of the enactment of, and the scope of the GloBE Model Rules covered (or proposed to be covered) by, and applicable transition periods, if any, applicable to, such legislation vary from country to country. In Switzerland, the Roche Group's home jurisdiction, a QDMTT has been introduced to reach the required taxation level of 15% on Pillar Two qualifying profits of subsidiaries in Switzerland effective from January 1, 2024. The global minimum tax system regime by the GloBE Model Rules will result in compliance and reporting obligations for the Group as well as increased operational costs. Due to the impact from Pillar Two top-up taxes, which have been effective from January 1, 2024, in various countries where the Group operates, the Roche Group's effective core tax rate increased in the first half of 2024. It is not possible to predict the impact on the Group's results of any tax legislation which may be enacted in the future. See *"—Management's Discussion and Analysis of Results of Operations and Financial Condition of The Roche Group."*

As a multinational business, the Roche Group is exposed to financial risks that could have a material adverse effect on its financial performance.

The Group is exposed to financial risks arising from its underlying operations and finance activities. The Group's main risk exposures relate to volatility of foreign exchange rates, interest rates, inflation and equity prices, including the market value of financial assets and derivative instruments, as well as changes in the liquidity, creditworthiness and solvency of the Group's counterparties.

The ongoing global economic uncertainty, including the global inflationary and elevated interest rate pressures, heightens the financial risks presented by the Group's counterparties. The Group actively measures, monitors and manages its financial risk exposures by various functions pursuant to segregation of duties principles and in accordance with its financial policies. Unexpected volatility with respect to exchange rates or failure by the Group to manage other economic and financing risks or comply with its financial policies may have a material adverse effect on the Group's business, results of operations or financial condition.

The Group publishes its consolidated financial statements expressed in Swiss francs. The Group's revenues are primarily generated from sales of products to customers. Such revenues are mainly received in the local currency of the customer's home market, although in certain emerging markets invoicing is made in major international currencies such as the U.S. dollar and euro. Cost of sales, marketing and some administration costs follow the same currency pattern as sales. The majority of research and development activities take place at the Group's global research facilities, and therefore the costs are mainly concentrated in U.S. dollars, Swiss francs and euros. Administration costs are incurred at central locations in the United States, Switzerland and Germany, and increasingly at shared service centers in other locations. Chugai's revenues and costs are denominated in Japanese yen. Unexpected volatility with respect to the foreign exchange rates may have a material adverse effect on the Group's reported revenues, costs and net profits in Swiss francs.

The Group may not be able to realize the expected benefits from its significant marketing efforts and may fail to develop appropriate marketing models or correctly anticipate changes in its product portfolio.

The time between the launch of innovative drugs and the launch of generic, biosimilar and non-comparable biological versions of the same drugs has shortened significantly in recent years. This is putting increasing pressure on Roche's Pharmaceuticals Division to maximize sales from a new product quickly following its launch, in order to be able to recover its significant research and development costs. A strong marketing message and rapid penetration of potential markets in different geographic territories are vital if a product is to attain peak sales as quickly as possible before the loss of patent protection or the entry of significant competitor products. As a consequence, the Group is required to invest significant resources into its marketing and sales efforts and to tailor its marketing efforts to comply with local restrictions and requirements by jurisdiction, which may be time-consuming and costly. The Group also continually evaluates its marketing models, seeking more efficient ways to support new product launches and adjusting the composition of its sales force in response to changes in its product portfolio. If these efforts prove unsuccessful or if the Group fails to correctly anticipate changes to its product portfolio, for example, as a result of the unexpected loss of exclusivity for existing products or delays in the launch of new products, this could have a material adverse effect on the Group's business, results of operations or financial condition.

More extensive importation of products from other jurisdictions may negatively impact the Group's sales and overall financial performance.

The Group's products are subject to competition from products originating from jurisdictions with government price controls and counterfeit products, which results in lower sales and net income for the Group. Counterfeit products not only impact the Group's sales, but, more importantly, pose significant risks to consumers as well. Counterfeit medicines could also adversely impact the Group's business, by, among other things, causing the loss of confidence in medicines, potentially resulting in lost sales. In addition, despite well-documented risks, it is possible that the U.S. Congress could enact legislation allowing commercial-scale importation of drugs into the United States, which could negatively impact the Group's sales and overall financial performance. In September 2020, the FDA announced a final rule allowing the importation of certain prescription drugs from Canada, which took effect on November 30, 2020, and guidance describing the procedures that manufacturers could follow to facilitate importation of prescription drugs and biological products. In July 2021, President Biden issued an executive order on promoting competition that directed the FDA Commissioner to work with states and tribes that propose to develop importation programs. In January 2024, the FDA authorized an importation program submitted by Florida for two years, which requires FDA review and approval of drug-specific information and ensures the drugs are labeled consistent with FDA-approved labeling, among other reporting and testing requirements.

The Group relies on outsourcing of IT and other functions and may be held responsible for the potential misconduct of its third-party agents, particularly in developing countries.

As of the date of this offering memorandum, the Group has operations in more than 150 countries around the world. The Group outsources IT and other business functions to third-party providers, and in many of these countries, particularly in less developed markets, the Group relies extensively on third-party distributors and other agents for the marketing and distribution of its products. Many of these service providers and third parties are small and do not have internal compliance resources. In many developing countries, specific regulations regarding the marketing and sale of pharmaceutical products either do not exist or are still being developed, which may result in legal uncertainty and the inconsistent application of existing laws and regulations. In addition, many of these countries also

experience widespread corruption. Furthermore, outsourcing in the area of research, development and manufacturing entails various risks, including unauthorized use of the Group's intellectual property rights, failure of third parties to comply with regulatory and quality requirements, breach of cooperation agreements, and unexpected supply disruptions. If the Group fails in its efforts to screen third-party service providers and agents and detect cases of potential misconduct or risk, the Group could be held responsible for the non-compliance by these third parties with applicable laws and regulations or experience business disruptions and losses due to such non-compliance or other misconduct, which may have a negative effect on the Group's reputation and business.

The Group's financial performance may be negatively impacted if its acquisitions or strategic alliances are unsuccessful.

The Group has important strategic alliances with other companies. The success of these and similar arrangements depends not only on the Group's contributions and capabilities, but also on the technology and other intellectual property contributed by its partners and their respective resources, efforts and skills. If these strategic relationships are unsuccessful, the Group's financial performance could be negatively impacted. Disputes and difficulties in such relationships are common, often due to conflicting priorities or conflicts of interest. The benefits of these alliances would be reduced or eliminated if strategic partners were to:

- terminate or breach the agreements;
- fail to devote sufficient financial or other resources to the alliances;
- suffer negative outcomes in intellectual property disputes;
- fail to perform their obligations as expected; or
- impose controls and commercial limitations over the marketing and promotion of products under the alliances.

The Group may also pursue acquisitions of complementary businesses or new strategic alliances as part of its business strategy. However, it is possible that the Group may not complete these types of transactions in a timely manner, on a cost-effective basis, or at all, and may not realize the expected benefits of any acquisition or strategic alliance in a timely manner or at all. Any of these scenarios could lead to the Group having to write-down or write-off the value of transactions. In addition, integration of an acquired business may result in the Group incurring material debt and unknown or contingent liabilities, business disruption, the loss of key employees, slower execution of various work processes, compliance failures due to a change in applicable regulatory requirements and other issues such as a failure to integrate information technology and other systems.

Furthermore, the process may require management resources that would otherwise be available for continuing development of the Group's existing business. Such risks occur in relation to acquisitions in general and, whether individually or in combination, may have a material adverse effect on the Group's business, results of operations or financial condition.

See "*Business—Roche Group organization—Recent acquisitions or other M&A developments*" for details on significant acquisitions that the Group has entered into during these periods.

The Group's financial performance may be negatively impacted if its internal restructuring initiatives are unsuccessful.

The Group has previously undertaken, and is continuing to undertake, restructuring initiatives to improve efficiencies and better position the Group's business for the future. These activities may include site closures and realignment of the Group's organization and the Group's employees as the Group seeks to realize operating synergies and optimize its operations. However, the continued implementation of such restructuring activities could be disruptive to the business, and it is possible that the Group may not fully implement and complete these initiatives in a timely or cost-effective manner. In addition, the implementation of such restructuring initiatives may result in the loss of key employees or a failure to effectively consolidate operations. Such risks and any substantial

expenses or charges resulting from these restructuring activities may have a material adverse effect on the Group's business, results of operations or financial condition.

Risks relating to the Company

The Company is a holding company within the Group.

The Company is a holding company within the Group, and accordingly substantially all of its assets consist of its shareholdings in the U.S. subsidiaries of the Group. As such, one of the Company's activities is to provide financing to its subsidiaries and to refinance these obligations. The ability of the Company to satisfy its obligations under the Notes will depend upon dividend payments or other payments to the Company by its subsidiaries or by other members of the Group or any financial support it may obtain from the Guarantor. The assets of the Company should not therefore be primarily relied upon by prospective investors in making an investment decision to purchase the Notes. Rather, any investment decision to purchase the Notes should be based primarily on the financial strength of the Guarantor and the Group. As of June 30, 2024, the carrying value of the Group's long-term and short-term debt was CHF 34.4 billion of which CHF 32.2 billion related to outstanding bonds and notes.

Risks relating to the Notes

The Guarantor is the holding company of the Group.

The Guarantor is the holding company of the Group. Accordingly, substantially all of the assets of the Guarantor are comprised of its shareholdings in its subsidiaries. The ability of the Guarantor to satisfy any payment obligations under the guarantees will be dependent upon dividend payments or other payments received by the Guarantor from other members of the Group, and such payment obligations under the guarantees will be structurally subordinated to any payment obligations owed to creditors of the Guarantor's subsidiaries.

An active trading market for the Notes may not develop.

The Notes constitute new issues of securities, for which there is no existing market. The Company does not intend to apply for listing of the Notes on any securities exchange. Neither Roche nor the Company can assure investors whether trading markets for the Notes will develop, of the ability of holders of the Notes to sell their Notes or of the price at which holders may be able to sell their Notes. The initial purchasers have advised Roche and the Company that they currently intend to make a market in the Notes. However, the initial purchasers are not obligated to do so, and any market-making with respect to the Notes may be discontinued at any time without notice. If no active trading market develops, investors may be unable to resell the Notes at any price or at their fair market value.

On October 30, 2023, the U.S. Securities and Exchange Commission (the "SEC") issued an order (the "Order") that grants exemptive relief under Rule 15c2-11 under the U.S. Securities Exchange Act of 1934, as amended, to brokers and dealers that publish quotations with respect to fixed income securities sold in compliance with Rule 144A. Any modification or revocation of the Order by the SEC may restrict the ability of brokers and dealers to publish quotations on the Notes on any interdealer quotation system or other quotation medium, which may materially affect the liquidity and trading prices for the Notes.

Changes in Roche's credit ratings or the debt markets could materially adversely affect the market price of the Notes.

The market price for the Notes will depend on many factors, including:

- Roche's credit ratings with major credit rating agencies;
- the prevailing interest rates being paid by other companies similar to Roche;
- Roche's results of operations, financial condition and future prospects; and
- the overall condition of the financial markets.

The condition of the financial markets and prevailing interest rates have fluctuated in the past and are likely to fluctuate in the future. Fluctuations could have a material adverse effect on the market prices of the Notes.

Credit rating agencies also continually review their ratings for debt securities of companies that they follow, including Roche. Negative changes in Roche's ratings could have a material adverse effect on the market prices of the Notes. The effect of any credit rating downgrade would be to increase Roche's and the Group's costs of borrowing in the future.

The market price for the Notes and Roche's credit rating may also be impacted by the economic and political developments. See "*—Global economic uncertainty or contractions, such as the current macro-economic environment, including inflation, elevated interest rates and other economic or political developments could materially adversely affect the Group's business, results of operations and financial condition*."

The Notes will not be guaranteed by any of Roche's subsidiaries and will be structurally subordinated to the debt and other liabilities of Roche's subsidiaries, other than the Company.

Roche conducts substantially all of its operations through its subsidiaries. The Notes will be obligations of the Company and guaranteed by Roche, but will not be guaranteed by any of Roche's other subsidiaries. As a result, the Notes will be structurally subordinated to all debt and other liabilities (including liabilities to trade creditors) of Roche's subsidiaries, other than the Company, which means that the creditors of such subsidiaries will be paid from their assets before holders of the Notes would have any claims to those assets.

The Notes do not contain any financial covenants.

Neither Roche nor any of its subsidiaries will be restricted from incurring additional unsecured debt or other liabilities, including senior debt. If Roche incurs additional debt or liabilities, Roche's ability to pay its obligations on the Notes could be materially adversely affected. In addition, under the Notes, neither the Company nor Roche will be restricted from paying dividends or issuing or repurchasing their other securities.

Noteholders will not be protected in the event of a highly leveraged transaction, a reorganization, a default under the Company's existing indebtedness, or a restructuring, merger or similar transaction that may materially adversely affect noteholders, except to the extent described under "*Description of the Notes—Covenants—Limitation on mergers, consolidations and transfers of assets.*"

Potential reform of the Swiss withholding tax regime could materially adversely affect payments of interest in respect of the Notes to individuals resident in Switzerland.

On April 3, 2020, the Swiss Federal Council published draft legislation on the reform of the Swiss withholding tax system applicable to interest on bonds. This draft legislation provided for, among other things, the replacement of the current debtor-based regime applicable to interest payments with a paying agent-based regime for Swiss withholding tax. Under such paying agent-based regime, subject to certain exceptions, all interest payments made on bonds by paying agents acting out of Switzerland to individuals resident in Switzerland would have been subject to Swiss withholding tax, including any such interest payments made on bonds issued by entities organized in a jurisdiction outside Switzerland (such as interest payments on the Notes).

Due to the controversial outcome of the consultation on the draft legislation, the Swiss Federal Council submitted new draft legislation to the Swiss Parliament, which provided for the abolition of Swiss withholding tax on interest payments on bonds. This legislation was accepted by the Swiss Parliament, but was rejected in a referendum held on September 25, 2022. In view of the rejection of this legislation, the Swiss Federal Council could again propose a paying agent-based regime such as the one contemplated by the draft legislation published on April 3, 2020. If such a proposal were to be accepted and enacted and were to result in the deduction or withholding of Swiss withholding tax on any interest payments in respect of a Note (including any payment by the Guarantor in respect thereof under the related guarantee) by any person in Switzerland other than the Issuer or the Guarantor, the holder of such a Note would not be entitled to receive any additional

amounts with respect to such Note as a result of such deduction or withholding under the terms of the Notes or the related guarantee, as the case may be, of the applicable series.

Investors in the Notes may be unable to enforce judgments obtained in U.S. courts against the Company or the Guarantor.

The Guarantor is incorporated under the laws of Switzerland, some of the Company's directors and executive officers and most of the Guarantor's directors and executive officers are not residents of the United States, and a substantial portion of the assets of these persons as well as of the Guarantor are located outside of the United States. As a consequence, investors may not be able to effect service of process upon the Guarantor or upon these non-U.S. resident directors and executive officers in the United States or to enforce judgments against them outside of the United States.

Due to the lack of reciprocal legislation between Switzerland and the United States, it may also be difficult for investors to enforce judgments obtained in U.S. courts against the Guarantor (or any of its directors or executive officers resident in Switzerland) in Switzerland. In addition, there is doubt as to the enforceability in Switzerland of civil liabilities based solely on the federal or state securities laws of the United States, either in an original action or in an action to enforce a judgment obtained in U.S. courts. Furthermore, awards of punitive damages in actions brought in the United States or elsewhere may be unenforceable in Switzerland. See "*Enforceability of Civil Liabilities Under U.S. Federal Securities Laws.*"

USE OF PROCEEDS

The Group estimates that the aggregate net proceeds from the issuance of the Notes (after deduction of the initial purchasers' discounts and estimated offering expenses payable by the Company) will be approximately U.S.$2,515 million.

The net proceeds from the issuance of the Notes will be used for general corporate purposes, including but not limited to mergers and acquisitions, refinancing of short-term debt and regular debt maturities, payments of dividends and for potential early redemptions or mandatory prepayment events.

Such proceeds will be used outside Switzerland except to the extent use in Switzerland is permitted under the Swiss taxation laws in force from time to time without payments in respect of the Notes becoming subject to withholding or deduction for Swiss withholding tax as a consequence of such use of proceeds in Switzerland.

CAPITALIZATION

The following table sets forth the consolidated debt and capitalization of the Roche Group as of June 30, 2024 in accordance with IFRS Accounting Standards and as adjusted to reflect the issuance and sale of the Notes.

On August 19, 2024, Roche Kapitalmarkt AG launched an offering of aggregate principal amount of CHF 945 million of senior unsecured bonds guaranteed by Roche Holding Ltd (the "CHF Notes"). The CHF Notes are expected to be issued and settled on September 6, 2024.

The following table should be read in conjunction with and is qualified by reference to the H1 2024 Interim Consolidated Financial Statements and notes thereto included elsewhere in this offering memorandum.

	June 30, 2024			
	Actual		As adjusted	
	(CHF in millions)	(U.S.$ in millions)[1]	(CHF in millions)	(U.S.$ in millions)[1]
Cash and cash equivalents	4,824	5,367	7,084	7,882
Marketable securities	3,990	4,439	3,990	4,439
Total cash and cash equivalents and marketable securities	8,814	9,806	11,074[2]	12,321[2]
Debt				
Short-term debt	6,021	6,699	6,021	6,699
Long-term debt[2]			809	900
4.203% Notes due 2029 offered hereby	-	-	899	1,000
4.592% Notes due 2034 offered hereby	-	-	539	600
5.218% Notes due 2054 offered hereby	-	-		
Other long-term debt	28,420	31,620	28,420	31,620
Total long-term debt	28,420	31,620	30,667	34,120
Total debt[3]	34,441	38,319	36,688	40,819
Equity				
Capital and reserves attributable to Roche shareholders	28,942	32,201	28,942	32,201
Equity attributable to non-controlling interests	3,934	4,377	3,934	4,377
Total equity	32,876	36,578	32,876	36,578
Total capitalization[4]	67,317	74,897	69,564	77,397

(1) These columns have been translated for convenience into U.S. dollars at CHF 0.8988 = U.S.$1.00, the market closing rate in effect on June 28, 2024, according to the London Bloomberg Composite Rate source available on Bloomberg.

(2) Includes accrued interest on the 2054 Notes.

(3) As of June 30, 2024, 70.2% of the Group's long-term debt was denominated in U.S. dollars, 15.4% in Swiss franc and 14.4% in euro.

(4) CHF 1,734 million of lease liabilities are not included in total debt.

(5) Short-term debt and total long-term debt plus total equity.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION OF THE ROCHE GROUP

The following discussion should be read in conjunction with:

- *the H1 2024 Interim Consolidated Financial Statements, and the independent auditor's review report thereon,*
- *the 2023 Consolidated Financial Statements, and the independent auditor's report thereon, and*
- *the 2022 Consolidated Financial Statements, and the independent auditor's report thereon,*

each included elsewhere in this offering memorandum.

For a description of the core results concept, see "—Core results" and "Presentation of financial and other information—Non-GAAP Measures—Core results."

Certain percentage changes and certain changes in absolute numbers referred to in the following discussion have been calculated using constant exchange rates ("CER")*. For a description of the CER concept, see "Presentation of financial and other information—Non-GAAP Measures—Measures at constant exchange rates." Percentage changes denoted in "CHF" are calculated using Swiss franc amounts as reported.*

Accounting policies

2023 Consolidated Financial Statements and 2022 Consolidated Financial Statements

The 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements each included in this offering memorandum were prepared in accordance with IFRS Accounting Standards, as issued by the IASB, and comply with Swiss law. They have been prepared using the historical cost convention except for items that are required to be accounted for at fair value.

Details of the Roche Group's accounting policies are set forth in Note 34 to the 2023 Consolidated Financial Statements and Note 34 to the 2022 Consolidated Financial Statements.

The preparation of the 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements required management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities and contingent amounts. Actual outcomes could differ from those management estimates. The estimates and underlying assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors. Revisions to estimates are recognized in the period in which the estimate is revised. The following are considered to be the key accounting judgments, estimates and assumptions made and are believed to be appropriate based upon currently available information:

- revenue;
- business combinations;
- impairment;
- pensions and other post-employment benefits;
- legal provisions;
- environmental provisions;
- contingent consideration provisions;
- income taxes;

- leases; and
- consolidation.

H1 2024 Interim Consolidated Financial Statements

The H1 2024 Interim Consolidated Financial Statements are unaudited. They were prepared in accordance with IAS 34 (*Interim Financial Reporting*). They do not include all of the information required for a complete set of financial statements prepared in accordance with IFRS Accounting Standards and should be read in conjunction with the 2023 Consolidated Financial Statements.

Details of the Roche Group's significant accounting policies are set forth in Note 1 to the H1 2024 Interim Consolidated Financial Statements.

The preparation of the H1 2024 Interim Consolidated Financial Statements required management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of revenues, expenses, assets, liabilities and related disclosures. If in the future such estimates and assumptions, which are based on management's best judgment at the date of the H1 2024 Interim Consolidated Financial Statements, deviate from the actual circumstances, the original estimates and assumptions will be modified as appropriate in the period in which the circumstances change. The significant judgments made by management in applying the Group's accounting policies and the key sources of estimation uncertainty are the same as those applied in the 2023 Consolidated Financial Statements.

Presentational and cost allocation changes effective January 1, 2023

Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. This has been done to improve external comparability and to reflect changes in the internal reporting for functions with global accountability.

- The income statement now presents 'Selling, general and administration' costs, which is created from merging 'Marketing and distribution' costs and 'General and administration' costs.
- The income statement now presents 'Other revenue' in place of 'Royalties and other operating income'.
- The income statement now presents 'Other operating income (expense)' for non-revenue income and for expenses that do not fall into the regular functional costs.
- Allocations from functions with global accountability such as informatics, human resources and finance are no longer made to the Pharmaceuticals and Diagnostics Divisions.

These changes have no impact on sales, operating profit, net income and earnings per share of the Roche Group as a whole, for both the IFRS and core basis. There is no change to the core results concept. The cost allocation changes will reduce costs allocated to divisions and increase divisional margins. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected.

In the 2023 Consolidated Financial Statements, the full year information for 2022 has been restated. A reconciliation to the previously published results is provided in Note 34 to the 2023 Consolidated Financial Statements. For the restated core results, please see "*—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated core results (selected items)-Year ended December 31, 2022*."

The 2022 Consolidated Financial Statements included in this offering memorandum have not been restated and have been retained as originally published and audited.

Change in operating segments effective January 1, 2024

Effective January 1, 2024, the Foundation Medicine business was moved under the responsibility of the Diagnostics Division from the Pharmaceuticals Division, while Foundation Medicine's independence was retained in this new

reporting set-up. Accordingly, from January 1, 2024, the results of the Foundation Medicine business have been reported as part of the Diagnostics Division, and this represents a change in the Group's operating segments in its financial reporting. These changes had no impact on sales, operating profit, net income and earnings per share and non-voting equity security of the Group as a whole, for both the IFRS and core basis. There is no change to the core results concept.

No restatements have been made in the 2022 Consolidated Financial Statements and 2023 Consolidated Financial Statements for these changes.

In the H1 2024 Interim Consolidated Financial Statements, the comparative information for 2023 has been restated. For a reconciliation to the previously published results please see Note 1 to the H1 2024 Interim Consolidated Financial Statements. For the restated core results, please see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group—Reconciliation from IFRS results to core results— For the six months ended June 30, 2024 and June 30, 2023*."

The full year 2023 results will be restated in Roche Group's consolidated financial statements as of and for the year ending December 31, 2024.

International Financial Reporting Standards and required restatements

The Roche Group has been using IFRS Accounting Standards as issued by the IASB to report its consolidated results since 1990. In 2023, the Group adopted the amendments to *IAS* 12 *"Income Taxes"* relating to *"International Tax Reform—Pillar Two Model Rules"* issued by the IASB in May 2023. The Group has applied the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Core results

Core results concept

Core results allow for an assessment of both the Group's actual results as defined by IFRS Accounting Standards and the underlying performance of the business.

The core results concept, which is used in the internal management of the business, is based on the IFRS results, with the following adjustments:

- Global restructuring plans are excluded.
- Amortization and impairment of intangible assets, with the exception of commercial software intangible assets, and impairment of goodwill are excluded.
- Acquisition accounting and other impacts from the accounting for mergers & acquisitions and alliance transactions are excluded.
- Discontinued operations (currently none) are excluded.
- Legal and environmental cases are excluded.
- Global issues outside the healthcare sector beyond the Group's control are excluded.
- Material treasury items such as major debt restructurings (currently none) are excluded.
- Pension plan settlements are excluded.
- The tax benefit recorded under IFRS Accounting Standards in respect of equity compensation plans ("ECPs" and each an "ECP"), which varies according to the price of the underlying equity, is replaced by a normalized tax benefit, being the IFRS 2 expense multiplied by the applicable tax rate.

Also see "*Presentation of financial and other information—Non-GAAP Measures*."

Measures at constant exchange rates

Certain percentage changes and certain changes in absolute numbers referred to in the following discussion have been calculated using constant exchange rates ("CER"). For a description of the CER concept, see "*Presentation of financial and other information—Non-GAAP Measures—Measures at constant exchange rates.*" Percentage changes denoted in "CHF" are calculated using Swiss franc amounts as reported.

Reconciliation from IFRS results to core results

The Roche Group's IFRS results, including the divisional breakdown, are reconciled to the core results in the tables below.

For the six months ended June 30, 2024 and June 30, 2023

The tables in this section are to be read together with "*—Comparison of the six months ended June 30, 2024 and 2023.*"

Core results reconciliation – Six months ended June 30, 2024

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transact-ions	Legal & environ-mental	Pension plan settlements	Global issues	Normaliz-ation of ECP tax benefit	Core results
					(CHF in millions)					
Sales	29,848	-	-	-	-	-	-	-	-	29,848
Other revenue	908	0	-	-	-	-	-	-	-	908
Cost of sales	(7,870)	80	172	318	0	-	-	-	-	(7,300)
Research and development	(7,388)	215	172	733	-	-	-	-	-	(6,268)
Selling, general and administration	(6,852)	465	11	0	-	-	-	-	-	(6,376)
Other operating income (expense)	425	2	-	0	32	22	0	-	-	481
Operating profit	9,071	762	355	1,051	32	22	0	-	-	11,293
Financing costs	(708)	0	-	-	5	5	-	-	-	(698)
Other financial income (expense)	(140)	-	-	-	0	-	-	-	-	(140)
Profit before taxes	8,223	762	355	1,051	37	27	0	-	-	10,455
Income taxes	(1,526)	(140)	(23)	(143)	(3)	(6)	0	0	37	(1,804)
Net income	6,697	622	332	908	34	21	0	0	37	8,651

Core results reconciliation – Six months ended June 30, 2023

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal & environ-mental	Pension plan settlements	Global issues	Normalizat-ion of ECP tax benefit	Core results
					(CHF in millions)					
Sales	29,779	-	-	-	-	-	-	-	-	29,779
Other revenue	837	0	-	-	-	-	-	-	-	837
Cost of sales	(7,931)	287	188	0	0	-	-	-	-	(7,456)
Research and development	(6,918)	54	155	260	-	-	-	-	-	(6,449)
Selling, general and administration	(6,850)	330	15	0	-	-	-	-	-	(6,505)
Other operating income (expense)	847	7	-	0	1	(150)	0	-	-	705
Operating profit	9,764	678	358	260	1	(150)	0	-	-	10,911
Financing costs	(490)	0	-	-	3	5	-	-	-	(482)
Other financial income (expense)	(100)	-	-	-	0	-	-	-	-	(100)
Profit before taxes	9,174	678	358	260	4	(145)	0	-	-	10,329
Income taxes	(1,611)	(134)	(22)	(52)	0	46	0	0	31	(1,742)
Net income	7,563	544	336	208	4	(99)	0	0	31	8,587

Divisional core results reconciliation – Six months ended June 30, 2024

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal & environmental	Pension plan settlements	Core results
				(CHF in millions)				
Pharmaceuticals								
Sales	22,637	-	-	-	-	-	-	22,637
Other revenue	886	0	-	-	-	-	-	886
Cost of sales	(4,536)	82	105	318	0	-	-	(4,031)
Research and development	(6,408)	171	169	733	-	-	-	(5,335)
Selling, general and administration	(3,400)	200	3	0	-	-	-	(3,197)
Other operating income (expense)	414	1	-	0	32	2	0	449
Operating profit	**9,593**	**454**	**277**	**1,051**	**32**	**2**	**0**	**11,409**
Diagnostics								
Sales	7,211	-	-	-	-	-	-	7,211
Other revenue	22	0	-	-	-	-	-	22
Cost of sales	(3,334)	(2)	67	0	0	-	-	(3,269)
Research and development	(980)	44	3	0	-	-	-	(933)
Selling, general and administration	(1,510)	17	8	0	-	-	-	(1,485)
Other operating income (expense)	16	1	-	0	0	20	0	37
Operating profit	**1,425**	**60**	**78**	**0**	**0**	**20**	**0**	**1,583**
Corporate								
Selling, general and administration	(1,942)	248	-	-	-	-	-	(1,694)
Other operating income (expense)	(5)	0	-	-	0	0	0	(5)
Operating profit	**(1,947)**	**248**	**-**	**-**	**0**	**0**	**0**	**(1,699)**

Restated divisional core results reconciliation – Six months ended June 30, 2023[1]

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal & environmental	Pension plan settlements	Core results
				(CHF in millions)				
Pharmaceuticals[1]								
Sales	22,511	-	-	-	-	-	-	22,511
Other revenue	798	0	-	-	-	-	-	798
Cost of sales	(4,384)	227	121	0	0	-	-	(4,036)
Research and development	(5,947)	29	151	260	-	-	-	(5,507)
Selling, general and administration	(3,448)	135	5	0	-	-	-	(3,308)
Other operating income (expense)	710	1	-	0	(4)	(8)	0	699
Operating profit	**10,240**	**392**	**277**	**260**	**(4)**	**(8)**	**0**	**11,157**
Diagnostics[1]								
Sales	7,268	-	-	-	-	-	-	7,268
Other revenue	39	0	-	-	-	-	-	39
Cost of sales	(3,547)	60	67	0	0	-	-	(3,420)
Research and development	(971)	25	4	0	-	-	-	(942)
Selling, general and administration	(1,521)	33	10	0	-	-	-	(1,478)
Other operating income (expense)	144	6	-	0	5	(142)	0	13
Operating profit	**1,412**	**124**	**81**	**0**	**5**	**(142)**	**0**	**1,480**
Corporate								
Selling, general and administration	(1,881)	162	-	-	-	-	-	(1,719)
Other operating income (expense)	(7)	0	-	-	0	0	0	(7)
Operating profit	**(1,888)**	**162**	**-**	**-**	**0**	**0**	**0**	**(1,726)**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1,*

2024." For a reconciliation to the previously published core results, see "*Reconciliation from IFRS results to core results-For the six months ended June 30, 2024 and June 30, 2023 - Restated divisional core results (selected items) - Six months ended June 30, 2023*."

Restated divisional core results (selected items) – Six months ended June 30, 2023[1]

	Core results as originally published	Change in operating segments	Restated core results
		(CHF in millions)	
Pharmaceuticals			
Sales	22,681	(170)	22,511
Other revenue	806	(8)	798
Cost of sales	(4,107)	71	(4,036)
Research and development	(5,617)	110	(5,507)
Selling, general and administration	(3,444)	136	(3,308)
Other operating income (expense)	699	0	699
Core operating profit	**11,018**	**139**	**11,157**
Diagnostics			
Sales	7,098	170	7,268
Other revenue	31	8	39
Cost of sales	(3,349)	(71)	(3,420)
Research and development	(832)	(110)	(942)
Selling, general and administration	(1,342)	(136)	(1,478)
Other operating income (expense)	13	0	13
Core operating profit	**1,619**	**(139)**	**1,480**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

Restated divisional operating free cash flow information (selected items) – Six months ended June 30, 2023[1]

	As originally published	Change in operating segments	Restated
		(CHF in millions)	
Pharmaceuticals			
Operating profit – IFRS basis	10,085	155	10,240
Depreciation of property, plant and equipment	654	(19)	635
Depreciation of right-of-use assets	95	(8)	87
Amortization of intangible assets	280	(1)	279
Impairment (reversal) of property, plant and equipment	31	0	31
Impairment (reversal) of right-of-use assets	2	0	2
Impairment of goodwill	0	0	0
Impairment of intangible assets	260	0	260
Total depreciation, amortization and impairments	**1,322**	**(28)**	**1,294**
Add back			
- Expenses for equity-settled equity compensation plans	294	(24)	270
- Net (income) expense for provisions	(35)	0	(35)
- Net (gain) loss from disposals	(584)	0	(584)
- Non-cash working capital and other items	177	0	177
Deduct			
- Utilization of provisions	(355)	0	(355)
- Proceeds from disposals	603	0	603
Total other adjustments	**100**	**(24)**	**76**
Operating profit cash adjustments	**1,422**	**(52)**	**1,370**

	As originally published	Change in operating segments	Restated
		(CHF in millions)	
Operating profit, net of operating cash adjustments	**11,507**	**103**	**11,610**
(Increase) decrease in net working capital	(638)	(9)	(647)
Investments in property, plant and equipment	(979)	79	(900)
Principal portion of lease liabilities paid	(110)	10	(100)
Investments in intangible assets	(218)	0	(218)
Operating free cash flow	**9,562**	**183**	**9,745**
Diagnostics			
Operating profit – IFRS basis	**1,567**	**(155)**	**1,412**
Depreciation of property, plant and equipment	540	19	559
Depreciation of right-of-use assets	60	8	68
Amortization of intangible assets	81	1	82
Impairment (reversal) of property, plant and equipment	9	0	9
Impairment (reversal) of right-of-use assets	0	0	0
Impairment of goodwill	0	0	0
Impairment of intangible assets	0	0	0
Total depreciation, amortization and impairments	**690**	**28**	**718**
Add back			
- Expenses for equity-settled equity compensation plans	51	24	75
- Net (income) expense for provisions	(22)	0	(22)
- Net (gain) loss from disposals	7	0	7
- Non-cash working capital and other items	108	0	108
Deduct			
- Utilization of provisions	(113)	0	(113)
- Proceeds from disposals	15	0	15
Total other adjustments	**46**	**24**	**70**
Operating profit cash adjustments	**736**	**52**	**788**
Operating profit, net of operating cash adjustments	**2,303**	**(103)**	**2,200**
(Increase) decrease in net working capital	(1,114)	9	(1,105)
Investments in property, plant and equipment	(713)	(79)	(792)
Principal portion of lease liabilities paid	(58)	(10)	(68)
Investments in intangible assets	(16)	0	(16)
Operating free cash flow	**402**	**(183)**	**219**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

Restated divisional net operating assets (selected items) – December 31, 2023[1]

	As originally published	Change in operating segments	Restated
		(CHF in millions)	
Pharmaceuticals			
Trade receivables	8,009	(61)	7,948
Inventories	4,849	(36)	4,813
Trade payables	(2,110)	38	(2,072)
Net trade working capital	**10,748**	**(59)**	**10,689**
Other receivables (payables)	(7,302)	53	(7,249)
Net working capital	**3,446**	**(6)**	**3,440**
Property, plant and equipment	14,423	(42)	14,381
Right-of-use assets	882	(232)	650

	As originally published	Change in operating segments	Restated
		(CHF in millions)	
Goodwill and intangible assets	18,025	(33)	17,992
Provisions	(1,799)	0	(1,799)
Other assets (liabilities), net	1,529	34	1,563
Other net operating assets	**33,060**	**(273)**	**32,787**
Net operating assets	**36,506**	**(279)**	**36,277**
Diagnostics			
Trade receivables	3,118	61	3,179
Inventories	2,900	36	2,936
Trade payables	(1,097)	(38)	(1,135)
Net trade working capital	**4,921**	**59**	**4,980**
Other receivables (payables)	(1,673)	(53)	(1,726)
Net working capital	**3,248**	**6**	**3,254**
Property, plant and equipment	6,997	42	7,039
Right-of-use assets	299	232	531
Goodwill and intangible assets	6,193	33	6,226
Provisions	(766)	0	(766)
Other assets (liabilities), net	(33)	(34)	(67)
Other net operating assets	**12,690**	**273**	**12,963**
Net operating assets	**15,938**	**279**	**16,217**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

For the years ended December 31, 2023, 2022 and 2021

Core results reconciliation – Year ended December 31, 2023

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environ-mental cases	Pension plan settlements	Global issues	Normal-ization of ECP tax benefit	Core results
					(CHF in millions)					
Sales	58,716	–	–	–	–	–	–	–	–	58,716
Other revenue	1,725	0	–	–	–	–	–	–	–	1,725
Cost of sales	(16,357)	548	375	183	0	–	–	–	–	(15,251)
Research and development	(14,200)	230	308	425	–	–	–	–	–	(13,237)
Selling, general and administration	(14,881)	1,335	28	0	–	–	–	–	–	(13,518)
Other operating income (expense)	392	(75)	–	591	19	(122)	0	–	–	805
Operating profit	15,395	2,038	711	1,199	19	(122)	0	–	–	19,240
Financing costs	(996)	0	–	–	6	10	–	–	–	(980)
Other financial income (expense)	(320)	–	–	–	0	–	–	–	–	(320)
Profit before taxes	14,079	2,038	711	1,199	25	(112)	0	–	–	17,940
Income taxes	(1,721)	(403)	(44)	(71)	(4)	39	0	0	68	(2,136)
Net income	12,358	1,635	667	1,128	21	(73)	0	0	68	15,804

Core results reconciliation – Year ended December 31, 2022 (restated)[1]

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environ-mental cases	Pension plan settlements	Global issues	Normali-zation of ECP tax benefit	Core results
					(CHF in millions)					
Sales	63,281	–	–	–	–	–	–	–	–	63,281
Other revenue	2,533	0	–	–	–	–	–	–	–	2,533
Cost of sales	(19,737)	295	555	1,472	0	–	–	–	–	(17,415)
Research and development	(15,225)	261	344	1,365	–	–	–	–	–	(13,255)

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environ-mental cases	Pension plan settlements	Global issues	Normali-zation of ECP tax benefit	Core results
					(CHF in millions)					
Selling, general and administration	(14,201)	400	34	0	–	–	–	–	–	(13,767)
Other operating income (expense)..	825	13	–	0	(20)	(22)	0	–	–	796
Operating profit	17,476	969	933	2,837	(20)	(22)	0	–	–	22,173
Financing costs	(665)	0	–	–	(1)	(20)	–	–	–	(686)
Other financial income (expense)...	(484)	–	–	–	(44)	–	–	–	–	(528)
Profit before taxes	16,327	969	933	2,837	(65)	(42)	0	–	–	20,959
Income taxes	(2,796)	(193)	(80)	(435)	(1)	8	0	0	68	(3,429)
Net income	13,531	776	853	2,402	(66)	(34)	0	0	68	17,530

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The information for 2022 has been restated accordingly. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023.*" For a reconciliation to the previously published core results, see "*—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated core results (selected items) - Year ended December 31, 2022.*"

Core results reconciliation – Year ended December 31, 2021

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environ-mental cases	Pension plan settlements	Global issues	Normali-zation of ECP tax benefit	Core results
					(CHF in millions)					
Sales	62,801	–	–	–	–	–	–	–	–	62,801
Royalties and other operating income	3,049	0	–	–	–	–	–	–	–	3,049
Cost of sales	(19,647)	192	1,205	101	11	–	–	–	–	(18,138)
Marketing and distribution	(9,920)	424	37	15	–	–	–	–	–	(9,444)
Research and development	(14,799)	242	314	535	–	–	–	–	–	(13,708)
General and administration.....	(3,329)	504	–	0	44	118	0	–	–	(2,663)
Operating profit	18,155	1,362	1,556	651	55	118	0	–	–	21,897
Financing costs	(418)	0	–	–	2	4	–	–	–	(412)
Other financial income (expense)	(339)	–	–	–	0	–	–	–	–	(339)
Profit before taxes	17,398	1,362	1,556	651	57	122	0	–	–	21,146
Income taxes	(2,463)	(267)	(205)	(111)	(10)	(15)	0	0	(4)	(3,075)
Net income	14,935	1,095	1,351	540	47	107	0	0	(4)	18,071

Divisional core results reconciliation – Year ended December 31, 2023

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environmental cases	Pension plan settlements	Core results
				(CHF in millions)				
Pharmaceuticals								
Sales	44,612	–	–	–	–	–	–	44,612
Other revenue.....	1,667	0	–	–	–	–	–	1,667
Cost of sales	(9,083)	316	241	183	0	–	–	(8,343)
Research and development	(12,352)	155	301	406	–	–	–	(11,490)
Selling, general and administration.....	(7,945)	721	9	0	–	–	–	(7,215)
Other operating income (expense)	233	(80)	–	591	14	0	0	758
Operating profit	**17,132**	**1,112**	**551**	**1,180**	**14**	**0**	**0**	**19,989**
Diagnostics								
Sales	14,104	–	–	–	–	–	–	14,104
Other revenue.....	58	0	–	–	–	–	–	58
Cost of sales	(7,274)	232	134	0	0	–	–	(6,908)
Research and development	(1,848)	75	7	19	–	–	–	(1,747)
Selling, general and administration.....	(3,042)	124	19	0	–	–	–	(2,899)

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environmental cases	Pension plan settlements	Core results
				(CHF in millions)				
Other operating income (expense)	173	6	–	0	5	(124)	0	60
Operating profit	**2,171**	**437**	**160**	**19**	**5**	**(124)**	**0**	**2,668**
Corporate								
Selling, general and administration	(3,894)	490	–	–	–	–	–	(3,404)
Other operating income (expense)	(14)	(1)	–	–	0	2	0	(13)
Operating profit	**(3,908)**	**489**	**–**	**–**	**0**	**2**	**0**	**(3,417)**

Divisional core results reconciliation – Year ended December 31, 2022 (restated)[1]

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environmental cases	Pension plan settlements	Core results
				(CHF in millions)				
Pharmaceuticals								
Sales	45,551	–	–	–	–	–	–	45,551
Other revenue	2,465	0	–	–	–	–	–	2,465
Cost of sales	(11,040)	251	412	1,472	0	–	–	(8,905)
Research and development	(13,384)	263	336	1,365	–	–	–	(11,420)
Selling, general and administration	(7,598)	261	13	0	–	–	–	(7,324)
Other operating income (expense)	772	14	–	0	(6)	(16)	0	764
Operating profit	**16,766**	**789**	**761**	**2,837**	**(6)**	**(16)**	**0**	**21,131**
Diagnostics								
Sales	17,730	–	–	–	–	–	–	17,730
Other revenue	68	0	–	–	–	–	–	68
Cost of sales	(8,697)	44	143	0	0	–	–	(8,510)
Research and development	(1,841)	(2)	8	0	–	–	–	(1,835)
Selling, general and administration	(3,170)	34	21	0	–	–	–	(3,115)
Other operating income (expense)	59	0	–	0	(14)	(2)	0	43
Operating profit	**4,149**	**76**	**172**	**0**	**(14)**	**(2)**	**0**	**4,381**
Corporate								
Selling, general and administration	(3,433)	105	–	–	–	–	–	(3,328)
Other operating income (expense)	(6)	(1)	–	–	0	(4)	0	(11)
Operating profit	**(3,439)**	**104**	**–**	**–**	**0**	**(4)**	**0**	**(3,339)**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The information for 2022 has been restated accordingly. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023.*" For a reconciliation to the previously published core results, see "*—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated core results (selected items)-Year ended December 31, 2022.*"

Divisional core results reconciliation – Year ended December 31, 2021

	IFRS results	Global restructuring	Intangibles amortization	Intangibles impairment	M&A and alliance transactions	Legal and environmental cases	Pension plan settlements	Core results
				(CHF in millions)				
Pharmaceuticals								
Sales	45,041	–	–	–	–	–	–	45,041
Royalties and other operating income	2,969	0	–	–	–	–	–	2,969
Cost of sales	(10,634)	1	1,083	101	0	–	–	(9,449)
Marketing and distribution	(6,874)	324	18	15	–	–	–	(6,517)
Research and development	(12,993)	209	297	535	–	–	–	(11,952)
General and administration	(1,979)	326	–	0	23	86	0	(1,544)
Operating profit	**15,530**	**860**	**1,398**	**651**	**23**	**86**	**0**	**18,548**
Diagnostics								
Sales	17,760	–	–	–	–	–	–	17,760
Royalties and other operating income	80	0	–	–	–	–	–	80
Cost of sales	(9,013)	191	122	0	11	–	–	(8,689)
Marketing and distribution	(3,046)	100	19	0	–	–	–	(2,927)
Research and development	(1,806)	33	17	0	–	–	–	(1,756)
General and administration	(656)	63	–	0	21	29	0	(543)
Operating profit	**3,319**	**387**	**158**	**0**	**32**	**29**	**0**	**3,925**
Corporate								
General and administration	(694)	115	–	–	0	3	0	(576)
Operating profit	**(694)**	**115**	**–**	**–**	**0**	**3**	**0**	**(576)**

Restated core results (selected items) – Year ended December 31, 2022[1]

	Core results as originally published	Presentational changes	Cost allocation changes	Restated core results
		(CHF in millions)		
Group				
Sales	63,281	–	–	63,281
Royalties and other operating income – until 2022	3,145	(3,145)	–	–
Other revenue – new from 2023	–	2,533	–	2,533
Cost of sales	(18,075)	–	660	(17,415)
Marketing and distribution – until 2022	(9,546)	9,546	–	–
Research and development	(14,053)	–	798	(13,255)
General and administration – until 2022	(2,579)	2,579	–	–
Selling, general and administration – new from 2023	–	(12,309)	(1,458)	(13,767)
Other operating income (expense) – new from 2023	–	796	–	796
Core operating profit	**22,173**	–	–	**22,173**
Pharmaceuticals				
Sales	45,551	–	–	45,551
Royalties and other operating income – until 2022	3,077	(3,077)	–	–
Other revenue – new from 2023	–	2,465	–	2,465
Cost of sales	(9,262)	–	357	(8,905)
Marketing and distribution – until 2022	(6,657)	6,657	–	–
Research and development	(12,096)	–	676	(11,420)
General and administration – until 2022	(1,441)	1,441	–	–
Selling, general and administration – new from 2023	–	(8,250)	926	(7,324)
Other operating income (expense) – new from 2023	**–**	764	–	764
Core operating profit	**19,172**	–	**1,959**	**21,131**

	Core results as originally published	Presentational changes	Cost allocation changes	Restated core results
		(CHF in millions)		
Diagnostics				
Sales	17,730	–	–	17,730
Royalties and other operating income – until 2022	68	(68)	–	–
Other revenue – new from 2023	–	68	–	68
Cost of sales	(8,813)	–	303	(8,510)
Marketing and distribution – until 2022	(2,889)	2,889	–	–
Research and development	(1,957)	–	122	(1,835)
General and administration – until 2022	(583)	583	–	–
Selling, general and administration – new from 2023	–	(3,515)	400	(3,115)
Other operating income (expense) – new from 2023	–	43	–	43
Core operating profit	**3,556**	**–**	**825**	**4,381**
Corporate				
General and administration – until 2022	(555)	555	–	–
Selling, general and administration – new from 2023	–	(544)	(2,784)	(3,328)
Other operating income (expense) – new from 2023	–	(11)	–	(11)
Core operating profit	**(555)**	–	**(2,784)**	**(3,339)**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The information for 2022 has been restated accordingly. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023.*"

Restated statement of cash flows (selected items) – Year ended December 31, 2022[1]

	As originally published	Presentational changes	Restated
		(CHF in millions)	
Group			
Disposal of products – until 2022	612	(612)	-
Total cash flows from operating activities	**18,415**	**(612)**	**17,803**
Disposal of products – new from 2023	–	612	612
Total cash flows from investing activities	**(3,536)**	**612**	**(2,924)**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The information for 2022 has been restated accordingly. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023.*"

Operating free cash flow and free cash flow

Operating free cash flow reconciliation and free cash flow reconciliation

The Roche Group's IFRS cash flows from operating activities (as per IAS 7) is reconciled to the operating free cash flow and free cash flow in the tables below. Also see "*Presentation of financial and other information—Non-GAAP Measures*" for a detailed description of the free cash flow and operating free cash flow concept.

Operating free cash flow reconciliation – Six months ended June 30, 2024 and 2023

	H1 2024	H1 2023
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**7,914**	**7,898**
Add back		
Income taxes paid	1,976	1,570
Deduct		
Investments in property, plant and equipment	(1,724)	(1,740)

	H1 2024	H1 2023
	(CHF in millions)	
Principal portion of lease liabilities paid	(172)	(174)
Investments in intangible assets	(368)	(234)
Disposal of property, plant and equipment	19	33
Disposal of products	353	585
Pensions and other post-employment benefits		
Add back total payments for defined benefit plans	313	314
Deduct allocation of payments to operating free cash flow	(261)	(240)
Acquisition-related items, including transaction costs	3	19
Other operating items	0	0
Operating free cash flow	**8,053**	**8,031**

Free cash flow reconciliation – Six months ended June 30, 2024 and 2023

	H1 2024	H1 2023
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**7,914**	**7,898**
Deduct		
Investments in property, plant and equipment	(1,724)	(1,740)
Principal portion of lease liabilities paid	(172)	(174)
Investments in intangible assets	(368)	(234)
Disposal of property, plant and equipment	19	33
Disposal of products	353	585
Interest paid	(521)	(368)
Other operating items, including acquisition-related items	3	19
Other treasury items	87	109
Free cash flow	**5,591**	**6,128**

Divisional operating free cash flow information – Six months ended June 30, 2024 and 2023 (restated)

Supplementary information used to calculate the divisional operating free cash flow is shown in the table below.

	Pharmaceuticals		Diagnostics		Corporate		Group	
	H1 2024	H1 2023[1]	H1 2024	H1 2023[1]	H1 2024	H1 2023	H1 2024	H1 2023
	(CHF in millions)							
Depreciation, amortization and impairments								
Depreciation of property, plant and equipment	546	635	557	559	31	34	1,134	1,228
Depreciation of right-of-use assets	88	87	69	68	5	6	162	161
Amortization of intangible assets	279	279	79	82	-	-	358	361
Impairment (reversal) of property, plant and equipment	38	31	13	9	3	0	54	40
Impairment (reversal) of right-of-use assets	26	2	0	0	0	0	26	2
Impairment of goodwill	0	0	0	0	-	-	0	0
Impairment of intangible assets	1,051	260	0	0	-	-	1,051	260
Total	**2,028**	**1,294**	**718**	**718**	**39**	**40**	**2,785**	**2,052**
Other adjustments								
Add back								
Expenses for equity-settled equity compensation plans	291	270	75	75	41	38	407	383
Net (income) expense for provisions	372	(35)	9	(22)	16	1	397	(56)
Net (gain) loss from disposals	(350)	(584)	3	7	0	0	(347)	(577)
Non-cash working capital and other items	99	177	102	108	0	0	201	285

	Pharmaceuticals		Diagnostics		Corporate		Group	
	H1 2024	H1 2023[1]	H1 2024	H1 2023[1]	H1 2024	H1 2023	H1 2024	H1 2023
	(CHF in millions)							
Deduct								
Utilization of provisions	(323)	(355)	(118)	(113)	(28)	(18)	(469)	(486)
Proceeds from disposals	354	603	18	15	0	0	(372)	618
Total	**443**	**76**	**89**	**70**	**29**	**21**	**561**	**167**
Operating profit cash adjustments	**2,471**	**1,370**	**807**	**788**	**68**	**61**	**3,346**	**2,219**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*." For a reconciliation to the previously published core results, see "*—Reconciliation from IFRS results to core results—For the six months ended June 30, 2024 and June 30, 2023- Restated divisional operating free cash flow information (selected items) – Six months ended June 30, 2023*."

Operating free cash flow reconciliation – Years ended December 31, 2023 and 2022 (restated)

	2023	2022[1]
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**16,095**	**17,803**
Add back		
Income taxes paid	3,620	4,102
Deduct		
Investments in property, plant and equipment	(3,742)	(3,449)
Principal portion of lease liabilities paid	(339)	(405)
Investments in intangible assets	(907)	(1,103)
Disposal of property, plant and equipment	173	82
Disposal of intangible assets	0	0
Disposal of products	558	612
Pensions and other post-employment benefits		
Add back total payments for defined benefit plans	743	655
Deduct allocation of payments to operating free cash flow	(456)	(630)
Acquisition-related items, including transaction costs	23	6
Other operating items	0	0
Operating free cash flow	**15,768**	**17,673**

(1) Effective January 1, 2023, certain line items in the statement of cash flows for the year ended December 31, 2022 have been reclassified following certain presentational changes made by the Roche Group. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*." For a reconciliation to the previously published statement of cash flows, see "*—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated statement of cash flows (selected items)- Year ended December 31, 2022*."

Operating free cash flow reconciliation – Years ended December 31, 2022 and 2021

	2022	2021
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**18,415**	**20,976**
Add back		
Income taxes paid	4,102	3,343
Deduct		
Investments in property, plant and equipment	(3,449)	(3,693)
Principal portion of lease liabilities paid	(405)	(382)
Investments in intangible assets	(1,103)	(856)

	2022	2021
	(CHF in millions)	
Disposal of property, plant and equipment	82	61
Disposal of intangible assets	0	0
Pensions and other post-employment benefits		
Add back total payments for defined benefit plans	655	619
Deduct allocation of payments to operating free cash flow	(630)	(708)
Acquisition-related items, including transaction costs	6	53
Other operating items	0	(2)
Operating free cash flow	**17,673**	**19,411**

Free cash flow reconciliation – Years ended December 31, 2023 and 2022 (restated)

	2023	2022[1]
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**16,095**	**17,803**
Deduct		
Investments in property, plant and equipment	(3,742)	(3,449)
Principal portion of lease liabilities paid	(339)	(405)
Investments in intangible assets	(907)	(1,103)
Disposal of property, plant and equipment	173	82
Disposal of intangible assets	0	0
Disposal of products	558	612
Interest paid	(770)	(557)
Other operating items, including acquisition-related items	23	6
Other treasury items	197	52
Free cash flow	**11,288**	**13,041**

(1) Effective January 1, 2023, certain line items in the statement of cash flows for the year ended December 31, 2022 have been reclassified following certain presentational changes made by the Roche Group. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*" For a reconciliation to the previously published statement of cash flows, see "*—Reconciliation from IFRS results to core results—For the years ended December 31, 2023, 2022 and 2021—Restated statement of cash flows (selected items)- Year ended December 31, 2022*."

Free cash flow reconciliation – Years ended December 31, 2022 and 2021

	2022	2021
	(CHF in millions)	
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**18,415**	**20,976**
Deduct		
Investments in property, plant and equipment	(3,449)	(3,693)
Principal portion of lease liabilities paid	(405)	(382)
Investments in intangible assets	(1,103)	(856)
Disposal of property, plant and equipment	82	61
Disposal of intangible assets	0	0
Interest paid	(557)	(405)
Other operating items, including acquisition-related items	6	51
Other treasury items	52	(61)
Free cash flow	**13,041**	**15,691**

Divisional operating free cash flow information – Years ended December 31, 2023, 2022 (restated) and 2021 [2]

Supplementary information used to calculate the divisional operating free cash flow is shown in the table below.

	Pharmaceuticals			Diagnostics			Corporate			Group		
	2023	2022[1]	2021	2023	2022[1]	2021	2023	2022[1]	2021	2023	2022[1]	2021
	(CHF in millions)											
Depreciation, amortization and impairment												
Depreciation of property, plant and equipment	1,263	1,381	1,278	1,095	1,128	1,188	65	56	58	2,423	2,565	2,524
Depreciation of right-of-use assets	197	211	234	116	117	117	12	13	12	325	341	363
Amortization of intangible assets	554	764	1,398	162	174	158	–	–	–	716	938	1,556
Impairment (reversal) of property, plant and equipment	277	108	(108)	73	15	105	0	0	0	350	123	(3)
Impairment (reversal) of right-of-use assets	319	5	5	0	0	0	0	0	0	319	5	5
Impairment of goodwill	591	0	0	0	0	0	–	–	–	591	0	0
Impairment of intangible assets	589	2,837	651	19	0	0	–	–	–	608	2,837	651
Total	**3,790**	**5,306**	**3,458**	**1,465**	**1,434**	**1,568**	**77**	**69**	**70**	**5,332**	**6,809**	**5,096**
Other adjustments												
Add back												
Expenses for equity-settled equity compensation plans	634	560	513	113	102	98	83	76	52	830	738	663
Net (income) expense for provisions	294	495	1,380	201	19	456	77	0	28	572	514	1,864
Net (gain) loss from disposals	(619)	(606)	(486)	15	11	13	0	(9)	(1)	(604)	(604)	(474)
Non-cash working capital and other items	336	138	281	302	331	315	1	0	2	639	469	598
Deduct												
Utilization of provisions	(800)	(743)	(719)	(202)	(244)	(331)	(30)	(61)	(73)	(1,032)	(1,048)	(1,123)
Proceeds from disposals	681	618	513	49	49	43	1	27	1	731	694	557
Total	**526**	**462**	**1,482**	**478**	**268**	**594**	**132**	**33**	**9**	**1,136**	**763**	**2,085**
Operating profit cash adjustments	**4,316**	**5,768**	**4,940**	**1,943**	**1,702**	**2,162**	**209**	**102**	**79**	**6,468**	**7,572**	**7,181**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement affecting the divisional expenses for equity-settled equity compensation plans included in this table. The comparative information for 2022 has been restated accordingly. The comparative information for 2021 has not been restated and therefore cannot be directly compared to 2022 and 2023 information. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

(2) The information for the years ended December 31, 2023, 2022 and 2021 in this reconciliation table has not been restated for the change in the operational responsibility for the Foundation Medicine business, which was moved to the Diagnostics Division from the Pharmaceuticals Division effective January 1, 2024 as stated in *"Presentation of financial and other information-Change in operating segments effective January 1, 2024.*" Therefore, the information for the years ended December 31, 2023, 2022 and 2021 cannot be directly compared to the H1 2024 information.

Net operating assets

Net operating assets reconciliation

The calculation of the net operating assets is shown in the tables below. Also see "*Presentation of financial and other information—Non-GAAP Measures*" for a description of the net operating assets concept.

Net operating assets reconciliation – June 30, 2024

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
			(CHF in millions)		
Property, plant and equipment	14,753	7,459	314	-	22,526
Right-of-use assets	759	541	36	-	1,336
Goodwill	6,113	4,882	-	-	10,995
Intangible assets	14,665	1,644	-	-	16,309
Inventories	4,670	3,275	-	-	7,945
Provisions	(2,095)	(682)	(166)	-	(2,943)
Current income tax net liabilities	-	-	-	(2,290)	(2,290)
Deferred tax net assets	-	-	-	6,997	6,997
Defined benefit plan net liabilities	-	-	-	(3,126)	(3,126)
Lease liabilities	-	-	-	(1,734)	(1,734)
Marketable securities	-	-	-	3,990	3,990
Cash and cash equivalents	-	-	-	4,824	4,824
Debt	-	-	-	(34,441)	(34,441)
Other net assets (liabilities)					
Net working capital	(17)	880	(328)	-	535
Other net operating assets	1,590	(126)	(2)	-	1,462
Other	-	-	-	491	491
Total net assets	**40,438**	**17,873**	**(146)**	**(25,289)**	**32,876**

Net operating assets reconciliation – December 31, 2023

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
			(CHF in millions)		
Property, plant and equipment	14,423	6,997	304	–	21,724
Right-of-use assets	882	299	34	–	1,215
Goodwill	4,767	4,623	–	–	9,390
Intangible assets	13,258	1,570	–	–	14,828
Inventories	4,849	2,900	–	–	7,749
Provisions	(1,799)	(766)	(178)	–	(2,743)
Current income tax net liabilities	–	–	–	(1,913)	(1,913)
Deferred tax net assets	–	–	–	6,289	6,289
Defined benefit plan net liabilities	–	–	–	(3,360)	(3,360)
Lease liabilities	–	–	–	(1,573)	(1,573)
Marketable securities	–	–	–	5,134	5,134
Cash and cash equivalents	–	–	–	5,376	5,376
Debt	–	–	–	(29,209)	(29,209)
Other net assets (liabilities)					
Net working capital	(1,403)	348	(487)	–	(1,542)

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
			(CHF in millions)		
Other long-term net operating assets	1,529	(33)	(2)	–	1,494
Other	–	–	–	404	404
Total net assets	**36,506**	**15,938**	**(329)**	**(18,852)**	**33,263**

Net operating assets reconciliation – December 31, 2022

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
			(CHF in millions)		
Property, plant and equipment	15,788	7,016	271	–	23,075
Right-of-use assets	845	239	49	–	1,133
Goodwill	5,810	5,010	–	–	10,820
Intangible assets	7,866	1,819	–	–	9,685
Inventories	5,259	3,346	–	–	8,605
Provisions	(2,392)	(832)	(135)	–	(3,359)
Current income tax net liabilities	–	–	–	(2,874)	(2,874)
Deferred tax net assets	–	–	–	5,782	5,782
Defined benefit plan net liabilities	–	–	–	(3,604)	(3,604)
Lease liabilities	–	–	–	(1,193)	(1,193)
Marketable securities	–	–	–	4,776	4,776
Cash and cash equivalents	–	–	–	4,991	4,991
Debt	–	–	–	(25,351)	(25,351)
Other net assets (liabilities)					
Net working capital	(1,468)	(78)	(337)	–	(1,883)
Other long-term net operating assets	848	(2)	(3)	–	843
Other	–	–	–	569	569
Total net assets	**32,556**	**16,518**	**(155)**	**(16,904)**	**32,015**

Net operating assets reconciliation – December 31, 2021

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
			(CHF in millions)		
Property, plant and equipment	16,055	6,852	256	–	23,163
Right-of-use assets	916	273	60	–	1,249
Goodwill	5,775	5,034	–	–	10,809
Intangible assets	10,212	1,905	–	–	12,117
Inventories	4,728	2,987	–	–	7,715
Provisions	(2,704)	(1,062)	(202)	–	(3,968)
Current income tax net liabilities	–	–	–	(2,682)	(2,682)
Deferred tax net assets	–	–	–	4,955	4,955
Defined benefit plan net liabilities	–	–	–	(4,605)	(4,605)
Lease liabilities	–	–	–	(1,354)	(1,354)
Marketable securities	–	–	–	6,181	6,181
Cash and cash equivalents	–	–	–	6,850	6,850
Debt	–	–	–	(31,198)	(31,198)
Other net assets (liabilities)					
Net working capital	(2,323)	43	(314)	–	(2,594)
Other long-term net operating assets	756	28	2	–	786
Other	–	–	–	921	921
Total net assets	**33,415**	**16,060**	**(198)**	**(20,932)**	**28,345**

Comparison of the six months ended June 30, 2024 and 2023

As used herein, references to increases or decreases in any period are made by comparison with the corresponding period in the prior year, except as the context otherwise indicates or requires. ***Certain percentage changes and certain changes in absolute numbers (relating to the impact of biosimilar competition and relating to the sales by therapeutic area, product or region) presented herein have been calculated using constant exchange rates (CER).*** *The percentage changes and certain changes in absolute numbers at CER are calculated using simulations by reconsolidating both the 2024 and 2023 results at constant exchange rates (the average rates for the year ended December 31, 2023). Percentage changes denoted in "CHF" are calculated using Swiss franc amounts as reported.*

The following discussion should be read in conjunction with the reconciliation from IFRS results to non-IFRS results under "—Core results—Reconciliation from IFRS results to core results," "—Operating free cash flow and free cash flow—Operating free cash flow reconciliation and free cash flow reconciliation," and "—Net operating assets—Net operating assets reconciliation."

Overview

	For the six months ended June 30,		% change	% change
	2024	**2023**	**(CHF)**	**(CER)**
	(CHF in millions, except percentage data)			
IFRS results				
Sales	29,848	29,779	0	+5
Other revenue	908	837	+8	+11
Revenue	**30,756**	**30,616**	**0**	**+5**
Cost of sales	(7,870)	(7,931)	-1	+4
Research and development	(7,388)	(6,918)	+7	+10
Selling, general and administration	(6,852)	(6,850)	0	+4
Other operating income (expense)	425	847	-50	-49
Operating profit	**9,071**	**9,764**	**-7**	**0**
Financing costs	(708)	(490)	+44	+50
Other financial income (expense)	(140)	(100)	+40	+71
Profit before taxes	**8,223**	**9,174**	**-10**	**-3**
Income taxes	(1,526)	(1,611)	-5	+1
Net Income	**6,697**	**7,563**	**-11**	**-4**
Attributable to				
- Roche shareholders	6,258	7,137	-12	-5
- Non-controlling interests	439	426	+3	+12

In the first half of 2024 the Roche Group reported stable sales as reported in Swiss francs due to appreciation of the Swiss franc (growth of 5% at CER), an IFRS operating profit decline of 7% as reported in Swiss francs due to appreciation of the Swiss franc (stable at CER) and a core operating profit growth of 4% (11% at CER). IFRS net income decreased by 11% (4% at CER). The appreciation of the Swiss franc against many currencies relative to the first half of 2023 had an adverse net impact on the results as reported in Swiss francs compared to CER of 5 percentage points on sales and 7 percentage points on both core operating profit and IFRS net income.

Sales in the Pharmaceuticals Division were CHF 22.6 billion compared to CHF 22.5 billion in the first half of 2023, an increase of 1% (5% at CER), driven primarily by increased sales of *Vabysmo*, with growing demand also for *Phesgo*, *Ocrevus*, *Polivy* and *Evrysdi*. These five medicines in total contributed an additional CHF 1.6 billion (CHF 1.8 billion at CER) of sales. Sales of *Avastin*, *Herceptin*, *MabThera*/*Rituxan*, *Esbriet*, *Lucentis* and *Actemra*/*RoActemra* decreased by a combined CHF 0.8 billion (CHF 0.6 billion at CER), as the impact of biosimilar and generic competition continued. Sales of the COVID-19 medicine *Ronapreve* were minimal compared to sales in Japan of CHF 0.5 billion in the first half of 2023.

The Diagnostics Division reported sales of CHF 7.2 billion compared to CHF 7.3 billion in the first half of 2023, a decrease of 1% as reported in Swiss francs due to appreciation of the Swiss franc (an increase of 5% at CER). The division's base business (i.e., excluding the portfolio of COVID-19 related products) grew by 9% at CER across all regions, primarily due to increased demand for immunodiagnostic products. This growth was partially offset by the continued expected sales decline of the division's portfolio of COVID-19 tests, which generated sales of CHF 0.1 billion at CER in the first half of 2024, a fall of 70% at CER.

The Pharmaceuticals Division's IFRS operating profit decreased by 6% (1% at CER) to CHF 9.6 billion despite the 2% growth (7% at CER) in core operating profit, mainly due to higher intangible asset impairment charges. The IFRS cost of sales increased by 3% (9% at CER) from CHF 4.4 billion in the first half of 2023 to CHF 4.5 billion in the first half of 2024 in line with the sales growth. Core cost of sales remained stable as reported in Swiss francs and increased by 5% at CER. The higher manufacturing costs reflected the increase in sales volumes and included a base effect (i.e., the non-recurrence in the first half of 2024) resulting from the release of unutilized provisions in 2023, while costs of collaboration and profit-sharing agreements decreased. The IFRS research and development costs increased by 8% (11% at CER) from CHF 5.9 billion in the first half of 2023 to CHF 6.4 billion in the first half of 2024, with the oncology therapeutic area as the major area of spending. Core research and development costs decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc (stable at CER). There was an increase in spending in relation to the recent acquisitions and collaborations which was offset by savings from portfolio prioritization initiatives. IFRS selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 3% at CER due to marketing and distribution costs for ongoing launches, especially for *Vabysmo*. Core selling, general and administration costs decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 1% at CER. The IFRS other operating income (expense) decreased by 42% (41% at CER) from CHF 0.7 billion in the first half of 2023 to CHF 0.4 billion in the first half of 2024 which included gains from disposals of products. Core other operating income (expense) decreased by 36% (35% at CER).

In the Diagnostics Division, IFRS operating profit increased by 1% (16% at CER) driven by the 7% (22% at CER) growth in core operating profit and partially offset by a base effect (i.e., the non-recurrence in the first half of 2024) from the release of legal provisions in the first half of 2023. The core operating profit was significantly higher than the 1% decrease in sales as reported in Swiss francs due to appreciation of the Swiss franc (increase of 5% at CER) due to a 6% decrease (3% at CER) in IFRS cost of sales from CHF 3.5 billion in the first half of 2023 to CHF 3.3 billion in the first half of 2024. Core cost of sales declined by 4% (1% at CER). Manufacturing costs were lower due to favorable product mix effects notably from the lower sales volumes of SARS-CoV-2 Rapid Antigen tests. IFRS research and development costs increased by 1% (3% at CER) with continued focus on high medical value assays, notably in the oncology disease area, as well as on digital solutions and sequencing. Core research and development costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 1% at CER. IFRS selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 4% at CER driven by higher personnel expenses and distribution costs. Core selling, general and administration costs remained stable as reported in Swiss francs due to appreciation of the Swiss franc and increased by 5% at CER.

The Group's IFRS operating profit decreased 7% in CHF from CHF 9.8 billion in the first half of 2023 to CHF 9.1 billion in the first half of 2024 and included CHF 1.1 billion of charges for intangible asset impairment, CHF 0.8 billion for global restructuring costs, and CHF 0.4 billion for intangible asset amortization.

The Group's core operating profit increased by 4% (11% at CER), reflecting the increased sales in both divisions coupled with the improved core cost of sales margin in the Diagnostics Division and controlled spending on core research and development and on core selling, general and administration. The core basis excludes non-core items such as global restructuring costs, amortization and impairment of goodwill and intangible assets, legal and environmental cases, and mergers and acquisitions and alliance transactions.

IFRS financing costs increased by 44% (50% at CER) to CHF 0.7 billion, mainly due to additional interest expenses from new debt as well as higher interest rates which affected borrowing costs. Other financial income (expense) was a net expense of CHF 0.1 billion, with the major items being net foreign exchange losses and losses on the net monetary positions in hyperinflationary economies. The Roche Group's effective IFRS tax rate increased by 1 percentage point to 18.6% compared to 17.6% in the first half of 2023 mainly due to the impact of Pillar Two top-up taxes, which have been effective from January 1, 2024, in various countries where the Group operates and due to the impairments of certain intangible assets that are not tax deductible. The Roche Group's effective core tax rate increased to 17.3% in the first half of 2024 compared to 16.9% in the first half of 2023. The increase was mainly due to the impact of Pillar Two top-up taxes, which have been effective from January 1, 2024, in various countries where the Group operates.

IFRS net income decreased by 11% (4% at CER) to CHF 6.7 billion mainly due to the impact of higher impairment charges to intangible assets, while core net income increased by 1% (8% at CER) to CHF 8.7 billion as the core basis excludes the impairment of intangible assets.

Group results of operations for the six months ended June 30, 2024 – Divisional breakdown

	Pharmaceuticals	Diagnostics	Corporate	Group
	(CHF in millions, except percentage data)			
Sales	22,637	7,211	–	29,848
Operating profit - IFRS basis	9,593	1,425	(1,947)	9,071
margin, % of sales	42.4	19.8	–	30.4
Core operating profit	11,409	1,583	(1,699)	11,293
margin, % of sales	50.4	22.0	–	37.8
Operating free cash flow	9,647	491	(2,085)	8,053
margin, % of sales	42.6	6.8	–	27.0

Group results of operations for the six months ended June 30, 2024, compared to the six months ended June 30, 2023 – Divisional breakdown

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales[1]				
% change in CHF	+1	-1	-	0
% change at CER	+5	+5	-	+5
Operating profit - IFRS basis				
% change in CHF	-6	+1	+3	-7
% change at CER	-1	+16	+4	0
Core operating profit				
% change in CHF	+2	+7	-2	+4
% change at CER	+7	+22	0	+11
Operating free cash flow				
% change in CHF	-1	+124	+8	0
% change at CER	+5	+298	+9	+9

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*"

Competition from biosimilar and generic medicines

The introduction of a generic, biosimilar or non-comparable biologic version of the same or a similar medicine usually results in a significant reduction in net sales for the relevant product, as other manufacturers typically offer their versions at lower prices.

Avastin, Herceptin and MabThera/Rituxan

The Roche Group's basic, primary patents for these three products have expired worldwide. Interim sales, including regional breakdowns, for *Avastin*, *Herceptin* and *MabThera/Rituxan* are disclosed in the Pharmaceuticals Division's operating results and are summarized in the table below. The year-on-year movements were also driven by regular price and volume changes. Biosimilar competition is only one factor in the overall picture.

Total interim *MabThera/Rituxan*, *Herceptin* and *Avastin* sales

	2024 (CHF in millions)	**2023 (CHF in millions)**	**% change (CHF)**	**% change (CER)**	**% divisional sales (2024)**	**% divisional sales (2023)**
United States.....	759	966	-21	-19	3.4	4.3
Europe	275	336	-18	-16	1.2	1.5
Japan.....	119	207	-43	-34	0.5	0.9
International.....	947	1,088	-13	-6	4.2	4.8
Total sales.....	**2,100**	**2,597**	**-19**	**-15**	**9.3**	**11.5**

The first biosimilar versions of *Herceptin* and *Avastin* were launched in the United States from mid-2019 and the first biosimilar versions of *MabThera/Rituxan* in late 2019. In Europe, the first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched from mid-2017 and from mid-2018, respectively, and are now marketed in most EU countries. The first biosimilar versions of *Avastin* came to market in Europe from mid-2020. The first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched in Japan in 2018 and the first biosimilar versions of *Avastin* in late 2019. Sales of these three products in Japan were impacted by government price cuts as well as biosimilar competition. In the International region, biosimilar versions of all three products have been launched in many countries and this, together with the impacts of regular price and volume changes, has led to the decline in sales.

Esbriet

The first generic versions of *Esbriet* came to market in the second quarter of 2022. Sales of *Esbriet* in the first half of 2024 were CHF 49 million compared to CHF 119 million in the first half of 2023, a decline of 59% (58% at CER).

Lucentis

The Roche Group's basic, primary patents have expired in the United States. The first biosimilar version of *Lucentis* with a restricted label came to market in the United States at the beginning of the third quarter of 2022. Sales in the United States of *Lucentis* in the first half of 2024 were CHF 87 million compared to CHF 299 million in the first half of 2023, a decline of 71% (70% at CER) due to the ongoing switch of patients from *Lucentis* to *Vabysmo*, as well as competitive pressure.

Actemra/RoActemra

The Roche Group's basic, primary patents have expired in the United States and the EU. The first biosimilar versions of *Actemra*/*RoActemra* came to market in the EU in the fourth quarter of 2023 and in the United States in the second quarter of 2024. Global sales of *Actemra*/*RoActemra* in the first half of 2024 were CHF 1,276 million

compared to CHF 1,296 million in the first half of 2023, a decrease of 2% as reported in Swiss francs due to appreciation of the Swiss franc, while sales increased by 3% at CER as the demand increased based on continued confidence in the medicine in the chronic business, especially in rheumatoid arthritis.

Pharmaceuticals operating results

Pharmaceuticals Division results for the six months ended June 30, 2024

	2024	2023[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
IFRS results				
Sales	22,637	22,511	+1	+5
Other revenue	886	798	+11	+14
Revenue	**23,523**	**23,309**	**+1**	**+6**
Cost of sales	(4,536)	(4,384)	+3	+9
Research and development	(6,408)	(5,947)	+8	+11
Selling, general and administration	(3,400)	(3,448)	-1	+3
Other operating income (expense)	414	710	-42	-41
Operating profit – IFRS basis	**9,593**	**10,240**	**-6**	**-1**
- margin, % of sales	42.4	45.5	-3.1	-2.9
Core operating profit	**11,409**	**11,157**	**+2**	**+7**
- margin, % of sales	50.4	49.6	+0.8	+0.9
Net operating assets	**40,438**	**36,227**	**+12**	**+8**
Operating free cash flow	9,647	9,745	-1	+5
- margin, % of sales	42.6	43.3	-0.7	-0.4

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

Sales

Sales in the Pharmaceuticals Division were CHF 22.6 billion compared to CHF 22.5 billion in the first half of 2023, an increase of 1% (5% at CER). *Vabysmo* was the major growth driver, with increased sales of CHF 0.8 billion (CHF 0.9 billion at CER) accounting for around three quarters of the divisional growth at CER, with CHF 0.6 billion (CHF 0.6 billion at CER) in the United States alone. There was also growing demand for *Phesgo*, *Ocrevus*, *Polivy* and *Evrysdi*, and these products, together with *Vabysmo*, contributed an additional CHF 1.6 billion (CHF 1.8 billion at CER) of sales. This growth was partly offset by lower sales of *Avastin*, *Herceptin*, *MabThera/Rituxan*, *Esbriet*, *Lucentis* and *Actemra/RoActemra* which decreased by a combined CHF 0.8 billion (CHF 0.6 billion at CER), as the impact of biosimilar and generic competition continued.

Sales in the oncology therapeutic area decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc. The sales in the oncology therapeutic area increased by 4% at CER, with the growth being driven by *Phesgo* and *Polivy*, partially offset by the biosimilar competition for *Avastin*, *Herceptin* and *MabThera/Rituxan*. Sales of *Perjeta* were CHF 1.9 billion, a decline of 8% (2% at CER) due to the conversion of patients to *Phesgo*, contributing to sales of *Phesgo* of CHF 0.8 billion with a growth of 55% (60% at CER). *Tecentriq* sales declined by 3% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 2% at CER) to CHF 1.8 billion and this included growth in the International region and in Europe, partly offset by a decrease in the United States due to continued pressure from competition. *Polivy* sales increased by 45% (54% at CER) to CHF 0.5 billion, notably in the United States.

Sales in neuroscience grew by 8% (13% at CER) mainly due to *Ocrevus* and *Evrysdi*. *Ocrevus* continued as the Pharmaceuticals Division's highest-selling medicine, with sales of CHF 3.4 billion, an increase of 5% (8% at CER), which included 3% (5% at CER) growth in the United States. In the immunology therapeutic area, *Actemra/RoActemra* sales decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 3% at CER) to CHF 1.3 billion and this included growth in rheumatoid arthritis despite the recent launches of biosimilars. *Xolair* sales in the United States were 8% (10% at CER) higher driven by growth in the chronic spontaneous urticaria indication and the launch of the medicine in the food allergy indication.

Sales in the hemophilia A therapeutic area grew by 3% (7% at CER) based on further market penetration and the continued growth of *Hemlibra* in the non-inhibitor indication. *Hemlibra* sales were CHF 2.1 billion, an increase of 3% (7% at CER), led by growth in Europe and the International region.

Sales in ophthalmology significantly increased reflecting the growth in *Vabysmo* sales, partially offset by the decrease in *Lucentis* sales. Sales of *Vabysmo* were CHF 1.8 billion with growing demand across all regions, especially in the United States. For infectious diseases, *Ronapreve* sales were minimal due to the evolving COVID-19 situation.

Sales by therapeutic area for the six months ended June 30, 2024

	For the six months ended June 30,				For the six months ended June 30,	
Therapeutic area	**2024 (CHF in millions)**	**2023 (CHF in millions)**	**% change (CHF)**	**% change (CER)**	**% of sales (2024)**	**% of sales (2023)**
Oncology	9,619	9,775	-2	+4	42.5	43.4
Neuroscience	4,586	4,229	+8	+13	20.3	18.8
Immunology	3,015	3,095	-3	+1	13.3	13.7
Hemophilia A	2,143	2,087	+3	+7	9.5	9.3
Ophthalmology	1,891	1,265	+49	+54	8.4	5.6
Infectious diseases	255	819	-69	-66	1.1	3.6
Other therapeutic areas	1,128	1,241	-9	-4	4.9	5.6
Total sales	**22,637**	**22,511**	+1	**+5**	**100**	**100**

Sales of products in the six months ended June 30, 2024

	For the six months ended June 30,				For the six months ended June 30,	
	2024 (CHF in millions)	**2023 (CHF in millions)**	**% change (CHF)**	**% change (CER)**	**% of sales (2024)**	**% of sales (2023)**
Oncology						
Perjeta	1,921	2,082	-8	-2	8.5	9.3
Tecentriq	1,798	1,853	-3	+2	7.9	8.2
Kadcyla	999	1,001	0	+6	4.4	4.4
Phesgo	799	517	+55	+60	3.5	2.3
Alecensa	766	758	+1	+7	3.4	3.4
Herceptin	740	878	-16	-11	3.3	3.9
Avastin	654	837	-22	-16	2.9	3.7
MabThera/Rituxan[(1)]	549	683	-20	-16	2.4	3.0
Polivy	513	353	+45	+54	2.3	1.6
Gazyva/Gazyvaro	445	402	+11	+15	2.0	1.8
Erivedge	123	122	+1	+6	0.5	0.5

	For the six months ended June 30,				For the six months ended June 30,	
	2024 (CHF in millions)	2023 (CHF in millions)	% change (CHF)	% change (CER)	% of sales (2024)	% of sales (2023)
Others	312	289	+8	+14	1.4	1.3
Total Oncology	**9,619**	**9,775**	**-2**	**+4**	**42.5**	**43.4**
Neuroscience						
Ocrevus	3,359	3,200	+5	+8	14.8	14.2
Evrysdi	838	705	+19	+25	3.7	3.2
Madopar	200	185	+8	+13	0.9	0.8
Enspryng	143	120	+19	+32	0.6	0.5
Others	46	19	+142	+139	0.3	0.1
Total Neuroscience	**4,586**	**4,229**	**+8**	**+13**	**20.3**	**18.8**
Immunology						
Actemra/RoActemra	1,276	1,296	-2	+3	5.6	5.7
Xolair	1,110	1,031	+8	+10	4.9	4.6
Pulmozyme	225	238	-5	-2	1.0	1.0
CellCept	197	201	-2	+4	0.9	0.9
MabThera/Rituxan[(1)]	157	199	-21	-19	0.7	0.9
Others	50	130	-62	-60	0.2	0.6
Total Immunology	**3,015**	**3,095**	**-3**	**+1**	**13.3**	**13.7**
Hemophilia A						
Hemlibra	2,143	2,087	+3	+7	9.5	9.3
Total Hemophilia A	**2,143**	**2,087**	+3	**+7**	**9.5**	**9.3**
Ophthalmology						
Vabysmo	1,794	957	+87	+93	7.9	4.3
Lucentis	87	299	-71	-70	0.4	1.3
Others	10	9	+11	+18	0.1	0.0
Total Ophthalmology	**1,891**	**1,265**	**+49**	**+54**	**8.4**	**5.6**
Infectious diseases						
Ronapreve	2	550	-100	-100	0.0	2.4
Others	253	269	-6	+2	1.1	1.2
Total Infectious diseases	**255**	**819**	**-69**	**-66**	**1.1**	**3.6**
Other therapeutic areas						
Activase/TNKase	593	621	-5	-2	2.6	2.8
Mircera	173	198	-13	-7	0.8	0.9
Others	362	422	-14	-6	1.5	1.9
Total other therapeutic area	**1,128**	**1,241**	**-9**	**-4**	**4.9**	**5.6**
Total sales	**22,637**	**22,511**	**+1**	**+5**	**100**	**100**

(1) Total MabThera/Rituxan sales of CHF 706 million (H1 2023: CHF 882 million) split between oncology and immunology franchises.

Ocrevus

Ocrevus is used for relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS). *Ocrevus* sales grew across all regions driven by continuous and increasing demand in both indications. In the United States, *Ocrevus* remained the market leader despite increased competition, driven by growth from the treatment of both new and existing patients. *Ocrevus* demonstrated a higher retention rate than other multiple sclerosis medications in the United States, a trend observed in other regions as well. Sales also increased outside of the United States, notably in the UK, Germany, Brazil and Canada.

Hemlibra

Hemlibra is used for hemophilia A. *Hemlibra* sales grew as the medicine is being increasingly established as the standard of care in the treatment of hemophilia A. The United States remains the largest market for *Hemlibra* and sales there decreased by 1% in CHF due to the appreciation of the Swiss franc; while in CER terms, the United States sales grew by 1% at CER and this growth rate was temporarily impacted by changes to buying patterns of key distributors at the end of 2023. The growth in Europe and the International region resulted from expanded access to the non-inhibitor indication driven by various countries in both regions.

HER2 franchise (Perjeta, Herceptin, Kadcyla and Phesgo)

The Roche Group's HER2 products are used for HER2-positive breast cancer and HER2-positive metastatic (advanced) gastric cancer (*Herceptin* only). Sales in the HER2 franchise remained stable at CHF 4.5 billion; while in CER terms, sales increased by 5%. Sales of *Perjeta* were 8% lower (2% at CER) as a result of the conversion of patients to *Phesgo*, although this was partly compensated by increased sales in those countries in the International region where *Phesgo* is either not yet launched or not yet reimbursed, such as China, Mexico and Brazil. Sales of *Kadcyla* were stable at CHF 1.0 billion (increased by 6% at CER) and this included growth in the International region, mainly in China. *Phesgo* sales increased by 55% (60% at CER) with growth across all regions due to the ongoing conversion of patients to *Phesgo* as the preferred treatment over *Perjeta* and *Herceptin*. *Herceptin* sales were 16% (11% at CER) lower primarily as a result of biosimilar erosion.

Tecentriq

Tecentriq is used for extensive-stage small cell lung cancer (SCLC), initial therapy of non-squamous non-small cell lung cancer (NSCLC), advanced lung cancer, unresectable or metastatic hepatocellular carcinoma (HCC), advanced bladder cancer and PD-L1-positive triple-negative breast cancer (TNBC). Sales decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, sales increased by 2% due to growth in the International region and in Europe. In the United States, the sales decrease was caused by continued pressure from competition in the HCC and NSCLC indications. This was offset by growth in Europe, notably in Germany for NSCLC, and in the International region, especially in China. In Japan, sales decreased due to the slowdown of market penetration in a competitive environment.

Vabysmo

Vabysmo is used for neovascular or "wet" age-related macular degeneration (nAMD), diabetic macular edema (DME) and in the United States also for macular edema following retinal vein occlusion (RVO). *Vabysmo* was the major growth driver in the Pharmaceuticals Division in the first half of 2024, accounting for around three quarters of the divisional growth. Sales in the United States showed a continuing high uptake and there was further growth of market share in all indications, driven by newly diagnosed patients as well as patients transitioning from other treatment options. The rollout of *Vabysmo* in Europe continued and there was significant uptake in recently launched

markets such as France, Spain and Italy, as well as in the UK and Germany. Sales also increased in the International region driven by Canada, China and Australia.

Actemra/RoActemra

Actemra/RoActemra is used for rheumatoid arthritis, forms of juvenile idiopathic arthritis, giant cell arteritis, CAR T-cell-induced severe or life-threatening cytokine release syndrome and COVID-19. Sales decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, sales increased by 3%, led by the United States, reflecting the continued confidence in the medicine in the chronic business, especially for rheumatoid arthritis. Sales also declined in Japan as reported in CHF; while in CER terms, sales grew 7%. The first biosimilar versions of *Actemra/RoActemra* came to market in the EU in the fourth quarter of 2023, which drove the sales decline in Europe. In the United States, the first biosimilar versions entered the market in the second quarter of 2024.

Xolair

Xolair is used for chronic spontaneous urticaria, allergic asthma and food allergies. Sales increased by 8% (10% at CER) driven by growth in the chronic spontaneous urticaria indication and the launch of the medicine in the food allergy indication. *Xolair* is the only biologic medicine approved for chronic spontaneous urticaria and food allergies and remains a market leader in the larger allergic asthma indication.

Evrysdi

Evrysdi is used for spinal muscular atrophy (SMA). Sales increased by 19% (25% at CER) due to continuous gains in patient share across all regions. The sales growth in the United States was led by the treatment of new patients, including previously untreated adults. Sales growth continued in Europe, notably in Spain, the UK and Poland. In the International region, Brazil was a major growth driver. In both Europe and the International region there was growth from newly treated patients and patients transitioning from other treatment options.

Alecensa

Alecensa is used for ALK-positive non-small cell lung cancer (NSCLC) in both the metastatic and adjuvant settings. Sales growth of 1% (7% at CER) came mainly from the United States and the International region. In the United States, *Alecensa* remains the standard of care, and the growth was driven by new and continuing patients. Growth in the International region was led by China following the renewed inclusion of the medicine in the National Reimbursement Drug List (NRDL) for the adjuvant indication.

MabThera/Rituxan

MabThera/Rituxan is used for non-Hodgkin lymphoma (NHL), chronic lymphocytic leukemia (CLL), follicular lymphoma (FL), pemphigus vulgaris (PV), rheumatoid arthritis (RA) as well as certain types of antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis. Sales were 20% lower (17% at CER) due to biosimilar erosion across all regions. Sales in the United States decreased by 21% (19% at CER), with a decline in both the oncology and immunology businesses.

Avastin

Avastin is used for advanced colorectal, breast, lung, kidney, cervical and ovarian cancer, relapsed glioblastoma and liver cancer in combination with *Tecentriq*. Sales decreased by 22% (16% at CER) across all regions due to the

continuing impact of biosimilars. The decrease was particularly marked in Japan, where there was continued market penetration of biosimilar competition as well as government price cuts.

Activase/TNKase

Activase/TNKase is used for acute ischemic stroke (AIS) and acute myocardial infarction (AMI). Sales were 5% lower (2% at CER) mainly due to a temporary inventory stocking issue in the United States and an increase in the sales reserves related to United States governmental plans.

Polivy

Polivy is used for first-line treatment of diffuse large B-cell lymphoma (1L DLBCL). *Polivy* was a significant driver in divisional sales growth, with the increased sales coming from accelerated uptake in the United States and higher demand for the first-line treatment of diffuse large B-cell lymphoma. There was also market access expansion in Europe, notably in the UK, and in the International region, particularly in China.

Sales by region

Sales by region for the six months ended June 30, 2024 and 2023

	For the six months ended June 30,				For the six months ended June 30,	
	2024 (CHF in millions)	2023 (CHF in millions)	% of change (CHF)	% of change (CER)	% of sales (2024)	% of sales (2023)
United States	11,882	11,573	+3	+5	52.5	51.4
Europe	4,425	4,105	+8	+10	19.5	18.2
Japan	1,366	2,210	-38	-28	6.0	9.8
International	4,964	4,623	+7	+17	22.0	20.6
of which China	*1,609*	*1,505*	*+7*	*+14*	*7.1*	*6.7*
Total sales	**22,637**	**22,511**	**+1**	**+5**	**100**	**100**

In the United States, sales grew by 3% (5% at CER) to CHF 11.9 billion compared to CHF 11.6 billion in the first half of 2023, due primarily to the continued growth of *Vabysmo* which added CHF 0.6 billion (CHF 0.6 billion at CER) of sales in the United States. Other major growth drivers in the United States were *Polivy*, *Ocrevus* and *Xolair*. This growth more than compensated for the decline of CHF 0.2 billion (CHF 0.2 billion at CER) in *Lucentis* sales in the United States as well as the combined 21% (19% at CER) fall in the sales of *Avastin*, *Herceptin* and *MabThera/Rituxan*. *Ocrevus* remained the division's highest-selling product in the United States and sales increased by 3% (5% at CER) driven by both new and retained patients. *Vabysmo* showed a high uptake, with both newly diagnosed patients as well as patients transitioning from other treatment options, and achieved CHF 1.4 billion of sales. Despite a slower growth rate at CER, *Hemlibra* sales in the United States were stable at CHF 1.2 billion, with the growth rate temporarily impacted by changes to buying patterns of key distributors at the end of 2023. *Xolair* sales increased by 8% (10% at CER) based on the growth in the chronic spontaneous urticaria indication and the launch of the medicine in the food allergy indication. Sales of *Tecentriq* were CHF 0.9 billion, with the decline in sales due to the competitive environment in the HCC and NSCLC indications. *Polivy* sales increased to CHF 0.3 billion as a result of higher demand for the first-line treatment of diffuse large B-cell lymphoma.

In Europe, sales increased by 8% (10% at CER) driven by the rollout of *Vabysmo* and the uptake of *Phesgo*, *Ocrevus*, *Hemlibra* and *Evrysdi*, partially offset by a combined sales decline of 18% (16% at CER) for *Avastin*, *Herceptin* and *MabThera/Rituxan*. There was also a sales decline of 17% (16% at CER) for *Perjeta* due to ongoing

conversion of patients to *Phesgo*. *Ocrevus* sales increased by 9% (12% at CER) due to continued growth in both relapsing and primary progressive multiple sclerosis, primarily in the UK and Germany. *Hemlibra* sales grew 12% (14% at CER) due to expanded market penetration in the non-inhibitor indication mainly in the UK and France. The high uptake of *Phesgo* resulted in a 48% (51% at CER) sales growth, with Spain being the key driver. The sales increase of *Vabysmo* of 179% (183% at CER) was driven by the launch in France and growing demand in the UK and Germany. There was a sales growth of 19% (21% at CER) for *Evrysdi* resulting from increased patient share, with the main drivers being Spain and the UK.

In Japan, sales decreased by 38% (28% at CER), mainly due to *Ronapreve* sales in the first half of 2023 of CHF 549 million that did not reoccur in 2024. Excluding this, sales in Japan fell by 18% (5% at CER) mainly driven by price cuts and increased market penetration of biosimilar and generic medicines. There was sales growth of *Phesgo* and *Vabysmo*, as well as the continued sales growth at CER of *Actemra/RoActemra* and the ongoing rollout of *Evrysdi*.

In International, sales increased by 7% (17% at CER), led by *Perjeta*, *Evrysdi*, *Phesgo* and *Tecentriq*. *Perjeta* sales in the International region reported continued growth, in part due to *Phesgo* not yet being launched or reimbursed in some major markets, and therefore the impact of conversion from *Perjeta* to *Phesgo* being relatively lower in the International region. Sales in China increased by 7% (14% at CER), driven by continued sales of *Perjeta*, *Alecensa* and *Avastin*, as well as higher sales of *Xofluza* and growth from the rollout of *Polivy*. This was partially offset by the minimal sales of *Xeloda*, which was divested in China in 2023. Brazil, Canada and Mexico were the major other markets in the International region, showing the highest growth levels after China due to the increased adoption of *Vabysmo* in Canada and the uptake of *Evrysdi* in Brazil, along with an increase in *Perjeta* sales in both Brazil and Mexico.

Operating Results

Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements, including in the detailed operating results of both divisions.

Other revenue

	For the six months ended June 30,			
	2024	**2023[1]**	**% of change (CHF)**	**% of change (CER)**
	(CHF in millions, except percentage data)			
Royalty income	386	395	-2	-1
Profit-share income	380	328	+16	+19
Other income from collaboration and out-licensing agreements	114	71	+61	+76
Other	6	4	+50	+33
Total – IFRS and Core basis	**886**	**798**	**+11**	**+14**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

Other revenue

IFRS other revenue increased by 11% (14% at CER) to CHF 886 million driven by the increase in profit-share income from the higher sales of *Xolair* outside the United States and *Venclexta*/*Venclyxto* in the United States, together with the higher milestone income from out-licensing agreements.

Cost of Sales

	For the six months ended June 30,			
	2024	**2023[1]**	**% of change (CHF)**	**% of change (CER)**
	(CHF in millions, except percentage data)			
Cost of sales – IFRS basis	**(4,536)**	**(4,384)**	**+3**	**+9**
Global restructuring plans	82	227	-64	-64
Amortization of intangible assets	105	121	-13	-11
Impairment of intangible assets	318	0	0	-
Cost of sales – Core basis	**(4,031)**	**(4,036)**	**0**	**+5**
Thereof:				
Manufacturing cost of goods sold and period costs	(2,527)	(2,325)	+9	+16
Royalty expenses	(840)	(814)	+3	+7
Collaboration and profit-sharing agreements	(638)	(872)	-27	-24
Amortization of commercial software and intangible assets	(2)	(2)	0	0
Impairment of property, plant and equipment and right-of-use assets	(24)	(23)	4	+15

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

IFRS cost of sales increased by 3% (9% at CER) to CHF 4.5 billion, in line with the sales growth, and core cost of sales was 17.8% as a percentage of sales. Core cost of sales remained stable as reported in Swiss francs (increased by 5% at CER) at CHF 4 billion. The 9% (16% at CER) increase in manufacturing costs of goods sold and period costs to CHF 2.5 billion was driven by increased sales volumes as well as a base effect (i.e., the non-recurrence in the first half of 2024) resulting from the release of unutilized provisions in 2023. Royalty expenses were 3% higher (7% at CER) to CHF 0.8 billion driven by increased sales of certain royalty-bearing products, notably *Ocrevus* and *Evrysdi*, partially offset by lower expenses for *Tecentriq* based on a reduced royalty rate from 2024. Expenses for collaboration and profit-sharing agreements decreased by 27% (24% at CER) to CHF 0.6 billion as a result of lower sales of *Ronapreve* in Japan and *MabThera/Rituxan* in the United States together with lower expenses in relation to *Evrysdi*.

The costs of global restructuring plans decreased by 64% (64% at CER) to CHF 82 million compared to CHF 227 billion in the first half of 2023 due to lower costs for the manufacturing network strategy review affecting sites in the United States. There was a further partial impairment recorded for *Rozlytrek*, in addition to that recorded in 2023, triggered by reduced sales expectations. The impairments recorded in the second half of 2023 decreased the amortization charges of intangible assets in 2024.

Research and development

	For the six months ended June 30,			
	2024	2023[1]	% of change (CHF)	% of change (CER)
	(CHF in millions, except percentage data)			
Research and development – IFRS basis	**(6,408)**	**(5,947)**	**+8**	**+11**
Global restructuring plans	171	29	+490	Over +500
Amortization of intangible assets	169	151	+12	+15
Impairment of intangible assets	733	260	+182	+187
Total – Core basis	**(5,335)**	**(5,507)**	**-3**	**0**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*"

IFRS research and development costs increased by 8% (11% at CER) to CHF 6.4 billion; while core research and development costs decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc (stable at CER) and, as a percentage of sales, decreased by 0.9 percentage points to 23.6%. Oncology continued to be the therapeutic area with the highest expenditure. There was increased spending in immunology for the study of astegolimab in chronic obstructive pulmonary disease and also for RVT-3101 from the Telavant acquisition for the treatment of inflammatory bowel disease and other diseases. In cardiovascular and metabolic diseases there was also increased spending for the CT-388 molecule from the Carmot acquisition for the achievement and maintenance of weight loss with differentiated efficacy, and for zilebesiran for patients with hypertension. This increase was offset by portfolio prioritization and restructuring to improve productivity. In research and early-stage development, investments continued in various areas including computational biology and the Institute of Human Biology. These investments also extended to new facilities such as the Pharma Research and Early Development center in Basel, Switzerland, which began operations in the first half of 2024.

Additionally, in-licensing transactions, business combinations and asset acquisitions resulted in intangible assets of CHF 2.0 billion compared to CHF 0.2 billion in the first half of 2023 being recognized, of which CHF 1.8 billion arose from the Carmot acquisition.

The increase in global restructuring plan expenses was primarily due to employee-related expenses for new research and development productivity and portfolio prioritization initiatives. Amortization of intangible assets increased reflecting recent research collaborations. The impairment charges for intangible assets increased by 182% (187% at CER) to CHF 0.7 billion were mainly triggered by the decision to discontinue certain programs.

Selling, general and administration

	For the six months ended June 30,			
	2024	2023[1]	% of change (CHF)	% of change (CER)
	(CHF in millions, except percentage data)			
Selling, general and administration – IFRS basis	**(3,400)**	**(3,448)**	-1	**+3**
Global restructuring plans	200	135	+48	+56
Amortization of intangible assets	3	5	-40	-32
Total – Core basis	**(3,197)**	**(3,308)**	**-3**	**+1**
Thereof:				
Marketing and distribution	(2,621)	(2,695)	-3	+1
Administration	(477)	(484)	-1	+4
Business taxes and capital taxes	(92)	(77)	+19	+28

	For the six months ended June 30,			
	2024	2023[1]	% of change (CHF)	% of change (CER)
	(CHF in millions, except percentage data)			
Other general items	(7)	(52)	-87	-87

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

IFRS selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 3% at CER) to CHF 3.4 billion. Core selling, general and administration costs decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 1% at CER) to CHF 3.2 billion, and as a percentage of sales decreased by 0.6 percentage points to 14.1%. Marketing and distribution costs decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, these costs increased by 1% reflecting the investments in ongoing launches, particularly of *Vabysmo*. The administration costs decreased by 1% as reported in Swiss francs; while in CER terms, the costs increased by 4% due to higher personnel-related expenses. Business taxes and capital taxes increased by 19% (28% at CER) to CHF 0.1 billion mainly due to higher United States excise tax. Other general items costs reflected the timing of expenses, resulting in lower costs compared to the same period last year. The increase in costs for global restructuring plans by 48% (56% at CER) to CHF 0.2 billion was primarily driven by employee-related expenses and business process transformations, as well as commercial operations initiatives in the United States.

Other operating income (expense)

	For the six months ended June 30,			
	2024	2023[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Other operating income (expense) – IFRS basis	**414**	**710**	**-42**	**-41**
Global restructuring plans	1	1	0	+171
Mergers and acquisitions and alliance transactions	32	(4)	-900	-
Legal and environment cases	2	(8)	-125	-
Total – Core basis	**449**	**699**	-36	**-35**
Thereof:				
Gains (losses) on disposal of products	353	585	-40	-39
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	0	8	-100	-
Other income (expense)	96	106	-9	-6

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

IFRS other operating income (expense) decreased by 42% (41% at CER) to CHF 0.4 billion. Core other operating income (expense) decreased by 36% (35% at CER) to CHF 0.4 billion due to lower gains on disposal of products in 2024 compared to 2023. Gains from disposals in 2024 included the sale of rights for *Roaccutane/Accutane* for CHF 250 million and in 2023 included the sale of rights for *Rocephin* in China for CHF 262 million and the sale of rights

for *Xeloda* in China and Japan for CHF 234 million. Other income (expense) decreased mainly due to income from the positive resolution of disputes in some countries in 2023.

Roche Pharmaceuticals and Chugai subdivisional operating results

Pharmaceuticals subdivisional operating results

	Roche Pharmaceuticals [1]		Chugai		Pharmaceuticals Division [2]	
	As of June 30,					
	2024	2023	2024	2023	2024	2023
	(CHF in millions, except percentage data)					
Sales						
External customers	21,271	20,301	1,366	2,210	22,637	22,511
Within division	652	1,174	1,472	1,330	2,124	2,504
Operating profit – IFRS basis	8,173	8,497	1,536	1,461	9,593	10,240
margin, as % of sales to external customers	38.4	41.9	112.4	66.1	42.4	45.5
Core operating profit	9,964	9,282	1,561	1,593	11,409	11,157
margin, as % of sales to external customers	46.8	45.7	114.3	72.1	50.4	49.6
Operating free cash flow	8,619	7,591	1,025	2,178	9,647	9,745
margin, as % of sales to external customers	40.5	37.4	75.0	98.6	42.6	43.3

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

(2) The Pharmaceuticals Division's total core operating profit and operating profit both include the elimination of minus CHF 116 million of unrealized intercompany gains between Roche Pharmaceuticals and Chugai compared to CHF 282 million in the first half of 2023.

The appreciation of the Swiss franc in the first half of 2024 relative to the first half of 2023 against the Japanese yen had an adverse impact of approximately 10 percentage points on the Chugai core results when expressed in Swiss francs for the Roche Group's consolidated results. Sales by Chugai (as reported in Japanese yen) to external customers decreased by 38% (28% at CER), driven by the sales of *Ronapreve* in the prior year, while sales within the division increased by 11% (28% at CER) due to higher sales of *Hemlibra*. Chugai's core operating profit decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, it increased by 8% due to the higher profit from sales within the division. This was partially offset by lower profit from sales to external customers and higher gains from product disposals in 2023. Operating free cash flow at Chugai decreased by 53% (48% at CER) mainly due to the base effect (i.e., the non-recurrence in the first half of 2024) of the receipt of the proceeds in 2023 for the *Ronapreve* sales recorded in 2022 and 2023.

Financial position

Net operating assets

	As of June 30, 2024	As of December 31, 2023	% change (CHF)	% change (CER)	Movement: Transactions (CHF)	Movement: CTA and other (CHF)
	(CHF in millions, except percentage data)					
Trade receivables	9,112	7,948	+15	+11	915	249
Inventories	4,670	4,813	-3	-4	(195)	52
Trade payables	(1,896)	(2,072)	-8	-10	217	(41)
Net trade working capital	**11,886**	**10,689**	**+11**	**+8**	**937**	**260**
Other receivables (payables)	(7,233)	(7,249)	0	-4	294	(278)
Net working capital	**4,653**	**3,440**	**+35**	**+34**	**1,231**	**(18)**

	As of June 30, 2024	As of December 31, 2023	% change (CHF)	% change (CER)	Movement: Transactions (CHF)	Movement: CTA and other (CHF)
	(CHF in millions, except percentage data)					
Property, plant and equipment	14,753	14,381	+3	+1	182	190
Right-of-use assets	759	650	+17	+12	82	27
Goodwill and intangible assets	20,778	17,992	+15	+10	1,715	1,071
Provisions	(2,095)	(1,799)	+16	+13	(226)	(70)
Other assets (liabilities), net	1,590	1,563	+2	-1	(22)	49
Other net operating assets	**35,785**	**32,787**	**+9**	**+5**	**1,731**	**1,267**
Net operating assets	**40,438**	**36,227**	**+12**	**+8**	**2,962**	**1,249**

Note: The absolute amount of the movement between the June 30, 2024, and December 31, 2023 consolidated balances reported in Swiss francs is split between actual 2024 transactions (translated at average rates for 2023) and the currency translation adjustment (CTA) that arises on consolidation. The 2024 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc depreciated against the U.S. dollar, which had a significant positive effect on the net operating assets of the Pharmaceuticals Division, notably the goodwill and intangible assets. This was partly compensated by the appreciation of the Swiss franc against the Japanese yen.

Net working capital. The increase of 35% (34% at CER) was driven by a significant increase in trade receivables to CHF 9.1 billion compared to CHF 7.9 billion in the first half of 2023. This increase of 15% (11% at CER) in trade receivables was primarily driven by the significant sales growth of *Vabysmo*, alongside increased sales of *Ocrevus*, both of which had extended payment terms in the United States. Inventories decreased by 3% (4% at CER) as a result of inventory optimization measures. The 8% (10% at CER) decrease in trade payables included a payment to Moma Therapeutics for an intangible asset in-licensed at the end of 2023 and payments for the investment in manufacturing facilities at the Ukima site in Japan. The net liability position for other receivables (payables) remained stable as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, it decreased by 4% due to higher prepaid expenses and lower other taxes payable.

Other net operating assets. Property, plant and equipment increased by 3% (1% at CER) due to additions in manufacturing facilities in the United States, Japan and Switzerland, as well as site developments in Switzerland and the United States, partially offset by depreciation expenses. Right-of-use assets increased by 17% (12% at CER) due to a new property lease at Genentech for laboratory and office space. The Carmot acquisition increased goodwill by CHF 1.0 billion and intangible assets by CHF 1.8 billion. This increase was partially offset by impairment charges. Provisions increased by 16% (13% at CER) due to a provision for contingent consideration for the Carmot acquisition.

Free Cash Flow

Operating free cash flow

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit - IFRS basis	**9,593**	**10,240**	**-6**	**-1**
Depreciation, amortization and impairment	2,028	1,294	+57	+61
Provisions	49	(390)	-	-
Equity compensation plans	291	270	+8	+10
Other	103	196	-47	-46

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit cash adjustments[1]	**2,471**	**1,370**	**+80**	**+86**
Operating profit, net of operating cash adjustments	**12,064**	**11,610**	**+4**	**+9**
(Increase) decrease in net working capital	(1,070)	(647)	+65	+61
Investments in property, plant and equipment	(919)	(900)	+2	+8
Principal portion of lease liabilities paid	(97)	(100)	-3	+2
Investments in intangible assets	(331)	(218)	+52	+54
Operating free cash flow	**9,647**	**9,745**	**-1**	**+5**
as % of sales	42.6	43.3	-0.7	-0.4

(1) Operating profit cash adjustments consist of the elimination of depreciation, amortization and impairment charges and the replacement of the operating income/expenses for provisions, equity compensation plans and other adjustments with their cash equivalents.

The Pharmaceuticals Division's operating free cash flow decreased of 1% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 5% at CER) to CHF 9.6 billion. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, increased by 4% (9% at CER). This was above the 2% (7% at CER) increase in core operating profit due to a base impact (i.e., the non-recurrence in the first half of 2024) resulting from the release of unutilized provisions in 2023. Net working capital absorbed an additional CHF 1.1 billion of cash, driven notably by the increase in trade receivables, and also due to the base effect (i.e., the non-recurrence in the first half of 2024) of the large collections of trade receivables in the first half of 2023, notably for *Ronapreve* sales in Japan from 2022, which had a positive impact on the operating free cash flow in 2023. Capital expenditure was higher, due to investments in manufacturing technology and site developments in the United States. Investments in intangible assets were 52% (54% at CER) higher than in the first half of 2023 and included payments to Alnylam Pharmaceuticals and Moma Therapeutics. Cash outflows for mergers and acquisitions, such as the Carmot acquisition, are not included in the definition of free cash flow.

Diagnostics operating results

Diagnostics Division results for the six months ended June 30, 2024

	For the six months ended June 30,			
	2024	2023[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Sales	7,211	7,268	-1	+5
Other revenue	22	39	-44	-44
Revenue	**7,233**	**7,307**	**-1**	**+4**
Cost of sales	(3,334)	(3,547)	-6	-3
Research and development	(980)	(971)	+1	+3
Selling, general and administration	(1,510)	(1,521)	-1	+4
Other operating income (expense)	16	144	-89	-88
Operating profit – IFRS basis	**1,425**	**1,412**	**+1**	**+16**
margin, % of sales	19.8	19.4	+0.4	+2.0
Core operating profit	**1,583**	**1,480**	**+7**	**+22**
margin, % of sales	22.0	20.4	+1.6	+3.3
Net operating assets	**17,873**	**16,217**	**+10**	**+6**
Operating free cash flow	491	219	+124	+298
margin, % of sales	6.8	3.0	+3.8	+5.7

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*" Additionally effective January 1, 2024, the Diagnostics Division has changed its internal customer areas. Consequently, the comparative 2023 sales by customer areas information have also been restated in the H1 2024 Interim Consolidated Financial Statements.

Sales

The Diagnostics Division reported sales of CHF 7.2 billion, a 1% decrease as reported in Swiss francs due to appreciation of the Swiss franc (increase of 5% at CER). Sales in the division's base business (i.e., excluding the portfolio of COVID-19 related products) increased by 9% at CER and across all regions, led by the increased demand for immunodiagnostic products and by higher sales of clinical chemistry tests, advanced staining solutions and companion diagnostics. This growth was partially offset by the expected sales decline from COVID-19-related products. The Diagnostics Division's portfolio of COVID-19 tests generated sales of CHF 0.1 billion in the first half of 2024, a decline of 70% at CER.

Sales by customer area

	For the six months ended June 30,				For the six months ended June 30,	
	2024 (CHF in millions)	**2023 (CHF in millions)**	**% change (CHF)**	**% change (CER)**	**% of sales (2024)**	**% of sales (2023)**
Core Lab	4,069	3,935	+3	+10	56.4	54.1
Molecular Lab	1,275	1,288	-1	+3	17.7	17.7
Near Patient Care	1,097	1,358	-19	-14	15.2	18.7
Pathology Lab	770	687	+12	+17	10.7	9.5
Total sales	**7,211**	**7,268**	**-1**	**+5**	**100**	**100**

Core Lab.

This customer area focuses on central labs and provides diagnostics solutions in the areas of immunoassays, clinical chemistry and custom biotech. Sales increased by 3% (10% at CER) to CHF 4.1 billion due to the 11% growth at CER across the portfolio of immunodiagnostic products, such as cardiac and oncology tests, and due to the 8% growth at CER in the clinical chemistry business. Sales grew across all regions, with the largest contribution to the sales growth coming from the Europe, Middle East and Africa (EMEA) region, which grew by 12% at CER.

Molecular Lab.

This customer area focuses on molecular labs and provides diagnostics solutions for the detection and monitoring of pathogens, donor screening, sexual health and genomics and includes the Foundation Medicine business. The 1% sales decrease as reported in Swiss francs due to appreciation of the Swiss franc (3% increase at CER) to CHF 1.3 billion included growth from the virology base business and from blood screening as well as higher sales of Foundation Medicine's genomic profiling tests. This was partially offset by lower COVID-19-related sales of SARS-CoV-2 assays on the cobas 6800/8800 systems.

Near Patient Care.

This customer area provides diagnostics solutions in decentralized settings such as in emergency rooms, general practitioners' practices and directly with patients, and includes integrated personalized diabetes management

solutions. Lower sales of the SARS-CoV-2 Rapid Antigen test were the main driver of the 19% (14% at CER) sales decrease to CHF 1.1 billion. The underlying base business included growth from the Liat molecular point-of-care product line. This was offset by the continued contraction of the blood glucose monitoring market in the United States and major European markets.

Pathology Lab.

This customer area focuses on pathology labs and provides diagnostics solutions for tissue biopsies and companion diagnostics. These are targeted diagnostics to aid in the choice of specific therapies for each patient. Sales increased by 12% (17% at CER) to CHF 0.8 billion and across all regions due to growth in the advanced staining and the companion diagnostics businesses.

Sales by region

	For the six months ended June 30,				For the six months ended June 30,	
Region	**2024 (CHF in millions)**	**2023 (CHF in millions)**	**% change (CHF)**	**% change (CER)**	**% of sales (2024)**	**% of sales (2023)**
Europe, Middle East and Africa (EMEA)	2,431	2,456	-1	+4	33.7	33.8
North America	2,163	2,110	+3	+5	30.0	29.0
- of which United States	1,917	1,915	0	+3	26.6	26.3
Asia-Pacific	2,102	2,205	-5	+3	29.2	30.3
- of which China	1,273	1,289	-1	+5	17.7	17.7
Latin America	515	497	+4	+16	7.1	6.9
Total sales	**7,211**	**7,268**	**-1**	**+5**	**100**	**100**

Sales in the Europe, Middle East and Africa (EMEA) region decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 4% at CER) to CHF 2.4 billion and included higher sales of immunodiagnostic products and the clinical chemistry portfolio. This was partly offset by the continued contraction of the blood glucose monitoring market and the decline in demand for COVID-19 tests. In North America the decrease of COVID-19-related sales and in blood glucose monitoring was more than offset by growth in the underlying base business across customer areas. In the Asia-Pacific region sales decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 3% at CER) to CHF 2.1 billion and included higher sales of immunodiagnostic products being partly offset by the drop in demand for COVID-19-related tests.

Operating Results

Other revenue

	For the six months ended June 30,			
	2024	**2023[1]**	**% change (CHF)**	**% of change (CER)**
	(CHF in millions, except percentage data)			
Royalty income	19	21	-10	-13
Profit-share income	0	8	-100	-100
Other income from collaboration and out-licensing agreements	0	0	0	-
Other	3	10	-70	65
Total – IFRS and Core basis	**22**	**39**	**-44**	**-44**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*"

Both IFRS and core other revenue decreased due to the base effect (i.e., the non-recurrence in the first half of 2024) of the income in 2023 from the United States collaboration with Pfizer to help patients who test positive for COVID-19 to navigate risks, symptoms, testing and treatment options.

Cost of Sales

	For the six months ended June 30,			
	2024	**2023[1]**	**% change (CHF)**	**% of change (CER)**
	(CHF in millions, except percentage data)			
Cost of sales IFRS basis	**(3,334)**	**(3,547)**	**-6**	**-3**
Global restructuring plans	2	(60)	-103	-
Amortization of intangible assets	(67)	(67)	0	0
Total – Core basis	**(3,269)**	**(3,420)**	**-4**	**-1**
Thereof:				
Manufacturing cost of goods sold and period costs	(3,198)	(3,344)	-4	-1
Royalty expenses	(70)	(72)	-3	-2
Collaboration and profit-sharing agreements	(1)	(1)	0	-16
Amortization of commercial software intangible assets	(1)	(1)	0	-10
Impairment of property, plant and equipment and right-of-use assets	1	(2)	-150	-

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*"

IFRS cost of sales decreased by 6% (3% at CER) to CHF 3.3 billion. Core cost of sales decreased by 4% (1% at CER), while sales decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 5% at CER). This was due to favorable product mix effects across the portfolio with lower sales volumes of SARS-CoV-2 Rapid Antigen tests as a major factor. There were also favorable developments in the cost of materials of some product lines. As a percentage of sales, the core cost of sales ratio decreased by 1.8 percentage points to 45.3%. Global restructuring plan costs for productivity measures and manufacturing and supply chain optimizations were offset by the reversal of unused restructuring provisions following the completion of certain optimization plans within the division.

Research and Development

	For the six months ended June 30,			
	2024	**2023[1]**	**% change (CHF)**	**% of change (CER)**
	(CHF in millions, except percentage data)			
Research and development – IFRS basis	**(980)**	**(971)**	**+1**	**+3**

	For the six months ended June 30,			
	2024	2023[1]	% change (CHF)	% of change (CER)
	(CHF in millions, except percentage data)			
Global restructuring plans	44	25	+76	+78
Amortization of intangible assets	3	4	-25	-32
Total – Core basis	**(933)**	**(942)**	**-1**	**+1**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

IFRS research and development costs increased by 1% (3% at CER) to CHF 980 million. Core research and development costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (increased by 1% at CER) to CHF 933 million and included higher project spending. The main areas of activity included the development of high medical value assays, notably in oncology, as well as digital laboratory and digital clinical solutions and sequencing. In addition, there were continuing investments in cardiometabolic diseases, particularly for continuous blood glucose monitoring, and mass spectrometry. As a percentage of sales, core research and development costs decreased to 12.9% from 13.0% in 2023. Global restructuring costs from portfolio prioritization and other measures to drive productivity were primarily incurred for employee-related matters.

Selling, general and administration

	For the six months ended June 30,			
	2024	2023[1]	% change (CHF)	% of change (CER)
	(CHF in millions, except percentage data)			
Selling, general and administration – IFRS basis	**(1,510)**	**(1,521)**	**-1**	**+4**
Global restructuring plans	17	33	-48	-47
Amortization of intangible assets	8	10	-20	-19
Total – Core basis	**(1,485)**	**(1,478)**	**0**	**+5**
Thereof:				
Marketing and distribution	(1,262)	(1,244)	1	+6
Administration	(232)	(236)	-2	+3
Business taxes and capital taxes	(10)	(10)	0	-2
Other general items	19	12	58	+66

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

IFRS selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (increase by 4% at CER) to CHF 1.5 billion. Core selling, general and administration costs remained stable as reported in Swiss francs and increased by 5% at CER. Marketing and distribution costs increased by 1% (6% at CER) due to higher personnel expenses and higher distribution costs following increased sales volumes. Administration costs decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc; while in CER terms, costs increased by 3% with the major factor being the depreciation charges related to Foundation Medicine's office space in Boston, U.S., that was newly leased from the second half of 2023. Core selling, general and administration costs as a percentage of sales increased to 20.6% compared to 20.3% in 2023. Costs for global

restructuring plans primarily comprised of a business process transformation, partly offset by the reversal of unused restructuring provisions following the completion of plans that were initiated in previous years.

Other operating income (expense)

	For the six months ended June 30,			
	2024	**2023[1]**	**% change (CHF)**	**% change (CER)**
	(CHF in millions, except percentage data)			
Other operating income (expense) – IFRS basis	**16**	**144**	**-89**	**-88**
Global restructuring plans	1	6	-83	-96
Mergers and acquisitions and alliance transactions	0	5	-100	-100
Legal and environmental cases	20	(142)	-114	-
Total – Core basis	**37**	**13**	**+185**	**+205**
Thereof:				
Gains (losses) on disposal of products	0	0	-	-
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	0	1	-100	-100
Other income (expense)	37	12	+208	+215

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024.*"

IFRS other operating income (expense) decreased by 89% (88% at CER) to CHF 16 million. Core other operating income (expense) was an income of CHF 37 million in the first half of 2024. The income from legal and environmental cases in 2023 was due to the reversal of legal provisions, notably related to the Meso litigation.

Financial position

Net operating assets

	June 30, 2024	**December 31, 2023[1]**	**% change (CHF)**	**% change (CER)**	**Movement: Transactions**	**Movement: CTA and other**
	(CHF in millions, except percentage data)					
Trade receivables	3,188	3,179	0	-3	(82)	91
Inventories	3,275	2,936	+12	+8	244	95
Trade payables	(1,005)	(1,135)	-11	-14	168	(38)
Net trade working capital	**5,458**	**4,980**	**+10**	**+6**	**330**	**148**
Other receivables (payables)	(1,303)	(1,726)	-25	-28	490	(67)
Net working capital	**4,155**	**3,254**	**+28**	**+24**	**820**	**81**
Property, plant and equipment	7,459	7,039	+6	+2	176	244
Right-of-use assets	541	531	+2	-3	(16)	26
Goodwill and intangible assets	6,526	6,226	+5	-1	(41)	341
Provisions	(682)	(766)	-11	-14	110	(26)
Other assets (liabilities), net	(126)	(67)	+88	+81	(56)	(3)
Other net operating assets	**13,718**	**12,963**	**+6**	**+1**	**173**	**582**
Net operating assets	**17,873**	**16,217**	**+10**	**+6**	**993**	**663**

Note: The absolute amount of the movement between the June 30, 2024, and December 31, 2023, consolidated balances reported in Swiss francs is split between actual 2024 transactions (translated at average rates for 2023) and the currency translation adjustment (CTA) that arises on consolidation. The 2024 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc depreciated against the U.S. dollar, and to a lesser extent the euro. This had a positive translation effect on the net operating assets of the Diagnostics Division. The Diagnostics Division does not have a significant net asset position in Japanese yen and so the appreciation of the Swiss franc against the Japanese yen had only a minor impact.

Net working capital. The increase in net working capital by 28% (24% at CER) to CHF 4.2 billion was driven by a lower net liability for other receivables (payables) from the settlement of year-end accruals as well as by higher inventories. Trade receivables remained stable as reported in Swiss francs and decreased by 3% at CER due to the relatively high sales recorded in the last quarter of 2023 compared to the second quarter of 2024. The 12% (8% at CER) increase in inventories was driven by a higher volume of instruments pending installation and a stock-up of the newest generation of serum work area systems. Trade payables decreased by 11% (14% at CER) following the settlement of year-end positions.

Other net operating assets. Property, plant and equipment increased by 6% (2% at CER) as a result of higher instrument placements and site investments in Germany and the United States. Goodwill and intangible assets decreased due to the regular intangible asset amortization charges. Provisions were lower following the release of restructuring provisions.

Free cash flow

Operating free cash flow

	For the six months ended June 30,			
	2024	**2023**	**% change (CHF)**	**% change (CER)**
	(CHF in millions, except percentage data)			
Operating profit IFRS basis	**1,425**	**1,412**	**+1**	**+16**
Depreciation, amortization and impairment	718	718	0	+4
Provisions	(109)	(135)	-19	-18
Equity compensation plans	75	75	0	+3
Other	123	130	-5	-2
Operating profit cash adjustments	**807**	**788**	**+2**	**+6**
Operating profit, net of operating cash adjustments	**2,232**	**2,200**	**+1**	**+12**
(Increase) decrease in net working capital	(864)	(1,105)	-22	-19
Investments in property, plant and equipment	(770)	(792)	-3	+1
Principal portion of lease liabilities paid	(70)	(68)	+3	+8
Investments in intangible assets	(37)	(16)	+131	+133
Operating free cash flow	**491**	**219**	**+124**	**+298**
- as % of sales	6.8	3.0	+3.8	+5.7

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

The operating free cash flow of the Diagnostics Division increased by 124% (298% at CER) to CHF 0.5 billion driven by the operating results of the business. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, increased by 1% (12% at CER) compared to the 7% (22% at CER) increase in the core operating profit because of lower non-cash expenses and higher utilization of provisions. Net working capital absorbed an additional CHF 0.9 billion of cash in the first half of 2024, which was primarily attributable to the settlement of year-end payables and accruals, and also due to increased inventory levels. Capital expenditure decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc while it increased by 1% at CER, which included higher instrument placements as well as site investments in Germany and the United States.

Corporate operating results

Selling, general and administration

	For the six months ended June 30,			
	2024	**2023**	**% change (CHF)**	**% change (CER)**
	(CHF in millions, except percentage data)			
Selling, general and administration – IFRS basis	**(1,942)**	**(1,881)**	**+3**	**+4**
Global restructuring plans	248	162	+53	+53
Total – Core basis	**(1,694)**	**(1,719)**	**-1**	**0**
Thereof:				
Administration	(1,683)	(1,711)	-2	-1
Business taxes and capital taxes	(11)	(8)	+38	+48
Other general items	0	0	0	-

IFRS selling, general and administration costs increased by 3% (4% at CER) to CHF 1.9 billion as a result of restructuring activities for a business process transformation to simplify the systems landscape and reduce process complexity and also due to initiatives in informatics. Core selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc (stable at CER). Administration costs were 2% (1% at CER) lower due to decreased project costs and reduced demand for informatics.

Other operating income (expense)

	For the six months ended June 30,			
	2024	**2023**	**% change (CHF)**	**% change (CER)**
	(CHF in millions, except percentage data)			
Other operating income (expense) –IFRS basis	**(5)**	**(7)**	**-29**	**-28**
Global restructuring plans	0	0	-	-
Legal and environmental cases	0	0	-	-
Total – Core basis	**(5)**	**(7)**	**-29**	**-26**

Corporate financial position and free cash flow

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Financial position				
Net working capital	(328)	(487)	-33	-34
Other net operating assets	182	158	+15	+12
Net operating assets	**(146)**	**(329)**	**-56**	**-56**
Free cash flow				
Operating free cash flow	(2,085)	(1,933)	+8	+9

The change in net working capital is due to settlements of payables and increased prepaid expenses. The operating free cash flow includes costs of global functions such as informatics, human resources, finance and procurement, and also restructuring costs for the business process transformation. There was an increased outflow mainly due to higher restructuring costs for the business process transformation and initiatives in informatics.

Foreign exchange impact on operating results

The Roche Group's exposure to movements in foreign currencies affecting its operating results, as expressed in Swiss francs, is summarized by the following key figures and comments.

Growth

	For the six months ended June 30,	
	% change (CHF)	% change (CER)
Pharmaceuticals Division		
Sales	+1	+5
Core operating profit	+2	+7
Operating free cash flow	-1	+5
Diagnostics Division		
Sales	-1	+5
Core operating profit	+7	+22
Operating free cash flow	+124	+298
Group		
Sales	0	+5
Core operating profit	+4	+11
Operating free cash flow	0	+9

Exchange rates against the Swiss franc

	June 30, 2024	Average to June 30, 2024	December 31, 2023	Average to June 30, 2023
1 USD	0.90	0.89	0.84	0.91
1 EUR	0.96	0.96	0.93	0.99
100 JPY	0.56	0.58	0.60	0.68

The results expressed in Swiss francs were negatively impacted by the appreciation of the Swiss franc against many currencies in the first half of 2024 relative to the first half of 2023.

Currency sensitivities

The sensitivity of Group sales and core operating profit to a 1% change in average foreign currency exchange rates against the Swiss franc during the first half of 2024 is shown in the table below.

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales	Core operating profit
	(CHF in millions)	
US dollar	+144	+53
Euro	+45	+17
Japanese yen	+16	+20
All other currencies	+84	+48

Treasury and taxation results

Treasury and taxation results – IFRS basis

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**9,071**	**9,764**	**-7**	**0**
Financing costs	(708)	(490)	+44	+50
Other financial income (expense)	(140)	(100)	+40	+71
Profit before taxes	**8,223**	**9,174**	**-10**	**-3**
Income taxes	(1,526)	(1,611)	-5	+1
Net income	**6,697**	**7,563**	**-11**	**-4**
Attributable to				
- Roche shareholders	6,258	7,137	-12	-5
- Non-controlling interests	439	426	+3	+12

Treasury and taxation results – Core basis

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**11,293**	**10,911**	**+4**	**+11**
Financing costs	(698)	(482)	+45	+50
Other financial income (expense)	(140)	(100)	+40	+71
Profit before taxes	**10,455**	**10,329**	**+1**	**+8**
Income taxes	(1,804)	(1,742)	+4	+10
Net income	**8,651**	**8,587**	**+1**	**+8**
Attributable to				
- Roche shareholders	8,205	8,124	+1	+8
- Non-controlling interests	446	463	-4	+5

Treasury and taxation financial position

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Net debt	(25,627)	(18,699)	+37	+27
Lease liabilities	(1,734)	(1,573)	+10	+5
Pensions	(3,126)	(3,360)	-7	-11
Income taxes	4,707	4,376	+8	+1
Equity investments	686	547	+25	+25
Derivatives, net	(325)	(272)	+19	+26
Collateral, net	96	50	+92	+91
Interest payable	(284)	(187)	+52	+45
Associated companies and other, net	318	266	+20	+13
Total net assets (liabilities)	**(25,289)**	**(18,852)**	**+34**	**+24**

Treasury free cash flow and taxation cash flow

	For the six months ended June 30,			
	2024	2023	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Treasury activities	(486)	(333)	+46	+53
Taxes paid	(1,976)	(1,570)	+26	+32
Total	**(2,462)**	**(1,903)**	**+29**	**+36**

Financing costs

IFRS financing costs increased by 44% (50% at CER) to CHF 708 million. Core financing costs were CHF 698 million, an increase of 45% (50% at CER) compared to the first half of 2023. Interest expenses on debt increased by 58% at CER to CHF 601 million due to the issuance of new debt as well as an increase in interest rates which affected borrowing costs. See Note 4 to the H1 2024 Interim Consolidated Financial Statements for a full analysis of financing costs.

Other financial income (expense)

IFRS other financial income (expense) and core other financial income (expense) was a net expense of CHF 140 million compared to a net expense of CHF 100 million in the first half of 2023. Income from equity securities, which reflects the fair value changes in the Roche Venture Fund investments as well as gains or losses realized upon sale of those investments, was a gain of CHF 9 million compared to a gain of CHF 34 million in the first half of 2023. Interest income from debt securities was CHF 112 million compared to CHF 66 million in the first half of 2023 with the increase being due to higher interest rates. The net foreign exchange results, which reflect hedging costs and gains and losses on unhedged positions, were net losses of CHF 144 million compared to net losses of CHF 139 million in the first half of 2023. Losses on the net monetary positions in hyperinflationary economies in Argentina and Türkiye were CHF 89 million compared to losses of CHF 48 million in the first half of 2023. See Note 4 to the H1 2024 Interim Consolidated Financial Statements for a full analysis of other financial income (expense).

Income taxes

Group's effective tax rate

	For the six months ended June 30,					
	2024			2023		
	Profit before tax	Income taxes	Tax rate (%)	Profit before tax	Income taxes	Tax rate (%)
	(CHF in millions, except percentage data)					
Group's effective tax rate – IFRS basis	**8,223**	**(1,526)**	**18.6**	**9,174**	**(1,611)**	**17.6**
Global restructuring plans	762	(140)	18.4	678	(134)	19.8
Goodwill and intangible assets	1,406	(166)	11.8	618	(74)	12.0
Mergers and acquisitions and alliance transactions	37	(3)	8.1	4	0	-
Legal and environmental cases	27	(6)	22.2	(145)	46	31.7
Normalization of equity compensation plan tax benefit	0	37	-	0	31	-
Group's effective tax rate – Core basis	**10,455**	**(1,804)**	**17.3**	**10,329**	**(1,742)**	**16.9**

The IFRS effective tax rate increased in the first half of 2024 to 18.6% compared to 17.6% in the first half of 2023 due to the core impacts mentioned below and due to the impairments of certain intangible assets that are not tax deductible.

The Roche Group's effective core tax rate increased by 0.4 percentage points to 17.3% in the first half of 2024. The increase was due to the impact from Pillar Two top-up taxes, which have been effective from January 1, 2024, in various countries where the Group operates and increased the Group's effective core tax rate by 1.8 percentage points. This was in part offset by a higher percentage of profit contribution in the six months ended June 30, 2024, coming from tax jurisdictions with tax rates lower than the Group's average tax rate.

See Note 5 to the H1 2024 Interim Consolidated Financial Statements for further details.

Financial position

The increase in net debt was due to dividend payments of CHF 7.9 billion and the payments for the Carmot acquisition of CHF 2.5 billion, partly offset by the free cash flow of CHF 5.6 billion. Lease liabilities increased to CHF 1.7 billion due to a new property lease at Genentech in South San Francisco. The net pension liability was 7% (11% at CER) lower as a result of an increase in the fair value of plan assets. The net tax assets increased due to taxes paid exceeding the income tax expenses, partially offset by deferred tax impacts from the decrease in the net pension liability. At June 30, 2024, the Group held equity investments with a market value of CHF 0.7 billion, which consist mostly of holdings in biotechnology and other pharmaceuticals companies which were acquired as part of licensing transactions and scientific collaborations or as investments of the Roche Venture Fund. The net derivative liabilities increased to CHF 0.3 billion as a result of interest rate and exchange rate movements.

Free cash flow

The net cash outflow from treasury activities was CHF 0.5 billion compared to an outflow of CHF 0.3 billion in the first half of 2023. This was due to increased interest payments as a result of the newly issued debt and higher interest rates. Total taxes paid in the first half of 2024 were CHF 2.0 billion compared to CHF 1.6 billion in the first half of 2023. The increase was due to the United States Internal Revenue Service providing a tax payment extension in 2023, which deferred the provisional United States federal tax payments into the second half of 2023 and was partially offset by lower tax payments in Japan driven by the underlying business results.

Group cash flow – Divisional breakdown

Free cash flow

	Pharmaceuticals	Diagnostics	Corporate	Group
		(CHF in millions)		
For the six months ended June 30, 2024				
Operating profit – IFRS basis	9,593	1,425	(1,947)	9,071
Operating profit cash adjustments[1]	2,471	807	68	3,346
Operating profit, net of operating cash adjustments	**12,064**	**2,232**	**(1,879)**	**12,417**
(Increase) decrease in net working capital	(1,070)	(864)	(166)	(2,100)
Investments in property, plant and equipment	(919)	(770)	(35)	(1,724)
Principal portion of lease liabilities paid	(97)	(70)	(5)	(172)
Investments in intangible assets	(331)	(37)	0	(368)
Operating free cash flow	**9,647**	**491**	**(2,085)**	**8,053**
Treasury activities				(486)
Taxes paid				(1,976)
Free cash flow				**5,591**
For the six months ended June 30, 2023				
Operating profit – IFRS basis	10,240	1,412	(1,888)	9,764
Operating profit cash adjustments	1,370	788	61	2,219
Operating profit, net of operating cash adjustments	**11,610**	**2,200**	**(1,827)**	**11,983**
(Increase) decrease in net working capital	(647)	(1,105)	(52)	(1,804)
Investments in property, plant and equipment	(900)	(792)	(48)	(1,740)
Principal portion of lease liabilities paid	(100)	(68)	(6)	(174)
Investments in intangible assets	(218)	(16)	0	(234)
Operating free cash flow	**9,745**	**219**	**(1,933)**	**8,031**
Treasury activities				(333)
Taxes paid				(1,570)
Free cash flow				**6,128**

(1) Operating profit cash adjustments consist of the elimination of depreciation, amortization and impairment charges and the replacement of the operating income (expense) for provisions, equity compensation plans and other adjustments with their cash equivalents.

The free cash flows expressed in Swiss francs were heavily impacted by the appreciation of the Swiss franc in the first half of 2024 relative to the first half of 2023 against many currencies. Both divisions reported a high level of cash generation from the underlying business. Net working capital for the Group increased more than in the prior half year, mainly due to the increase in sales and the extended payment terms for certain products in the Pharmaceuticals Division and the base effect (i.e., the non-recurrence in the first half of 2024) from the collections of *Ronapreve* sales in 2023. Interest payments were higher, driven by the newly issued debt and higher interest rates. Tax payments increased due to a tax payment extension in 2023 which deferred United States payments into the second half of 2023.

Comparison of years ended December 31, 2023 and 2022

As used herein, references to increases or decreases in any year are made by comparison with the corresponding prior year, except as the context otherwise indicates or requires. ***Certain percentage changes and certain changes in absolute numbers presented herein have been calculated using constant exchange rates (CER).*** *The percentage changes and certain changes in absolute numbers at CER are calculated using simulations by reconsolidating both the 2023 and 2022 results at constant exchange rates (the average rates for the year ended December 31, 2022). Percentage changes denoted in "CHF" are calculated using Swiss franc amounts as reported.*

The following discussion should be read in conjunction with the reconciliation from IFRS results to non-IFRS results under "—Core results—Reconciliation from IFRS results to core results,""—Operating free cash flow and free cash flow—Operating free cash flow reconciliation and free cash flow reconciliation," and "—Net operating assets—Net operating assets reconciliation."

Overview

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
IFRS results				
Sales	58,716	63,281	-7	+1
Other revenue	1,725	2,533	-32	-27
Revenue	**60,441**	**65,814**	**-8**	**0**
Cost of sales	(16,357)	(19,737)	-17	-13
Research and development	(14,200)	(15,225)	-7	-2
Selling, general and administration	(14,881)	(14,201)	+5	+11
Other operating income (expense)	392	825	-52	-51
Operating profit	**15,395**	**17,476**	**-12**	**+3**
Financing costs	(996)	(665)	+50	+59
Other financial income (expense)	(320)	(484)	-34	-24
Profit before taxes	**14,079**	**16,327**	**-14**	**+1**
Income taxes	(1,721)	(2,796)	-38	-27
Net Income	**12,358**	**13,531**	**-9**	**+7**
Attributable to				
- Roche shareholders	11,498	12,421	-7	+9
- Non-controlling interests	860	1,110	-23	-15

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

In 2023, the Roche Group reported a sales decline of 7% (growth of 1% at CER), an IFRS operating profit decline of 12% (growth of 3% at CER) and a core operating profit decline of 13% (1% at CER). IFRS net income decreased by 9% (increased by 7% at CER). The appreciation of the Swiss franc against many currencies had an adverse net impact on the results as reported in Swiss francs of 8 percentage points on sales, 15 percentage points on IFRS operating profit, 12 percentage points on core operating profit and 16 percentage points on IFRS net income.

Sales in the Pharmaceuticals Division were CHF 44.6 billion compared to CHF 45.6 billion in 2022, a decrease of 2% as reported in Swiss francs due to appreciation of the Swiss franc. Sales increased by 6% at CER, driven by growing demand for *Vabysmo*, *Ocrevus*, *Hemlibra*, *Polivy* and *Phesgo*, which together contributed an additional CHF 3.2 billion (CHF 4.3 billion at CER) of sales. Sales of *MabThera/Rituxan*, *Herceptin* and *Avastin* decreased by a combined CHF 1.5 billion or 24% (CHF 1.1 billion or 17% at CER), as the impact of biosimilar competition continued, but to a lower extent. Sales of the COVID-19 medicine *Ronapreve* fell by CHF 1.1 billion at CER due to the evolving COVID-19 situation.

The Diagnostics Division reported sales of CHF 14.1 billion, a decline of 20% (13% at CER) due to lower sales of COVID-19-related tests. The division's base business (i.e., excluding the portfolio of COVID-19 related products) grew by 7% at CER and across all regions, with immunodiagnostics, particularly cardiac tests, being the main growth driver. The Diagnostics Division's portfolio of COVID-19 tests generated sales of CHF 0.8 billion in 2023 compared to CHF 4.1 billion in 2022, a decline of 80% at CER.

Group results of operations for 2023 – Divisional breakdown

	Pharmaceuticals	Diagnostics	Corporate	Group
	(CHF in millions, except percentage data)			
Sales	44,612	14,104	–	58,716
Core Operating profit	19,989	2,668	(3,417)	19,240
Margin, % of sales	44.8	18.9	–	32.8
Operating profit	17,132	2,171	(3,908)	15,395
Margin, % of sales	38.4	15.4	–	26.2
Operating free cash flow	17,728	1,677	(3,637)	15,768
Margin, % of sales	39.7	11.9	–	26.9

Group results of operations, 2023 compared to 2022 (restated) – Divisional breakdown[(1)]

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales				
% change in CHF	-2	-20	–	-7
% change at CER	+6	-13	–	+1
Operating profit - IFRS basis				
% change in CHF	+2	-48	+14	-12
% change at CER	+14	-32	+16	+3
Core operating profit				
% change in CHF	-5	-39	+2	-13
% change at CER	+5	-24	+5	-1
Operating free cash flow				
% Change in CHF	0	-50	+7	-11
% change in CER	+12	-35	+10	+4

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

The IFRS operating profit decline of 12% (as reported in Swiss francs due to appreciation of Swiss franc and growth of 3% at CER) and core operating profit decline of 13% (1% at CER) reflected the continued investments in research and development and the base effect (i.e., the non-recurrence in 2023) of the *Ultomiris* patent settlement in 2022 in the Pharmaceuticals Division and the decrease in COVID-19-related sales in the Diagnostics Division. The 2023 results for the Roche Group include CHF 2.0 billion for restructuring costs, CHF 1.2 billion for goodwill and intangible asset impairment charges and CHF 0.7 billion for intangible asset amortization charges.

In the Pharmaceuticals Division, the increase in IFRS operating profit of 2% (14% at CER) from CHF 16.8 billion in 2022 to CHF 17.1 billion in 2023 was mainly due to lower charges for impairment of goodwill and intangible assets of CHF 1.2 billion in 2023 compared to CHF 2.8 billion in 2022. The IFRS cost of sales decreased by 18% to CHF 9.1 billion. Core cost of sales decreased by 6% (1% at CER) to CHF 8.3 billion. This is because the underlying manufacturing costs were broadly in line with the increase in sales volumes, while being impacted by factors related to COVID-19 products. Higher royalty expenses were offset by lower collaboration and profit-share costs. The IFRS research and development costs decreased by 8% to CHF 12.4 billion. Core research and development costs were CHF 11.5 billion, an increase of 1% (6% at CER). Oncology remained the primary area of research and development and the main driver of the growth. Neuroscience, ophthalmology and immunology also represented significant areas of spending. In research and early-stage development, the increase in costs was mostly driven by investments in computational biology. In addition, depreciation expenses for new research facilities contributed to

the growth in costs. The IFRS selling, general and administration costs increased by 5%. Core selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 6% at CER to CHF 7.2 billion, mainly due to marketing and distribution costs for ongoing launches, especially of *Vabysmo*. The IFRS other operating income (expense) decreased by 70%. Core other operating income (expense) decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 3% at CER to CHF 0.8 billion and included CHF 0.6 billion gains on the disposal of products.

In the Diagnostics Division, IFRS operating profit decreased by 48% (32% at CER) to CHF 2.2 billion, driven by the 39% (24% at CER) decline in core operating profit and higher expenses from global restructuring plans resulting from various productivity initiatives launched in 2023. The IFRS and core operating profit decreased by 48% (32% at CER) and 39% (24% at CER), respectively, due to the sharp decline of COVID-19-related sales. The IFRS cost of sales decreased by 16%. Core cost of sales decreased by 19% (15% at CER) to CHF 6.9 billion because of a mix effect (i.e. effect from having a different product mix compared to 2022) from the lower sales volumes of SARS-CoV-2 Rapid Antigen tests. IFRS research and development costs remained stable as reported in Swiss francs while core research and development costs decreased by 5% (1% at CER) to CHF 1.7 billion following targeted productivity measures. Investments in digital solutions and sequencing remained significant areas of investment. The IFRS selling, general and administration costs decreased by 4%. Core selling, general and administration costs decreased by 7% as reported in Swiss francs due to appreciation of the Swiss franc and remained stable at CER with lower distribution costs related to SARS-CoV-2 Rapid Antigen tests being partly offset by higher inventory write-offs.

In the overall results for the Roche Group, the decrease in cost of sales as a percentage of sales was driven by the improved gross margins within both divisions and also by a divisional mix effect (i.e. effect from having a different product mix compared to 2022) from the increased sales of the Pharmaceuticals Division and the lower COVID-19-related sales in the Diagnostics Division, coupled with the different gross margins of the two divisions.

Financing costs increased by 50% (59% at CER) to CHF 1.0 billion, mainly due to additional interest expenses from new debt as well as increases in interest rates which affected short-term borrowing costs. Other financial income (expense) was a net expense of CHF 0.3 billion, with the major item being net foreign exchange losses and losses on net monetary position in hyperinflationary economies following the devaluation in Argentina in December 2023. The Roche Group's effective IFRS tax rate decreased by 4.9 percentage points to 12.2% compared to 17.1% in 2022 due to the impact from the resolution of several tax disputes and due to the deferred tax impacts from the global restructuring plans partially offset by the impairments of goodwill and certain intangible assets that are not tax deductible. The Roche Group's core tax rate decreased to 11.9% compared to 16.4% in 2022. The decrease was mainly due to the impact from the resolution of several tax disputes which reduced the Roche Group's effective core tax rate by 4.3 percentage points in 2023 compared to 1.5 percentage points in 2022. The lower percentage of core profit contribution coming from tax jurisdictions with tax rates higher than the Roche Group's average tax rate further reduced the Roche Group's effective core tax rate.

IFRS net income decreased by 9% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 7% at CER to CHF 12.4 billion. The amount of net income attributable to non-controlling interests decreased by 23% (15% at CER) on both an IFRS and core basis, due to the base effect (i.e. the non-recurrence in 2023) of the *Ultomiris* patent settlement income at Chugai in 2022.

Competition from biosimilar and generic medicines

The Roche Group's pharmaceutical products are generally protected by patent rights, which are intended to provide the Group with exclusive marketing rights in various countries. However, patent rights are of varying scope and duration, and the Group may be required to enter into costly litigation to enforce its patent and other intellectual property rights. Loss of market exclusivity for one or more major products – either due to patent expiration, challenges from generic medicines, biosimilars and non-comparable biologics or other reasons – could have a material adverse effect on the Group's business, results of operations or financial condition. The introduction of a generic, biosimilar or non-comparable biologic version of the same or a similar medicine usually results in a significant reduction in net sales for the relevant product, as other manufacturers typically offer their versions at lower prices.

Patents and their expiry are, and always have been, an integral part of the Group's business model and future growth will remain driven by innovation.

MabThera/Rituxan, Herceptin and *Avastin*

The Roche Group's basic, primary patents for these three products have expired worldwide. Sales, including regional breakdowns, for *MabThera/Rituxan, Herceptin* and *Avastin* are disclosed in the Pharmaceuticals Division's operating results and are summarized in the table below. The year-on-year movements were also driven by regular price and volume changes. Biosimilar competition is only one factor in the overall picture.

Total *MabThera/Rituxan*, *Herceptin* and *Avastin* sales

	2023 (CHF m)	2022 (CHF m)	% change (CHF)	% change (CER)	% divisional sales (2023)	% divisional sales (2022)
United States	1,802	2,426	-26	-21	4.0	5.3
Europe	631	819	-23	-20	1.4	1.8
Japan	372	573	-35	-26	0.8	1.3
International	2,024	2,521	-20	-10	4.6	5.5
Total sales	**4,829**	**6,339**	**-24**	**-17**	**10.8**	**13.9**

The first biosimilar versions of *Herceptin* and *Avastin* were launched in the United States from mid-2019 and the first biosimilar versions of *MabThera/Rituxan* in late 2019. In Europe, the first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched from mid-2017 and from mid-2018, respectively, and are now marketed in most EU countries. The first biosimilar versions of *Avastin* came to market in Europe from mid-2020. The first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched in Japan in 2018. Biosimilar versions of *Avastin* were launched in Japan in late 2019 in the colorectal cancer indication, in 2020 in the non-small cell lung cancer indication, in 2022 in the breast cancer indication and in 2023 in the ovarian cancer indication. Sales of these three products in Japan were impacted by government price cuts as well as biosimilar competition. In the International region, biosimilar versions of all three products have been launched in many countries and this, together with the impacts of regular price and volume changes, has led to the decline in sales.

Lucentis

The Roche Group's basic, primary patents have expired in the United States. The first biosimilar version of *Lucentis* with a restricted label came to market in the United States in the third quarter of 2022. Sales in the United States of *Lucentis* were CHF 460 million compared to CHF 1,012 million in 2022, a decline of 55% (52% at CER) due to competitive pressure.

Esbriet

The first generic versions of *Esbriet* came to market in the second quarter of 2022. The sales of *Esbriet* were CHF 202 million compared to CHF 718 million in 2022, a decline of 72% (70% at CER).

Actemra/RoActemra

The Roche Group's basic, primary patents have expired in the United States and the EU. The first biosimilar versions of *Actemra/RoActemra* came to market in the EU in the fourth quarter of 2023. Based on publicly available information, the Roche Group currently anticipates that the first biosimilar versions could come to market in the United States in the first half of 2024. Global sales of *Actemra/RoActemra* were CHF 2,630 million compared to CHF 2,701 million in 2022, a decrease of 2.6% as reported in Swiss francs due to appreciation of the Swiss franc and an increase of 5% at CER driven by the performance in the immunology therapeutic area despite lower demand from hospitalized patients with COVID-19.

Pharmaceuticals Division

Pharmaceuticals Division results for 2023

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
IFRS results				
Sales	44,612	45,551	-2	+6
Other revenue	1,667	2,465	-32	-27
Revenue	**46,279**	**48,016**	**-4**	**+4**
Cost of sales	(9,083)	(11,040)	-18	-13
Research and development	(12,352)	(13,384)	-8	-2
Selling, general and administration	(7,945)	(7,598)	+5	+12
Other operating income (expense)	233	772	-70	-69
Operating profit - IFRS basis	**17,132**	**16,766**	**+2**	**+14**
- margin, % of sales	38.4	36.8	+1.6	+3.0
Core operating profit	**19,989**	**21,131**	**-5**	**+5**
- margin, % of sales	44.8	46.4	-1.6	-0.4
Net operating assets	**36,506**	**32,556**	**+12**	**+22**
Operating free cash flow	17,728	17,694	0	+12
- margin, % of sales	39.7	38.8	+0.9	+2.3

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

In the Pharmaceuticals Division, the appreciation of the Swiss franc against many currencies had an adverse net impact on the results as reported in Swiss francs of 8 percentage points on sales, 12 percentage points on IFRS operating profit and 10 percentage points on core operating profit.

Sales

Sales in the Pharmaceuticals Division were CHF 44.6 billion in 2023 compared to CHF 45.6 billion in 2022, a 2% decrease as reported in Swiss francs due to appreciation of the Swiss franc. The sales increased by 6% at CER, driven by growing demand for *Vabysmo*, *Ocrevus*, *Hemlibra*, *Polivy* and *Phesgo*, which together contributed an additional CHF 3.2 billion (CHF 4.3 billion at CER) of sales. Sales of *MabThera/Rituxan, Herceptin* and *Avastin* decreased by a combined CHF 1.5 billion or 24% (CHF 1.1 billion or 17% at CER), as the impact of biosimilar competition continued, but to a lower extent.

Sales of *Ocrevus* were CHF 6.4 billion, an increase of 6% (13% at CER), which included a 4% growth (11% at CER) in the United States. *Hemlibra* reported sales of CHF 4.1 billion, an increase of 8% (16% at CER), led by the sales in the United States in the non-inhibitor segment. Sales of *Perjeta* were CHF 3.8 billion, with growth in the International region being partly offset by a decline in sales in the United States as a result of an adjustment in the reserves related to U.S. governmental plans. *Tecentriq* sales were CHF 3.8 billion, with growth of 1% (9% at CER) across all regions. *Vabysmo* was a major growth driver with sales of CHF 2.4 billion mainly in the United States.

Sales in the oncology therapeutic area decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc. The sales increased by 4% at CER, with the growth being driven by *Polivy*, *Phesgo* and *Tecentriq*, partially offset by the biosimilar competition for *MabThera/Rituxan*, *Herceptin* and *Avastin*. *Phesgo* sales were CHF 1.1 billion with a growth of 51% (64% at CER) in all regions. *Polivy* sales increased by 92% (108% at CER) to CHF 0.8 billion across all regions, notably in the United States and Japan.

Sales in neuroscience grew by 8% (16% at CER) mainly due to *Ocrevus* and *Evrysdi*, with *Enspryng* also contributing to the sales growth. In the immunology therapeutic area, *Actemra/RoActemra* sales decreased by 3% as

reported in Swiss francs due to appreciation of the Swiss franc and increased by 5% at CER due to the lower demand from hospitalized patients with COVID-19. *Xolair* sales in the United States were 1% lower as reported in Swiss francs due to appreciation of the Swiss franc and 5% higher at CER, while sales of *Esbriet* were 72% (70% at CER) lower as a result of generic competition, which was the main contributor to the overall 13% (7% at CER) sales decline in immunology.

Sales in the hemophilia A therapeutic area grew by 8% (16% at CER) due to the continued growth of *Hemlibra* in the non-inhibitor segment. Sales in ophthalmology significantly increased, reflecting the growth in *Vabysmo* sales, partially offset by the 55% (52% at CER) decrease in *Lucentis* sales in the United States due to competitive pressure. For infectious diseases, *Ronapreve* sales decreased by 69% (65% at CER) reflecting the lower sales due to the evolving COVID-19 situation. In other therapeutic areas, sales of *Activase/TNKase* remained stable as reported in Swiss francs and were 6% higher at CER mainly driven by the demand in the acute ischemic stroke indication.

Sales by therapeutic area

Therapeutic area	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of sales (2023)	% of sales (2022)
Oncology	19,087	19,995	-5	+4	42.8	43.9
Neuroscience	8,445	7,817	+8	+16	18.9	17.2
Immunology	6,242	7,181	-13	-7	14.0	15.8
Hemophilia A	4,147	3,823	+8	+16	9.3	8.4
Ophthalmology[(1)]	2,865	1,651	+74	+85	6.4	3.6
Infectious diseases	1,056	2,161	-51	-45	2.4	4.7
Other therapeutic areas[(1)]	2,770	2,923	-5	+3	6.2	6.4
Total sales	**44,612**	**45,551**	**-2**	**+6**	**100**	**100**

(1) In 2023, sales of the 'Ophthalmology' therapeutic area included sales of *Luxturna*. These were previously shown as part of 'Other therapeutic areas'. The comparative information for 2022 has been restated accordingly. Sales of *Luxturna* for 2022 were CHF 46 million.

Sales of products

Product	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of sales (2023)	% of sales (2022)
Oncology						
Perjeta	3,768	4,087	-8	+1	8.4	9.0
Tecentriq	3,766	3,717	+1	+9	8.4	8.2
Kadcyla	1,966	2,080	-5	+4	4.4	4.6
Herceptin	1,626	2,142	-24	-16	3.6	4.7
Avastin	1,573	2,122	-26	-19	3.5	4.7
Alecensa	1,502	1,513	-1	+8	3.4	3.3
MabThera/Rituxan[(1)]	1,261	1,599	-21	-15	2.8	3.5
Phesgo	1,120	740	+51	+64	2.5	1.6
Polivy	837	437	+92	+108	1.9	1.0
Gazyva/Gazyvaro	811	730	+11	+19	1.8	1.6
Erivedge	245	271	-10	0	0.5	0.6
Others	612	557	+10	+21	1.6	1.1
Total Oncology	**19,087**	**19,995**	**-5**	**+4**	**42.8**	**43.9**
Neuroscience						
Ocrevus	6,381	6,036	+6	+13	14.3	13.3
Evrysdi	1,419	1,119	+27	+39	3.2	2.5
Madopar	355	379	-6	0	0.8	0.8
Enspryng	256	192	+33	+49	0.6	0.4
Others	34	91	-63	-64	0.0	0.2

Product	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of sales (2023)	% of sales (2022)
Total Neuroscience	**8,445**	**7,817**	**+8**	**+16**	**18.9**	**17.2**
Immunology						
Actemra/RoActemra	2,630	2,701	-3	+5	5.9	5.9
Xolair	2,176	2,208	-1	+5	4.9	4.8
Pulmozyme	452	543	-17	-10	1.0	1.2
CellCept	393	503	-22	-14	0.9	1.1
MabThera/Rituxan[(1)]	369	476	-22	-17	0.8	1.0
Esbriet	202	718	-72	-70	0.5	1.6
Others	20	32	-38	-30	0.0	0.2
Total Immunology	**6,242**	**7,181**	**-13**	**-7**	**14.0**	**15.8**
Hemophilia A						
Hemlibra	4,147	3,823	+8	+16	9.3	8.4
Total Hemophilia A	**4,147**	**3,823**	**+8**	**+16**	**9.3**	**8.4**
Ophthalmology[(2)]						
Vabysmo	2,357	591	+299	+324	5.3	1.3
Lucentis	460	1,012	-55	-52	1.0	2.2
Others	48	48	0	+6	0.1	0.1
Total Ophthalmology	**2,865**	**1,651**	**+74**	**+85**	**6.4**	**3.6**
Infectious Diseases						
Ronapreve	525	1,679	-69	-65	1.2	3.7
Others	531	482	+10	+22	1.2	1.0
Total Infectious Diseases	**1,056**	**2,161**	**-51**	**-45**	**2.4**	**4.7**
Other therapeutic areas[(2)]						
Activase/TNKase	1,173	1,177	0	+6	2.6	2.6
Mircera	426	408	+4	+13	1.0	0.9
Others	1,171	1,338	-12	-3	2.6	2.9
Total other therapeutic areas	**2,770**	**2,923**	**-5**	**+3**	**6.2**	**6.4**
Total sales	**44,612**	**45,551**	**-2**	**+6**	**100**	**100**

(1) Total *MabThera/Rituxan* sales of CHF 1,630 million (2022: CHF 2,075 million) split between oncology and immunology therapeutic areas.

(2) In 2023, sales of the 'Ophthalmology' therapeutic area included sales of *Luxturna*. These were previously shown as part of 'Other therapeutic areas'. The comparative information for 2022 has been restated accordingly. Sales of *Luxturna* for 2022 were CHF 46 million.

Ocrevus

Ocrevus is used for relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS). There was continuously growing demand in both indications primarily driven by the United States, with the growth coming from both new and retained patients. Elsewhere, *Ocrevus* continued to show high uptake, notably in Germany, Italy and Brazil.

Hemlibra

Hemlibra is used for hemophilia A. Sales growth continued, especially in the United States in the non-inhibitor segment. In Europe and the International region, sales grew across major markets. Sales in Japan decreased as reported in Swiss franc due to the appreciation of the Swiss franc and increased at CER terms as a result of further market penetration.

HER2 Franchise (Perjeta, Kadcyla, Herceptin and Phesgo)

The Roche Group's HER2 products are used for HER2-positive breast cancer and HER2-positive metastatic (advanced) gastric cancer (*Herceptin* only). Sales in the HER2 franchise decreased by 6% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 3% at CER to CHF 8.5 billion. Sales of *Perjeta* fell by 8% as reported in Swiss francs due to appreciation of the Swiss franc and grew by 1% at CER due to the International region, particularly China and Brazil, being a key contributor to sales. This was partly offset by a decline in sales in the United States as a result of an adjustment in the reserves related to U.S. governmental plans. Excluding this adjustment, *Perjeta* sales in the United States showed a growth of 1% at CER. Sales of *Perjeta* in Europe were lower following the launch of *Phesgo*. Sales of *Kadcyla* decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 4% at CER, with sales growth in the International region, mainly in China, being partially offset by a sales decline in Europe, the United States and Japan. *Herceptin* sales were 24% (16% at CER) lower as a result of biosimilar erosion. *Phesgo* sales showed a considerable uptake in Europe, the United States and the International region due to continued switching of patients to *Phesgo* as the treatment preferred over *Perjeta* and *Herceptin*.

Tecentriq

Tecentriq is used for extensive-stage small cell lung cancer (SCLC), initial therapy of non-squamous non-small cell lung cancer (NSCLC), advanced lung cancer, unresectable or metastatic hepatocellular carcinoma (HCC), advanced bladder cancer and PD-L1-positive triple-negative breast cancer (TNBC). Sales increased by 1% (9% at CER) with growth at CER across all regions. In Europe, the growth was mainly driven by the SCLC and HCC indications. In the International region, China was the key growth driver. In Japan, the sales increase at CER came from growth in the NSCLC adjuvant indication. Sales in the United States were lower by 2% as reported in Swiss francs due to the appreciation of the Swiss franc and higher by 4% at CER due to the NSCLC adjuvant indication.

Vabysmo

Vabysmo is used for neovascular or "wet" age-related macular degeneration (nAMD), diabetic macular edema (DME) and in the United States also for macular edema following retinal vein occlusion (RVO). Sales in the United States showed a high uptake following approval in January 2022 and there was continued growth of market share in nAMD and DME, driven by new patients and patients switching from existing treatment options. In Europe, the UK and Germany were the main growth drivers. Sales also grew in Japan and in the International region, driven by sales in Australia and Canada.

Actemra/RoActemra

Actemra/RoActemra is used for rheumatoid arthritis, forms of juvenile idiopathic arthritis, giant cell arteritis, CAR T-cell-induced severe or life-threatening cytokine release syndrome and COVID-19. Sales decreased by 3% as reported in Swiss francs due to appreciation of the Swiss franc and increased 5% at CER, mainly in the United States, despite lower demand from hospitalized patients with COVID-19. The demand outside of COVID-19 increased based on continued confidence in the medicine, especially in the rheumatoid arthritis segment. The first biosimilar versions of *Actemra/RoActemra* came to market in the EU in the fourth quarter of 2023. Based on publicly available information, the Roche Group currently anticipates that the first biosimilar versions could come to market in the United States in the first half of 2024.

Xolair

Xolair is used for chronic spontaneous urticaria and allergic asthma. Sales decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 5% at CER due to the chronic spontaneous urticaria indication and stabilization of new patient share in the allergic asthma indication. *Xolair* is the only biologic approved for chronic spontaneous urticaria and remains a market leader in the larger allergic asthma indication.

MabThera/Rituxan

MabThera/Rituxan is used for non-Hodgkin lymphoma (NHL), chronic lymphocytic leukemia (CLL), follicular lymphoma (FL), pemphigus vulgaris (PV), rheumatoid arthritis (RA) as well as certain types of antineutrophil

cytoplasmic antibody (ANCA)-associated vasculitis. Sales were 21% (15% at CER) lower due to biosimilar erosion across all regions. Sales in the United States decreased by 25% (20% at CER), with a decline in both the oncology and immunology segments.

Avastin

Avastin is used for advanced colorectal, breast, lung, kidney, cervical and ovarian cancer, relapsed glioblastoma and liver cancer in combination with *Tecentriq*. Sales decreased across all regions, mainly in Japan and the United States due to the continuing impact of biosimilars. The sales decline in Europe was driven by Germany and Italy, while in the International region, the main reason for the sales decline was biosimilar competition in China.

Alecensa

Alecensa is used for ALK-positive non-small cell lung cancer (NSCLC). Despite a 1% decrease in sales as reported in Swiss francs due to appreciation of the Swiss franc, the 8% increase at CER was due to the continued global uptake. The International region was one of the main contributors to total sales, notably China following the inclusion in the National Reimbursement Drug List (NRDL). In the United States, *Alecensa* remains the standard of care, and the growth was driven by new and continuing patients.

Evrysdi

Evrysdi is used for spinal muscular atrophy (SMA). Sales were 27% (39% at CER) higher, due to continuous gains in patient share including expansion into adult patient population and there was sales growth across all regions. In Europe the growth continued in all markets, including in Spain where *Evrysdi* was recently launched. In the International region, Brazil, Canada and China were among the growth drivers.

Activase/TNKase

Activase/TNKase is used for acute ischemic stroke (AIS) and acute myocardial infarction (AMI). Sales remained stable as reported in Swiss francs and were 6% higher at CER mainly due to increasing demand for the AIS indication in the United States.

Ronapreve

Ronapreve is used for the treatment of recently diagnosed high-risk patients with mild to moderate COVID-19. Sales of *Ronapreve* decreased by 69% (65% at CER) reflecting lower sales due to the evolving COVID-19 situation.

Lucentis

Lucentis is used for neovascular or “wet” age-related macular degeneration (nAMD), macular edema following retinal vein occlusion (RVO), diabetic macular edema (DME) and diabetic retinopathy (DR). The first biosimilar version of *Lucentis* with a restricted label came to market in the United States in the third quarter of 2022. Sales in the United States decreased by 55% (52% at CER) due to the ongoing switch of patients from *Lucentis* to *Vabysmo* and competitive pressure.

Sales by region

Sales by region in 2023 and 2022

Region	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of sales (2023)	% of sales (2022)
United States	23,606	23,322	+1	+8	52.9	51.2
Europe	8,306	8,143	+2	+6	18.6	17.8
Japan	3,745	4,949	-24	-14	8.4	10.9
International	8,955	9,137	-2	+13	20.1	20.1
- of which China	*2,875*	*3,039*	*-5*	*+6*	*6.4*	*6.7*

Region	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of sales (2023)	% of sales (2022)
Total sales	**44,612**	**45,551**	**-2**	**+6**	**100**	**100**

In the United States, sales grew by 1% (8% at CER) due to increased sales of *Vabysmo*, *Ocrevus*, *Hemlibra*, *Polivy* and *Phesgo*, partially offset by a combined 26% (21% at CER) fall in *MabThera/Rituxan*, *Herceptin* and *Avastin* sales and also by lower sales of *Lucentis* and *Esbriet*. *Vabysmo* showed a high uptake, with both new patients and patients switching from other medications and achieved CHF 1.9 billion of sales. *Ocrevus* sales increased by 4% (11% at CER) to CHF 4.7 billion and were driven by both new and retained patients. *Hemlibra* sales were 8% higher (14% at CER) due to continued growth in the non-inhibitor segment. *Polivy* sales increased by 106% (119% at CER) as a result of higher demand for the first-line treatment of diffuse large B-cell lymphoma (1L DLBCL). *Phesgo* sales increased by 39% (48% at CER), attributed to the continued switching of patients to *Phesgo* as the treatment preferred over *Perjeta* and *Herceptin*. *Lucentis* and *Esbriet* sales decreased by 55% and 76% respectively (52% at CER and 74% at CER respectively) due to competitive pressure.

In Europe, sales increased by 2% (6% at CER) driven by the launch of *Vabysmo* and uptake of *Phesgo*, *Evrysdi*, *Hemlibra* and *Ocrevus*, partially offset by a combined sales decline of 23% (20% at CER) for *MabThera/Rituxan*, *Herceptin* and *Avastin*. The uptake of *Vabysmo* was driven by the UK and Germany. The high uptake of *Phesgo* resulted in a 46% (52% at CER) sales growth, with Spain, Italy, Romania and France being the key drivers. There was a sales growth of 44% (49% at CER) for *Evrysdi*, with the main drivers being Italy, Germany, France and Spain. *Hemlibra* sales growth of 14% (18% at CER) was driven by France and Germany. *Ocrevus* sales increased by 8% (12% at CER) due to continued growth across major markets, primarily in Germany and Italy. Sales of *Ronapreve* were lower.

In Japan, sales decreased by 24% (14% at CER), mainly due to lower *Ronapreve* sales and reduced sales of *Avastin* arising from biosimilar competition. These were partially offset by sales growth of new products such as *Polivy* and *Vabysmo*. Price cuts in Japan had an impact across the portfolio.

In International, sales decreased by 2% as reported in Swiss francs due to appreciation of the Swiss franc. Sales increased by 13% at CER, led by *Perjeta*, *Kadcyla*, *Evrysdi*, *Ocrevus* and *Tecentriq*. Sales in China decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 6% at CER mainly driven by *Tamiflu*, *Xofluza*, *Polivy*, *Tecentriq* and *Perjeta*, partially offset by biosimilar erosion of *MabThera/Rituxan*, *Herceptin* and *Avastin* and lower sales of *CellCept*.

Operating Results

Other revenue

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Royalty income	835	924	-10	-6
Profit-share income	695	689	+1	+7
Other income from collaboration and out-licensing agreements	124	842	-85	-83
Other	13	10	+30	+16
Total - IFRS and Core basis	**1,667**	**2,465**	**-32**	**-27**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

Other revenue

Other revenue decreased by 32% (27% at CER) to CHF 1.7 billion. Royalty income was 10% (6% at CER) lower, mainly due to lower *Lucentis* royalties following a decline in sales outside the United States. Profit-share income was 1% (7% at CER) higher due to the increase in income from the United States sales of *Venclexta/Venclyxto* and sales of *Xolair* outside the United States. Other income from collaboration and out-licensing agreements decreased significantly due to the *Ultomiris* patent settlement income of CHF 726 million in 2022.

Cost of sales

	2023	2022[1]	% Change (in CHF)	% Change (CER)
	(CHF in millions, except percentage data)			
Cost of sales - IFRS basis	**(9,083)**	**(11,040)**	**-18**	**-13**
Global restructuring plans	316	251	+26	+32
Amortization of intangible assets	241	412	-42	-39
Impairment of intangible assets	183	1,472	-88	-87
Cost of sales - Core basis	**(8,343)**	**(8,905)**	**-6**	-1
Thereof:				
Manufacturing cost of goods sold and period costs	(5,042)	(5,181)	-3	+1
Royalty expenses	(1,729)	(1,614)	+7	+15
Collaboration and profit-sharing agreements	(1,547)	(2,076)	-25	-20
Amortization of commercial software intangible assets	(3)	(3)	0	+9
Impairment of property, plant and equipment and right-of-use assets	(22)	(31)	-29	-17

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

IFRS cost of sales decreased by 18% (13% at CER) to CHF 9 billion. Core cost of sales decreased by 6% (1% at CER) to CHF 8.3 billion. As a percentage of sales, the core cost of sales decreased by 0.8 percentage points to 18.7%. Manufacturing costs were impacted in 2023 by various factors related to COVID-19 products, including a release of unutilized provisions previously recorded for the COVID-19 response related to *Ronapreve* and AT-527. In addition there was an overall positive product mix and lower distribution costs. Excluding these, manufacturing costs were broadly in line with the increase in sales volumes. Royalty expenses were 7% (15% at CER) higher driven by increased sales of certain royalty-bearing products, notably *Ocrevus* and *Evrysdi*. Collaboration and profit-share expenses decreased by 25% (20% at CER) as a result of lower sales of *Ronapreve* outside of the United States and *MabThera/Rituxan* in the United States.

The costs of global restructuring plans were higher due to the manufacturing network strategy review mainly affecting the United States sites. The decrease in amortization charges of intangible assets was primarily attributable to the impairments recorded in 2022 in relation to Gavreto, Rozlytrek and the technologies of Flatiron Health and Foundation Medicine. In 2023 a further partial impairment was recorded in relation to Rozlytrek triggered by reduced sales expectations.

Research and development

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Research and development - IFRS basis	**(12,352)**	**(13,384)**	**-8**	**-2**
Global restructuring plans	155	263	-41	-36
Amortization of intangible assets	301	336	-10	-7
Impairment of intangible assets	406	1,365	-70	-69
Total - Core basis	**(11,490)**	**(11,420)**	**+1**	**+6**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

IFRS research and development costs were CHF 12.4 billion, a decrease of 8% (2% at CER). Core research and development costs increased by 1% (6% at CER) and, as a percentage of sales, increased by 0.7 percentage points to 25.8%. Oncology remained the primary area of research and development and the main driver of the growth. Neuroscience, ophthalmology and immunology also represented significant areas of spending. The increase in spending was mainly driven by a study of giredestrant, a next-generation selective estrogen receptor degrader for people with hormone receptor-positive HER2-negative breast cancer and a study of astegolimab in chronic obstructive pulmonary disease together with further investments made in oncology and multiple sclerosis. This was partially offset by decreased spend in studies of some molecules, notably for gantenerumab following the negative trial readout in November 2022. In research and early-stage development, the increase in costs was mostly driven by investments in computational biology. Investments made in new facilities additionally contributed to the increased costs, including the Clinical Supply Center in South San Francisco, United States, and the Chugai Life Science Park in Yokohama, Japan. Both facilities started initial operations in the second half of 2022 with a consequent impact on depreciation expenses.

Additionally, in-licensing transactions, business combinations and asset acquisitions resulted in intangible assets of CHF 7.2 billion in 2023 compared to CHF 1.2 billion in 2022 being recognized, of which CHF 6.2 billion arose from the Telavant asset acquisition.

Global restructuring plan expenses mainly related to the infrastructure strategy optimization program as well as employee-related expenses based on the new research and development productivity and portfolio prioritization initiatives. Amortization of intangible assets decreased as a result of the impairments recognized in 2022. Impairment charges for intangible assets of CHF 0.4 billion related to assets in development were mainly triggered by the decision to discontinue the programs.

Selling, general and administration

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Selling, general and administration - IFRS basis	**(7,945)**	**(7,598)**	**+5**	**+12**
Global restructuring plans	721	261	+176	+191
Amortization of intangible assets	9	13	-31	-20
Total - Core basis	**(7,215)**	**(7,324)**	**-1**	**+6**
Thereof:				
Marketing and distribution	(5,836)	(5,916)	-1	+6
Administration	(1,104)	(1,193)	-7	-1
Business taxes and capital taxes	(173)	(160)	+8	+18
Other general items	(102)	(55)	+85	+90

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

IFRS selling, general and administration costs were CHF 7.9 billion, an increase of 5% (12% at CER). Core selling, general and administration costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 6% at CER. As a percentage of sales, core selling, general and administration costs increased by 0.1 percentage points to 16.2%. Marketing and distribution costs decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 6% at CER, reflecting the investments in ongoing launches, especially of *Vabysmo* (at CER). Business taxes and capital taxes increased due to the relatively low U.S. excise tax in 2022, while the higher costs in other general items were caused by various items including costs for the underutilization of facilities post-COVID-19 and higher energy costs. Costs for global restructuring plans included

asset impairments at sites in the United States driven by infrastructure optimization and business process transformations.

Other operating income (expense)

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Other operating income (expense) - IFRS basis	**233**	**772**	**-70**	**-69**
Global restructuring plans	(80)	14	–	–
Impairment of goodwill	591	0	–	–
Mergers and acquisitions and alliance transactions	14	(6)	–	–
Legal and environment cases	0	(16)	–	–
Total - Core basis	**758**	**764**	**-1**	**+3**
Thereof:				
Gains (losses) on disposal of products	558	612	-9	-6
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	7	5	+40	+74
Pensions - past service costs	0	4	–	–
Other income (expense)	193	143	+35	+43

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

IFRS other operating income (expense) was CHF 233 million, a decrease of 70% (69% at CER). Core other operating income (expense) decreased by 1% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 3% at CER. This was driven by a 35% (43% at CER) increase in other income (expense) mainly due to higher income from positive resolution of disputes in some countries. Gains on disposal of products in 2023 included the sale of rights for *Rocephin* in China for CHF 260 million and the sale of rights for *Xeloda* in China and Japan for CHF 235 million. In 2022, the gains on disposal of products included CHF 272 million for the sale of rights for *Rocaltrol* in China, the sale of global rights for *Valcyte* for CHF 185 million and the sale of global rights for *Xeloda* excluding China and Japan for CHF 150 million.

Income from global restructuring plans was related to the gain from the disposal of property. The goodwill resulting from the Foundation Medicine acquisition was fully impaired. Legal and environmental cases income recorded in 2023 included the reimbursement of a fine imposed in 2020 by the French Competition Authority on the *Avastin/Lucentis* investigation following a court decision. This was largely offset by the increase in provisions for environmental matters at the Clarecastle site in Ireland.

Roche Pharmaceuticals and Chugai subdivisional operating results

Pharmaceuticals subdivisional operating results

	Roche Pharmaceuticals		Chugai		Pharmaceuticals Division[1]	
	2023	2022[2]	2023	2022[2]	2023	2022[2]
	(CHF in millions, except percentage data)					
Sales						
- External customers	40,867	40,602	3,745	4,949	44,612	45,551
- Within division	1,943	3,384	2,490	2,602	4,433	5,986
Core operating profit	16,664	17,576	2,976	4,052	19,989	21,131
- Margin, % of sales to external customers	40.8	43.3	79.5	81.9	44.8	46.4
Operating profit	13,868	13,275	2,915	3,988	17,132	16,766

	Roche Pharmaceuticals		Chugai		Pharmaceuticals Division[1]	
	2023	2022[2]	2023	2022[2]	2023	2022[2]
	(CHF in millions, except percentage data)					
- Margin, % of sales to external customers	33.9	32.7	77.8	80.6	38.4	36.8
Operating free cash flow	14,233	15,315	3,542	2,359	17,728	17,694
- Margin, % of sales to external customers	34.8	37.7	94.6	47.7	39.7	38.8

(1) The Pharmaceuticals Division's total core operating profit and operating profit both include the elimination of plus CHF 349 million of unrealized intercompany gains between Roche Pharmaceuticals and Chugai in 2023 compared to minus CHF 497 million in 2022.

(2) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

The appreciation of the Swiss franc against the Japanese yen had an adverse impact of approximately 8 percentage points on the Chugai core results when expressed in Swiss francs for the Roche Group's consolidated results. Sales by Chugai (as reported in Japanese yen) to external customers decreased by 24% (14% at CER) due to lower sales of *Ronapreve*. Sales within the division decreased by 4% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 9% at CER due to higher sales of *Hemlibra* and *Alecensa* by Chugai to Roche Pharmaceuticals. Chugai's core operating profit decreased by 27% (19% at CER) driven by the income from the *Ultomiris* patent settlement in 2022 and higher research and development costs. This was partially offset by higher other operating income coming from the sale of product rights. Operating free cash flow at Chugai increased by 50% (69% at CER) due in part to the payment received in 2023 for *Ronapreve* sales recorded in December 2022.

Financial position

Net operating assets

	December 31, 2023	December 31, 2022	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Trade receivables	8,009	8,617	-7	+3	268	(876)
Inventories	4,849	5,259	-8	-1	(5)	(405)
Trade payables	(2,110)	(2,363)	-11	-4	96	157
Net trade working capital	**10,748**	**11,513**	**-7**	**+3**	**359**	**(1,124)**
Other receivables (payables)	(7,302)	(7,722)	-5	+2	(132)	552
Net working capital	**3,446**	**3,791**	**-9**	**+6**	**227**	**(572)**
Property, plant and equipment	14,423	15,788	-9	-3	(380)	(985)
Right-of-use assets	882	845	+4	+14	115	(78)
Goodwill and intangible assets	18,025	13,676	+32	+43	5,454	(1,105)
Provisions	(1,799)	(2,392)	-25	-20	486	107
Other assets (liabilities)	1,529	848	+80	+96	734	(53)
Other net operating assets[1]	**33,060**	**28,765**	**+15**	**+24**	**6,409**	**(2,114)**
Net operating assets	**36,506**	**32,556**	**+12**	**+22**	**6,636**	**(2,686)**

(1) The absolute amount of the movement between the 2023 and 2022 consolidated balances reported in Swiss francs is split between actual 2023 transactions (translated at average rates for 2022) and the currency translation adjustment (CTA) that arises on consolidation. The 2023 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc appreciated against most currencies, with the U.S. dollar and the Japanese yen both having a significant negative translation effect on the net operating assets of the Pharmaceuticals Division.

Net working capital. Trade receivables decreased by 7% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 3% at CER due to increased sales of *Vabysmo* and *Ocrevus* (at CER) that had extended payment terms in the United States. This was partially offset by the receipt of cash from *Ronapreve* sales in Japan in December 2022. The decrease in trade payables of 11% (4% at CER) included payments for the construction of the Yokohama research and development site in Japan. The net liability position for other receivables (payables) decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 2% at CER due to higher other taxes payable partly compensated by lower profit-share expense accruals to Regeneron in relation to *Ronapreve* sales.

Other net operating assets. Property, plant and equipment decreased by 9% (3% at CER) due to depreciation expenses and the transfer of assets at the Vacaville manufacturing site from property, plant and equipment to assets held for sale, which caused a corresponding increase in other assets. This was partially offset by additions for manufacturing investments and site developments. Right-of-use assets increased due to the new lease at Foundation Medicine. The Telavant asset acquisition increased intangible assets by CHF 6.2 billion. Conversely, goodwill decreased due to impairment charges of CHF 0.6 billion for the full write-off of goodwill from the Foundation Medicine acquisition. Provisions decreased due to the release of certain previously recorded positions.

Free cash flow

Operating free cash flow

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit - IFRS basis	**17,132**	**16,766**	**+2**	**+14**
Depreciation, amortization and impairment	3,790	5,306	-29	-25
Provisions	(506)	(248)	+104	+108
Equity compensation plans	634	560	+13	+20
Other	398	150	+165	+179
Operating profit cash adjustments[2]	**4,316**	**5,768**	**-25**	**-21**
Operating profit, net of operating cash adjustments	**21,448**	**22,534**	**-5**	**+5**
(Increase) decrease in net working capital	(714)	(1,745)	-59	-59
Investments in property, plant and equipment	(1,936)	(1,744)	+11	+18
Principal portion of lease liabilities paid	(215)	(274)	-22	-15
Investments in intangible assets	(855)	(1,077)	-21	-19
Operating free cash flow	**17,728**	**17,694**	**0**	**+12**
as % of sales	39.7	38.8	+0.9	+2.3

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

(2) Operating profit cash adjustments consist of the elimination of depreciation, amortization and impairment charges and the replacement of the operating income/expenses for provisions, equity compensation plans and other adjustments with their cash equivalents.

The Pharmaceuticals Division's operating free cash flow remained stable (increased by 12% at CER) at CHF 17.7 billion. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, decreased by 5% as reported in Swiss francs due to appreciation of the Swiss franc and increased by 5% at CER. This was due to an increase in the IFRS operating profit. Net working capital absorbed an additional CHF 714 million of cash, driven by the reasons described above in the 'Financial position' section. Capital expenditure was higher, due to manufacturing investments in the United States and Japan as well as site developments in the United States. Investments in intangible assets were lower compared to the prior year. Cash outflows for mergers and acquisitions, such as the Telavant asset acquisition, are not included in the definition of free cash flow.

Diagnostics Division

Diagnostics Division results for 2023

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Sales	14,104	17,730	-20	-13
Other revenue	58	68	-15	-12
Revenue	**14,162**	**17,798**	**-20**	**-13**
Cost of sales	(7,274)	(8,697)	-16	-12
Research and development	(1,848)	(1,841)	0	+5
Selling, general and administration	(3,042)	(3,170)	-4	+3
Other operating income (expense)	173	59	+193	+214
Operating profit - IFRS basis	**2,171**	**4,149**	**-48**	**-32**
margin, % of sales	15.4	23.4	-8.0	-5.2
Core operating profit	**2,668**	**4,381**	**-39**	**-24**
margin, % of sales	18.9	24.7	-5.8	-3.2
Net operating assets	**15,938**	**16,518**	**-4**	**+5**
Operating free cash flow	1,677	3,382	-50	-35
margin, % of sales	11.9	19.1	-7.2	-4.8

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

In the Diagnostics Division, the appreciation of the Swiss franc against many currencies had an adverse net impact on the results as reported in Swiss francs of 7 percentage points on sales, 16 percentage points on IFRS operating profit and 15 percentage points on core operating profit.

Sales

The Diagnostics Division reported sales of CHF 14.1 billion, a decline of 20% (13% at CER) due to the anticipated significant drop in demand for COVID-19-related tests. Sales in the division's base business (i.e. excluding the portfolio of COVID-19 products) increased by 7% at CER and across all regions, with immunodiagnostic products, particularly cardiac tests, being the main growth drivers. The Diagnostics Division's portfolio of COVID-19 tests generated sales of CHF 0.8 billion in 2023 compared to CHF 4.1 billion in 2022, a decline of 80% (80% at CER).

Sales by customer area

Customer area	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of total sales (2023)	% of total sales (2022)
Core Lab	7,750	7,775	0	+9	55.0	43.9
Molecular Lab	2,220	3,450	-36	-30	15.7	19.5
Pathology Lab	1,388	1,318	+5	+14	9.8	7.4
Point of Care	1,379	3,589	-62	-58	9.8	20.2
Diabetes Care	1,367	1,598	-14	-4	9.7	9.0
Total sales	**14,104**	**17,730**	**-20**	**-13**	100	100

Core Lab

This customer area focuses on central labs and provides diagnostics solutions in the areas of immunoassays, clinical chemistry and custom biotech. Sales remained stable as reported in Swiss francs and increased by 9% at CER due to the 10% at CER growth in immunodiagnostic products, such as cardiac and oncology tests, and the 10% at CER

growth in the clinical chemistry business. Sales grew across all regions, with the largest contributions to the sales growth coming from the Asia-Pacific and Europe, Middle East and Africa (EMEA) regions, which grew by 10% at CER and 9% at CER, respectively.

Molecular Lab

This customer area focuses on molecular labs and provides diagnostics solutions for the detection and monitoring of pathogens, donor screening, sexual health and genomics. Sales declined by 36% as reported in Swiss francs and 30% at CER due to lower COVID-19-related sales for SARS-CoV-2 assays on the cobas 6800/8800 systems. Growth in the underlying base business (i.e. excluding the portfolio of COVID-19 products) included higher sales from blood screening as well as from diagnostics solutions for the detection and monitoring of cervical cancer and from the virology base business.

Pathology Lab

This customer area focuses on pathology labs and provides diagnostics solutions for tissue biopsies and companion diagnostics. These are targeted diagnostics to aid in the choice of specific therapies for each patient. Sales increased by 5% (14% at CER) and across all regions due to growth in the advanced staining and the companion diagnostics businesses.

Point of Care

This customer area provides diagnostics solutions immediately at the point of care, such as in emergency rooms, general practitioners' practices and directly with patients, and includes the SARS-CoV-2 Rapid Antigen tests and blood gas and electrolyte (BGE) tests. Lower sales of the SARS-CoV-2 Rapid Antigen test were the main driver of the 62% (58% at CER) sales decrease. There was growth in the base business (i.e. excluding the portfolio of COVID-19 products), driven by the Liat molecular point-of-care product line.

Diabetes Care

This customer area provides diagnostics solutions for patients and healthcare professionals enabling integrated personalized diabetes management. Sales decreased by 14% (4% at CER) driven by the continued contraction of the blood glucose monitoring market in the United States and major European markets, due to people switching to continuous glucose monitoring systems.

Sales by region

Region	2023 (CHF in millions)	2022 (CHF in millions)	% change (in CHF)	% change (CER)	% of total sales (2023)	% of total sales (2022)
Europe, Middle East and Africa (EMEA) ...	4,768	5,888	-19	-13	33.8	33.2
North America	3,826	5,141	-26	-21	27.1	29.0
- of which United States	*3,424*	*4,518*	*-24*	*-19*	*24.3*	*25.5*
Asia-Pacific	4,496	5,639	-20	-11	31.9	31.8
- of which China	*2,475*	*2,580*	*-4*	*+7*	*17.5*	*14.6*
Latin America	1,014	1,062	-5	+14	7.2	6.0
Total sales	**14,104**	**17,730**	**-20**	**-13**	**100**	**100**

The decrease in global sales was due to the sharp decline in demand for COVID-19 tests. This was partly offset by growth in the division's base business (i.e. excluding the portfolio of COVID-19 products), with sales increasing 7% at CER and across all regions. This was led by higher sales of immunodiagnostic products, notably in the Asia-Pacific region, particularly in China, and in Europe, Middle East and Africa (EMEA).

Operating Results

Other revenue

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Royalty income	43	61	-30	-28
Profit-share income	0	0	–	–
Other income from collaboration and out-licensing agreements	2	0	–	–
Other	13	7	+86	+101
Total - IFRS and Core basis	**58**	**68**	**-15**	**-12**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS and core other revenue decreased by 15% (12% at CER) driven by the base effect (i.e., the non-recurrence in 2023) of lower royalty income following the settlement of a patent dispute in Diabetes Care in 2022.

Cost of sales

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Cost of sales - IFRS basis	**(7,274)**	**(8,697)**	**-16**	**-12**
Global restructuring plans	232	44	+427	+440
Amortization of intangible assets	134	143	-6	-3
Total - Core basis	**(6,908)**	**(8,510)**	**-19**	**-15**
Thereof:				
Manufacturing cost of goods sold and period costs	(6,774)	(8,377)	-19	-15
Royalty expenses	(125)	(130)	-4	-2
Amortization of commercial software intangible assets	(2)	(2)	–	+44
Impairment of property, plant and equipment and right-of-use assets	(7)	(1)	Over +500	+425

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS cost of sales were CHF 7.3 billion, a decrease of 16% (12% at CER). Core cost of sales decreased by 19% (15% at CER) to CHF 6.9 billion due to lower sales volumes of COVID-19-related products. The decrease was higher than the sales decline of 20% (13% at CER) because of the product mix from lower sales volumes of SARS-CoV-2 Rapid Antigen tests. As a percentage of sales, the core cost of sales ratio increased by 1.0 percentage points to 49.0%. Global restructuring plan costs were mainly employee-related expenses as well as impairments of property, plant and equipment following productivity measures and manufacturing and supply chain optimizations.

Research and development

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Research and development - IFRS basis	**(1,848)**	**(1,841)**	**0**	**+5**
Global restructuring plans	75	(2)	–	–
Amortization of intangible assets	7	8	-13	-1

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Impairment of intangible assets	19	0	–	–
Total - Core basis	**(1,747)**	**(1,835)**	-5	-1

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS research and development costs were stable at CHF 1.8 billion as reported in Swiss francs and an increase of 5% at CER. Core research and development costs decreased by 5% (1% at CER) driven by targeted productivity initiatives. Digital solutions and sequencing represented significant areas of spending. In addition, investments continued in diabetes solutions and mass spectrometry. As a percentage of sales, core research and development costs increased to 12.4% from 10.3% in 2022. Global restructuring costs from portfolio prioritization and other measures to drive productivity were incurred for employee-related matters and the termination of contractual obligations.

Selling, general and administration

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Selling, general and administration – IFRS basis	**(3,042)**	**(3,170)**	**-4**	**+3**
Global restructuring plans	124	34	+265	+299
Amortization of intangible assets	19	21	-10	-7
Total – Core basis	**(2,899)**	**(3,115)**	**-7**	**0**
Thereof:				
Marketing and distribution	(2,477)	(2,668)	-7	0
Administration	(400)	(428)	-7	0
Business taxes and capital taxes	(22)	(23)	-4	+6
Other general items	0	4	–	–

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS selling, general and administration costs were CHF 3.0 billion, a decrease of 4% as reported in Swiss francs due to the appreciation of the Swiss franc and an increase of 3% at CER. Core selling, general and administration costs decreased by 7% as reported in Swiss francs (remained stable at CER) to CHF 2.9 billion. Marketing and distribution costs included a drop in distribution costs related to SARS-CoV-2 Rapid Antigen tests that was partly offset by higher inventory write-offs. Administration costs decreased by 7% as reported in Swiss francs due to the appreciation of the Swiss franc (remained stable at CER). On a core basis, selling, general and administration costs as a percentage of sales increased to 20.6% compared to 17.6% in 2022. Costs for global restructuring plans primarily comprised employee-related expenses following productivity measures to remove organizational duplication and drive commercial effectiveness.

Other operating income (expense)

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Other operating income (expense) - IFRS basis	**173**	**59**	**+193**	**+214**

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Global restructuring plans	6	0	–	–
Mergers and acquisitions and alliances transactions	5	(14)	–	–
Legal and environmental cases	(124)	(2)	Over +500	Over +500
Total - Core basis	**60**	**43**	**+40**	**+50**
Thereof:				
Gains (losses) on disposal of products	3	0	–	–
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	1	1	0	+4
Other income and expense	56	42	+33	+45

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS other operating income (expense) was CHF 173 million, an increase of 193% (214% at CER). Core other operating income (expense) increased by 40% (50% at CER) to CHF 60 million. Mergers and acquisitions and alliance transaction costs in 2022 included income of CHF 27 million from the release of contingent consideration provisions. The income from legal and environmental cases in 2023 was due to the reversal of legal provisions.

Financial position

Net operating assets

	December 31, 2023	December 31, 2022	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Trade receivables	3,118	3,108	0	+14	362	(352)
Inventories	2,900	3,346	-13	-8	(278)	(168)
Trade payables	(1,097)	(1,282)	-14	-6	101	84
Net trade working capital	**4,921**	**5,172**	**-5**	**+5**	**185**	**(436)**
Other receivables (payables)	(1,673)	(1,904)	-12	-5	111	120
Net working capital	**3,248**	**3,268**	**-1**	**+11**	**296**	**(316)**
Property, plant and equipment	6,997	7,016	0	+7	460	(479)
Right-of-use assets	299	239	+25	+37	85	(25)
Goodwill and intangible assets	6,193	6,829	-9	-2	(128)	(508)
Provisions	(766)	(832)	-8	-2	17	49
Other assets (liabilities)	(33)	(2)	Over +500	Over +500	(34)	3
Other net operating assets	**12,690**	**13,250**	**-4**	**+3**	**400**	**(960)**
Net operating assets	**15,938**	**16,518**	**-4**	**+5**	**696**	**(1,276)**

Note: The absolute amount of the movement between the 2023 and 2022 consolidated balances reported in Swiss francs is split between actual 2023 transactions (translated at average rates for 2022) and the currency translation adjustment (CTA) that arises on consolidation. The 2023 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

Currency translation effects on balance sheet amounts. Compared to the start of 2023, the Swiss franc appreciated against most currencies, with the U.S. dollar having a significant negative translation effect on the net operating assets of the Diagnostics Division. The Diagnostics Division does not have a significant net asset position in Japanese yen and so the appreciation of the Swiss franc against the Japanese yen had only a minor impact.

Net working capital. The net working capital was CHF 3.2 billion, a decrease of 1% as reported in Swiss francs due to appreciation of the Swiss franc and an 11% increase at CER. The increase at CER in the net working capital was

driven by higher trade receivables due to higher sales in the last quarter of 2023 compared to the same period of 2022 and also due to the base impact (i.e. non-recurrence in 2023) from higher collections towards the end of 2022. Inventories decreased by 13% (8% at CER) due to lower inventory levels of COVID-19-related products. Trade payables decreased by 14% (6% at CER) compared to the relatively high balances at the end of 2022. The decrease in net liability for other receivables (payables) came from higher employee-related accruals in 2022.

Other net operating assets. Property, plant and equipment increased as a result of higher instrument placements and from site investments in Germany and the United States. Goodwill and intangible assets decreased due to the regular amortization charges. Provisions included a release of legal provisions that was partially offset by increased restructuring provisions following the launch of several productivity initiatives.

Free cash flow

Operating free cash flow

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit – IFRS basis	2,171	4,149	-48	-32
Depreciation, amortization and impairment	1,465	1,434	+2	+9
Provisions	(1)	(225)	-100	-98
Equity compensation plans	113	102	+11	+15
Other	366	391	-6	0
Operating profit cash adjustments	**1,943**	**1,702**	**+14**	**+21**
Operating profit, net of operating cash adjustments	**4,114**	**5,851**	**-30**	**-17**
(Increase) decrease in net working capital	(551)	(706)	-22	-8
Investments in property, plant and equipment	(1,722)	(1,619)	+6	+14
Principal portion of lease liabilities paid	(112)	(118)	-5	+2
Investments in intangible assets	(52)	(26)	+100	+103
Operating free cash flow	**1,677**	**3,382**	**-50**	**-35**
as % of sales	11.9	19.1	-7.2	-4.8

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

The operating free cash flow of the Diagnostics Division decreased by 50% (35% at CER) to CHF 1.7 billion driven by the operating results of the business. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, decreased by 30% (17% at CER) compared to the 39% (24% at CER) decrease in the core operating profit because of lower utilizations of provisions and higher non-cash expenses. Net working capital absorbed CHF 0.6 billion of cash in 2023 which was attributable to the increased receivables as well as the settlement of relatively high payables and accruals at the end of 2022. Capital expenditure increased due to higher instrument placements as well as site investments in Germany and the United States.

Corporate operating results

Selling, general and administration

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Selling, general and administration - IFRS basis	**(3,894)**	**(3,433)**	**+13**	**+16**
Global restructuring plans	490	105	+367	+372
Total - Core basis	**(3,404)**	**(3,328)**	**+2**	**+5**

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Thereof:				
Administration	(3,389)	(3,320)	+2	+5
Business taxes and capital taxes	(15)	(9)	+67	+81
Other general items	0	1	-100	-100

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

IFRS selling, general and administration costs were CHF 3.9 billion, an increase of 13% (16% at CER) due to a higher level of restructuring activities mainly due to the business process transformation to simplify the systems landscape and reduce process complexity and also for transformations in informatics. Core selling, general and administration costs increased by 2% (5% at CER) to CHF 3.4 billion. Administration costs were higher due to increased project costs and demand for informatics and human resources. The increase was also related to the transfer of building, equipment and energy costs from the Pharmaceuticals and Diagnostics Divisions.

Other operating income (expense)

	2023	2022[1]	% change (in CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Other operating income (expense) - IFRS basis	**(14)**	**(6)**	**+133**	**+128**
Global restructuring plans	(1)	(1)	0	0
Legal and environmental cases	2	(4)	-	-
Total - Core basis	**(13)**	**(11)**	**+18**	**+21**
Thereof:				
Other income (expense)	(13)	(11)	+18	+21

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

Corporate financial position and free cash flow

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Financial position				
Net working capital	(487)	(337)	+45	+48
Other net operating assets	158	182	-13	-6
Net operating assets	**(329)**	**(155)**	**+112**	**+113**
Free cash flow				
Operating free cash flow	(3,637)	(3,403)	+7	+10

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

The change in net operating assets came from a shift of net working capital and property, plant and equipment for functions with global accountability such as informatics, human resources and finance from the Pharmaceuticals and Diagnostics Divisions. The operating free cash flow includes costs of corporate functions such as informatics, human resources, finance and procurement, and also restructuring costs for the business process transformation. There was an increased outflow mainly due to higher restructuring activities, partially offset by higher payables.

Foreign exchange impact on operating results

The Roche Group's exposure to movements in foreign currencies affecting its operating results, as expressed in Swiss francs, is summarized by the following key figures and comments.

Growth

	2023 % change (CHF)	2022 % change (CER)
Pharmaceuticals Division		
Sales	-2	+6
Core operating profit	-5	+5
Operating free cash flow	0	+12
Diagnostics Division		
Sales	-20	-13
Core operating profit	-39	-24
Operating free cash flow	-50	-35
Group		
Sales	-7	+1
Core operating profit	-13	-1
Operating free cash flow	-11	+4

Exchange rates against the Swiss franc

	December 31, 2023	Average 2023	December 31, 2022	Average 2022
1 U.S.$	0.84	0.90	0.92	0.95
1 EUR	0.93	0.97	0.98	1.00
100 JPY	0.60	0.64	0.69	0.73

The results expressed in Swiss francs were negatively impacted by the appreciation of the Swiss franc against many currencies. The sensitivity of Group sales and core operating profit to a 1% change in average foreign currency exchange rates against the Swiss franc during 2023 is shown in the table below.

Currency sensitivities

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales	Core operating profit
	(CHF in millions)	
U.S. dollar	280	90
Euro	88	31
Japanese yen	45	46

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales	Core operating profit
	(CHF in millions)	
All other currencies	158	86

The Roche Group's revenues are primarily generated from sales of products to customers. Such revenues are mainly received in the local currency of the customer's home market, although in certain emerging markets invoicing is made in major international currencies such as the U.S. dollar and euro. Cost of sales, marketing and some administration costs follow the same currency pattern as sales. The majority of research and development activities take place at the Roche Group's global research facilities, and therefore the costs are mainly concentrated in U.S. dollars, Swiss francs and euros. Administration costs are incurred at central locations in the United States, Switzerland and Germany, and increasingly at shared service centers in other locations. Chugai's revenues and costs are denominated in Japanese yen.

Treasury and taxation results

Treasury and taxation results – IFRS basis

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**15,395**	**17,476**	**-12**	**+3**
Financing costs	(996)	(665)	+50	+59
Other financial income (expense)	(320)	(484)	-34	-24
Profit before taxes	**14,079**	**16,327**	**-14**	**+1**
Income taxes	(1,721)	(2,796)	-38	-27
Net income	**12,358**	**13,531**	**-9**	**+7**
Attributable to:				
- Roche shareholders	11,498	12,421	-7	+9
- Non-controlling interests	860	1,110	-23	-15

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

Treasury and taxation results – Core basis

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**19,240**	**22,173**	**-13**	**-1**
Financing costs	(980)	(686)	+43	+52
Other financial income (expense)	(320)	(528)	-39	-30
Profit before taxes	**17,940**	**20,959**	**-14**	**-2**
Income taxes	(2,136)	(3,429)	-38	-28
Net income	**15,804**	**17,530**	**-10**	**+3**
Attributable to:				
Roche shareholders	14,927	16,401	-9	+5
Non-controlling interests	877	1,129	-22	-15

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

Treasury and taxation financial position

	December 31, 2023	December 31, 2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Net debt	(18,699)	(15,584)	+20	+26
Lease liabilities	(1,573)	(1,193)	+32	+44
Pensions	(3,360)	(3,604)	-7	0
Income taxes	4,376	2,908	+50	+68
Equity investments	547	671	-18	-6
Derivatives, net	(272)	(459)	-41	-32
Collateral, net	50	180	-72	-72
Interest payable	(187)	(140)	+34	+44
Associated companies and other, net	266	317	-16	-25
Total net assets (liabilities)	**(18,852)**	**(16,904)**	**+12**	**+16**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

Treasury free cash flow and taxation cash flow

	2023	2022[1]	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Treasury activities	(860)	(530)	+62	+72
Taxes paid	(3,620)	(4,102)	-12	-5
Total	**(4,480)**	**(4,632)**	**-3**	**+4**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023.*"

Financing costs

IFRS financing costs were CHF 1.0 billion, an increase of 50% (59% at CER). Core financing costs were CHF 1.0 billion, an increase of 43% (52% at CER) compared to 2022. Interest expenses on debt increased by 36% (44% at CER) to CHF 797 million due to the issuance of new debt as well as an increase in interest rates which affected short-term borrowing costs. See Note 4 to the 2023 Consolidated Financial Statements for a full analysis of financing costs.

Other financial income (expense)

IFRS other financial income (expense) was a net expense of CHF 320 million, a decrease of 34% (24% at CER). Core other financial income (expense) was a net expense of CHF 320 million compared to a net expense of CHF 528 million in 2022. The core income from equity securities, which reflects the fair value changes in the Roche Venture Fund investments as well as gains or losses realized upon sale of those investments, was a gain of CHF 4 million compared to a loss of CHF 123 million in 2022. The net foreign exchange results, which reflect hedging costs and gains and losses on unhedged positions, were net losses of CHF 243 million compared to net losses of CHF 278 million in 2022. Losses on the net monetary positions in hyperinflationary economies in Argentina and Türkiye were CHF 233 million compared to losses of CHF 70 million in 2022 with the increase following from the devaluation in Argentina in December 2023. See Note 4 to the 2023 Consolidated Financial Statements for a full analysis of other financial income (expense).

Income taxes

Group's effective tax rate

	2023			2022		
	Profit before tax	Income taxes	Tax rate (%)	Profit before tax	Income taxes	Tax rate (%)
	(CHF in millions, except percentage data)					
Group's effective tax rate - IFRS basis	**14,079**	**(1,721)**	**12.2**	**16,327**	**(2,796)**	**17.1**
Global restructuring plans	2,038	(403)	19.8	969	(193)	19.9
Goodwill and intangible assets	1,910	(115)	6.0	3,770	(515)	13.7
Mergers and acquisitions and alliance transactions	25	(4)	16.0	(65)	(1)	–
Legal and environmental cases	(112)	39	34.8	(42)	8	19.0
Pension plan settlements	0	0	–	0	0	–
Normalization of equity compensation plan tax benefit	0	68	–	0	68	–
Group's effective tax rate - Core basis	**17,940**	**(2,136)**	**11.9**	**20,959**	**(3,429)**	**16.4**

The Roche Group's effective IFRS tax rate decreased to 12.2% in 2023 compared to 17.1% in 2022 due to the impact from the resolution of several tax disputes and due to the deferred tax impacts from the global restructuring plans partially offset by the impairments of goodwill and certain intangible assets that are not tax deductible.

The Roche Group's effective core tax rate decreased by 4.5 percentage points to 11.9% in 2023. The decrease was due to the impact from the resolution of several tax disputes which reduced the Roche Group's effective core tax rate by 4.3 percentage points in 2023 compared to 1.5 percentage points in 2022. The lower percentage of core profit contribution coming from tax jurisdictions with tax rates higher than the Roche Group's average tax rate further reduced the Roche Group's effective core tax rate.

The OECD has published the Global Anti-Base Erosion (GloBE) Model Rules (Pillar Two) which aim to ensure that large multinational enterprises pay a minimum level of tax on the income arising in each of the jurisdictions where they operate. The GloBE Model Rules provide for a template that jurisdictions can translate into domestic law as part of a common approach to applying top-up taxes on profits arising in a jurisdiction whenever the effective tax rate, determined on a jurisdictional basis in accordance with the GloBE Model Rules, is below the minimum rate of 15%. Various countries intend to enact or have enacted tax legislation to either fully or partially comply with Pillar Two, including Switzerland from January 1, 2024.

See Note 5 to the 2023 Consolidated Financial Statements for further details of the Roche Group's income tax expenses and related balance sheet positions, as well as the implementation of the GloBE Model Rules.

Financial position

The increase in net debt was due to dividend payments of CHF 7.9 billion and the payments for the Telavant asset acquisition of CHF 6.2 billion, partly offset by the free cash flow of CHF 11.3 billion. Lease liabilities increased to CHF 1.6 billion mainly due to the new laboratory and office space lease for Foundation Medicine. The net pension liability decreased as reported in Swiss francs due to appreciation of the Swiss franc against the Euro and remained stable at CER as the increase in fair value of plan assets was offset by lower discount rates. The net tax assets, consisting mostly of deferred tax assets, increased in total due to the decrease in current income tax liabilities following the resolution of tax disputes in 2023. At December 31, 2023, the Roche Group held equity investments with a market value of CHF 0.5 billion, which consist mostly of holdings in biotechnology and other pharmaceuticals companies which were acquired as part of licensing transactions and scientific collaborations or as

investments of the Roche Venture Fund. The net derivative liabilities decreased to CHF 0.3 billion as a result of interest rate and exchange rate movements.

Group cash flow – Divisional breakdown

Free cash flow

	Pharmaceuticals	Diagnostics	Corporate	Group
		(CHF in millions)		
2023				
Operating profit - IFRS basis	17,132	2,171	(3,908)	15,395
Operating profit cash adjustments	4,316	1,943	209	6,468
Operating profit, net of operating cash adjustments	**21,448**	**4,114**	**(3,699)**	**21,863**
(Increase) decrease in net working capital	(714)	(551)	158	(1,107)
Investments in property, plant and equipment	(1,936)	(1,722)	(84)	(3,742)
Principal portion of lease liabilities paid	(215)	(112)	(12)	(339)
Investments in intangible assets	(855)	(52)	0	(907)
Operating free cash flow	**17,728**	**1,677**	**(3,637)**	**15,768**
Treasury activities				(860)
Taxes paid				(3,620)
Free cash flow				**11,288**
2022 (restated)[1]				
Operating profit - IFRS basis	16,766	4,149	(3,439)	17,476
Operating profit cash adjustments	5,768	1,702	102	7,572
Operating profit, net of operating cash adjustments	**22,534**	**5,851**	**(3,337)**	**25,048**
(Increase) decrease in net working capital	(1,745)	(706)	33	(2,418)
Investments in property, plant and equipment	(1,744)	(1,619)	(86)	(3,449)
Principal portion of lease liabilities paid	(274)	(118)	(13)	(405)
Investments in intangible assets	(1,077)	(26)	0	(1,103)
Operating free cash flow	**17,694**	**3,382**	**(3,403)**	**17,673**
Treasury activities				(530)
Taxes paid				(4,102)
Free cash flow				**13,041**

(1) Effective January 1, 2023, the Roche Group has made certain presentational and cost allocation changes to the income statement. These changes have a consequential impact on the divisional free cash flow, although total Group free cash flow is unaffected. The comparative information for 2022 has been restated accordingly. See "*Presentation of financial and other information— Presentational and cost allocation changes effective January 1, 2023*."

Free cash flow

The net cash outflow from treasury activities was CHF 0.9 billion compared to an outflow of CHF 0.5 billion in 2022. This was due to increased interest payments as a result of the newly issued debt and higher interest rates, as well as additional pension contributions to certain of the Roche Group's pension plans in the United States. Total taxes paid in 2023 were down by 12% (5% at CER), driven by lower tax payments in the United States.

Comparison of years ended December 31, 2022 and 2021

As used herein, references to increases or decreases in any year are made by comparison with the corresponding prior year, except as the context otherwise indicates or requires. ***Certain percentage changes and certain changes in absolute numbers presented herein have been calculated using constant exchange rates (CER).*** *The percentage changes and certain changes in absolute numbers at CER are calculated using simulations by reconsolidating both the 2022 and 2021 results at constant exchange rates (the average rates for the year ended December 31, 2021). Percentage changes denoted in "CHF" are calculated using Swiss franc amounts as reported.*

The following discussion should be read in conjunction with the reconciliation from IFRS results to non-IFRS results under "—Core results—Reconciliation from IFRS results to core results,""—Operating free cash flow and free cash flow—Operating free cash flow reconciliation and free cash flow reconciliation," and "—Net operating assets—Net operating assets reconciliation."

Overview

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
IFRS results				
Sales	63,281	62,801	+1	+2
Royalties and other operating income	3,145	3,049	+3	+3
Revenue	**66,426**	**65,850**	**+1**	**+2**
Cost of sales	(20,397)	(19,647)	+4	+5
Marketing and distribution	(9,639)	(9,920)	-3	-2
Research and development	(16,023)	(14,799)	+8	+8
General and administration	(2,891)	(3,329)	-13	-11
Operating profit	**17,476**	**18,155**	**-4**	**-1**
Financing costs	(665)	(418)	+59	+56
Other financial income (expense)	(484)	(339)	+43	+50
Profit before taxes	**16,327**	**17,398**	**-6**	**-3**
Income taxes	(2,796)	(2,463)	+14	+19
Net Income	**13,531**	**14,935**	**-9**	**-6**
Attributable to				
- Roche shareholders	12,421	13,930	-11	-8
- Non-controlling interests	1,110	1,005	+10	+20

In 2022, the Roche Group achieved IFRS sales growth of 1% (2% at CER). The IFRS operating profit decreased by 4% (1% at CER) while the core operating profit growth was 1% (3% at CER). IFRS net income decreased by 9% (6% at CER). There was an adverse impact on the results expressed in Swiss francs compared to CER of one percentage point on sales, two percentage points on core operating profit, three percentage points on IFRS operating profit and three percentage points on IFRS net income.

In the Pharmaceuticals Division, IFRS sales were higher by 1% (2% at CER) due to the continuing uptake of newer medicines despite the negative impact from biosimilar competition and lower sales of *Actemra/RoActemra* for COVID-19. In the Diagnostics Division, growth in routine testing of 7% more than compensated for a drop in demand for COVID-19-related products. The IFRS operating profit decreased by 4% (1% at CER) and the core operating profit increased by 1% (3% at CER), which reflected sales growth and income from the *Ultomiris* patent settlement, offset by lower *Ronapreve* profit-share income from Regeneron Pharmaceuticals, Inc. ("Regeneron"). IFRS net income decreased by 9% (6% at CER). The IFRS net income includes impairments of intangible assets of CHF 2.8 billion which were driven by reduced sales expectations and the latest research data. The 2022 results for the Roche Group include CHF 2.8 billion for the impairment of intangible assets, CHF 0.9 billion for intangible asset amortization and CHF 1.0 billion of expenses from global restructuring plans.

IFRS sales in the Pharmaceuticals Division were CHF 45.6 billion compared to CHF 45.0 billion in 2021, an increase of 1% (2% at CER), driven by growing demand for *Ocrevus*, *Hemlibra*, *Vabysmo*, *Evrysdi* and *Tecentriq*.

Sales of *MabThera/Rituxan*, *Herceptin* and *Avastin* decreased by a combined CHF 2.0 billion (CHF 1.9 billion at CER), as the impact of biosimilar competition continued, but at a lower rate than in previous years. COVID-19-related sales declined due to sales of *Actemra/RoActemra* being 24% (22% at CER) lower, while for *Ronapreve* higher sales in Japan compensated for lower sales in Europe.

The Diagnostics Division reported IFRS sales of CHF 17.7 billion, remaining stable (increased by 3% at CER) compared to CHF 17.8 billion in 2021. The sales growth was driven by increased routine testing across all regions, partly offset by lower sales from COVID-19-related products. Sales in the division's base business (i.e. sales excluding the sale of COVID-19 related tests) increased by 7% at CER, with the immunodiagnostics business being the main growth driver. Total sales of COVID-19 related tests, notably the SARS-CoV-2 Rapid Antigen tests, were 13% (10% at CER) lower at CHF 4.1 billion compared to CHF 4.7 billion in 2021.

The Pharmaceuticals Division's IFRS operating profit decreased by 5% (2% at CER) from CHF 15.5 billion in 2021 to CHF 14.8 billion in 2022 because of higher intangible assets impairment. The core operating profit increased by 3% (5% at CER) to CHF 19.2 billion, a greater percentage increase than the core sales increase of 1% (2% at CER) in 2022. The CHF 0.7 billion of income from the *Ultomiris* patent settlement was largely offset by a reduction of CHF 0.6 billion from *Ronapreve* profit-share income from Regeneron. Core cost of sales decreased by 2% (2% at CER) mainly due to lower manufacturing costs, driven by higher costs in 2021 in response to the COVID-19 pandemic. There was also a favorable product mix impact in 2022. Core marketing and distribution costs increased by 2% (2% at CER) driven by higher spending on digital customer solutions and on launch and pre-launch activities. Core research and development costs were CHF 12.1 billion, an increase of 1% (1% at CER) compared to 2021, with oncology remaining the primary area and the cancer immunotherapy portfolio being a key driver. Neuroscience, immunology and ophthalmology also represented significant areas of spending. The increase of 1% at CER in core research and development costs was driven by investments in gene therapy, Chugai and early research and development.

In the Diagnostics Division, the IFRS operating profit remained stable (and increased 5% at CER) from CHF 3.31 billion in 2021 to CHF 3.32 billion due to the base impact (i.e., the non-recurrence in 2022) of the significant spending on restructuring activities in 2021. The core operating profit decreased by 9% (5% at CER) to CHF 3.6 billion compared to CHF 3.9 billion in 2021, despite sales remaining stable (growth of 3% at CER). Core cost of sales increased by 1% (4% at CER) to CHF 8.8 billion, a greater percentage increase than the core sales growth, because of an unfavorable product mix impact from COVID-19 related tests and higher costs for freight. Core marketing and distribution expenses decreased by 1% (increased by 1% at CER) as a result of higher distribution costs related to SARS-CoV-2 Rapid Antigen tests, partly offset by lower personnel expenses. Core research and development costs increased by 11% (12% at CER), with digital solutions being the main growth driver. In addition, investments continued for projects in sequencing, cardiac disease and mass spectrometry.

Financing costs increased by 59% (56% at CER) on an IFRS basis to CHF 0.7 billion compared to CHF 0.4 billion in 2021. Core financing costs increased by 67% (64% at CER) due to the additional interest expense from the new debt issued to finance the share repurchase from Novartis and also increases in interest rates which affected short-term borrowing costs. Other financial income (expense) contributed CHF 0.2 billion less on a core basis due to higher net foreign exchange losses and higher losses on the net monetary position in hyperinflationary economies in Argentina and Türkiye. The Roche Group's effective IFRS tax rate increased to 17.1% from 14.2% in 2021. The Roche Group's effective core tax rate increased to 16.4% compared to 14.5% in 2021. The increase was mainly due to the impact from the resolution of several tax disputes which reduced the Group's effective core tax rate by 1.5 percentage points in 2022 compared to a decrease of 3.3 percentage points in 2021.

Net income decreased by 9% (6% at CER) on an IFRS basis to CHF 13.5 billion and decreased by 3% (1% at CER) on a core basis to CHF 17.5 billion. The amount of net income attributable to non-controlling interests increased by 10% (20% at CER) on an IFRS basis, and by 9% (19% at CER) on a core basis, due to the impact of the *Ultomiris* patent settlement at Chugai.

Group results of operations for 2022 – Divisional breakdown

	Pharmaceuticals	Diagnostics	Corporate	Group
	(CHF in millions, except percentage data)			
Sales	45,551	17,730	-	63,281
Operating profit - IFRS basis	14,814	3,324	(662)	17,476
margin, % of sales	32.5	18.7	-	27.6
Core operating profit	19,172	3,556	(555)	22,173
margin, % of sales	42.1	20.1	-	35.0
Operating free cash flow	15,753	2,561	(641)	17,673
margin, % of sales	34.6	14.4	-	27.9

Group results of operations, 2022 compared to 2021 – Divisional breakdown

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales				
% change in CHF	+1	0	-	+1
% change at CER	+2	+3	-	+2
Operating profit - IFRS basis				
% change in CHF	-5	0	-5	-4
% change at CER	-2	+5	+2	-1
Core operating profit				
% change in CHF	+3	-9	-4	+1
% change at CER	+5	-5	+4	+3
Operating free cash flow				
% change in CHF	-5	-24	+7	-9
% change at CER	-4	-21	+14	-8

Impact of the COVID-19 pandemic

In the Pharmaceuticals Division, *Actemra/RoActemra* has received FDA approval for the treatment of COVID-19 in hospitalized adults who are receiving systemic corticosteroids and require supplemental oxygen, non-invasive or invasive mechanical ventilation or extracorporeal membrane oxygenation and retains Emergency Use Authorization for children aged between 2 and 18. Sales in 2022 were CHF 2.7 billion, a decline of 24% (22% at CER) due to lower demand from such patients. Sales of *Ronapreve*, a neutralizing antibody combination developed with Regeneron, were CHF 1.7 billion, with higher sales in Japan offsetting lower sales in Europe. There was a decline of CHF 0.6 billion in profit-share income from Regeneron relating to U.S. sales of *Ronapreve*. The Diagnostics Division's portfolio of COVID-19 tests, notably the SARS-CoV-2 Rapid Antigen test, generated sales of CHF 4.1 billion compared to CHF 4.7 billion in 2021, a decline of 13% (10% at CER) due to the lower demand for COVID-19-related products.

Competition from biosimilar and generic medicines

The Group's pharmaceutical products are generally protected by patent rights, which are intended to provide the Group with exclusive marketing rights in various countries. However, patent rights are of varying scope and duration, and the Group may be required to enter into costly litigation to enforce its patent and other intellectual property rights. Loss of market exclusivity for one or more major products – either due to patent expiration, challenges from generic medicines, biosimilars and noncomparable biologics or other reasons – could have a material adverse effect on the Group's business, results of operations or financial condition. The introduction of a generic, biosimilar or non-comparable biologic version of the same or a similar medicine usually results in a significant reduction in net sales for the relevant product, as other manufacturers typically offer their versions at lower prices.

Patents and their expiry are, and always have been, an integral part of the Group's business model and future growth will remain driven by innovation.

MabThera/Rituxan, *Herceptin* and *Avastin*

The Roche Group's basic, primary patents for these three products have expired worldwide. The in-licensed *Halozyme* patent rights for subcutaneous formulations of *MabThera/Rituxan* and *Herceptin* begin to expire in 2024. Sales, including regional breakdowns, for *MabThera/Rituxan*, *Herceptin* and *Avastin* are disclosed below in the Pharmaceuticals Division's operating results and are summarized in the table below. The year-on-year movements were also driven by regular price and volume changes. Biosimilar competition is only one factor in the overall picture.

Total *MabThera/Rituxan*, *Herceptin* and *Avastin* sales

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)	% divisional sales (2022)	% divisional sales (2021)
United States	2,426	3,110	-22	-25	5.3	6.9
Europe	819	1,242	-34	-29	1.8	2.8
Japan	573	798	-28	-18	1.3	1.8
International	2,521	3,165	-20	-19	5.5	7.0
Total sales	**6,339**	**8,315**	**-24**	**-23**	**13.9**	**18.5**

The first biosimilar versions of *Herceptin* and *Avastin* were launched in the United States from mid-2019 and the first biosimilar versions of *MabThera/Rituxan* in late 2019.

In Europe the first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched from mid-2017 and from mid-2018, respectively, and are now marketed in most EU countries. The first biosimilar versions of *Avastin* came to market in Europe from mid-2020.

The first biosimilar versions of *MabThera/Rituxan* and *Herceptin* were launched in Japan in 2018. Biosimilar versions of *Avastin* were launched in late 2019 in the colorectal cancer indication, in 2020 in the non-small cell lung cancer indication and in 2022 in the breast cancer indication. Sales of these three products in Japan were impacted by government price cuts as well as biosimilar competition.

In the International region, biosimilar versions of all three products have been launched in many countries and this, together with the impacts of regular price and volume changes, has led to the decline in sales.

Lucentis

The Roche Group's basic, primary patents for *Lucentis* have expired in the United States. The first biosimilar version of *Lucentis* with a restricted label has come to market in the United States at the beginning of the third quarter of 2022. Sales of *Lucentis* in the United States were CHF 1,012 million compared to CHF 1,353 million in 2021, a decline of 25% (28% at CER) (as reported in U.S. dollars) due to competitive pressure.

Esbriet

Following a negative decision from the United States District Court for the District of Delaware in March 2022, the first generic versions of *Esbriet* came to market in the United States in the second quarter of 2022. Sales of *Esbriet* in the United States were CHF 455 million compared to CHF 732 million in 2021, a decline of 38% (41% at CER) (as reported in U.S. dollars).

Actemra/RoActemra

The Roche Group's basic, primary patents for *Actemra/RoActemra* have expired in the United States and Europe. Based on publicly available information from competitor companies, the Roche Group currently anticipates that the first biosimilar versions of *Actemra/RoActemra* could come to market in the United States and Europe in the second

half of 2023. Global sales of *Actemra/RoActemra* were CHF 2,701 million compared to CHF 3,562 million in 2021, a decline of 24% (22% at CER), driven by lower demand from hospitalized patients with COVID-19.

Pharmaceuticals Division

Pharmaceuticals Division results for 2022

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
IFRS results				
Sales	45,551	45,041	+1	+2
Royalties and other operating income	3,077	2,969	+4	+3
Revenue	**48,628**	**48,010**	**+1**	**+2**
Cost of sales	(11,397)	(10,634)	+7	+7
Marketing and distribution	(6,725)	(6,874)	-2	-2
Research and development	(14,060)	(12,993)	+8	+8
General and administration	(1,632)	(1,979)	-18	-17
Operating profit - IFRS basis	**14,814**	**15,530**	**-5**	**-2**
- margin, % of sales	32.5	34.5	-2.0	-1.2
Core operating profit	**19,172**	**18,548**	**+3**	**+5**
- margin, % of sales	42.1	41.2	+0.9	+1.3
Net operating assets	**32,556**	**33,415**	**-3**	**0**
Operating free cash flow	15,753	16,639	-5	-4
- margin, % of sales	34.6	36.9	-2.3	-2.4

Sales

Sales in the Pharmaceuticals Division were CHF 45.6 billion in 2022 compared to CHF 45.0 billion in 2021, an increase of 1% (2% at CER). There was continued growing demand for *Ocrevus*, *Hemlibra*, *Vabysmo*, *Evrysdi* and *Tecentriq*. The demand for *Ocrevus* remained strong in both indications, with a sales increase of 19% (17% at CER) to CHF 6.0 billion. *Hemlibra* continued to show a significant uptake, with sales reaching CHF 3.8 billion, an increase of 27% (27% at CER). *Vabysmo* was approved in the United States in January 2022 and showed a high initial uptake with sales of CHF 0.6 billion. *Evrysdi* sales continued to show a strong uptake across all regions, driven by Europe and the International region, with a sales growth of 86% (87% at CER). *Tecentriq* sales grew by 12% (14% at CER) to CHF 3.7 billion, driven by the United States and Europe.

Sales in the oncology therapeutic area decreased by 2% (1% at CER) to CHF 20 billion, due to the biosimilar competition for *MabThera/Rituxan*, *Herceptin* and *Avastin*, partially offset by the growth of *Tecentriq*, *Phesgo*, *Polivy*, *Alecensa*, *Perjeta* and *Kadcyla*. *Tecentriq* sales grew mostly due to higher demand in the United States and France. *Phesgo* continued to show a considerable uptake predominantly in Europe and in the United States, with total sales of CHF 0.7 billion. Sales of *Alecensa* grew across all regions, with China and the United States being the main drivers. *Kadcyla* showed growth primarily in the International region followed by Europe. Sales growth was driven by the usage of *Kadcyla* in the early breast cancer setting. *Perjeta* sales grew, notably in the International region with higher demand in China in both early and metastatic breast cancer settings. This was partly offset by a decline in *Perjeta* sales in Europe following the launch of *Phesgo* in 2020.

Sales in neuroscience grew by 25% (23% at CER) to CHF 7.8 billion mainly due to increase in sales of *Ocrevus*. *Evrysdi* was also a growth driver, with sales of CHF 1.1 billion following a high uptake in Europe and the International region. Sales in immunology decreased by 14% (14% at CER) to CHF 7.2 billion, following a decrease in *Actemra/RoActemra* sales of 24% (22% at CER) due to lower demand from hospitalized patients with COVID-19. Sales of *Esbriet* were 31% (31% at CER) lower as a result of generic competition in the United States. These declines in immunology sales were partly offset by higher sales of *Xolair* in the United States driven by steady growth in the chronic spontaneous urticaria indication. Within the Infectious diseases therapeutic area, sales for *Ronapreve* increased due to higher sales in Japan whereas sales for *Rocephin* declined mainly in China. Sales in ophthalmology increased by 18% (14% at CER) driven by the initial uptake of *Vabysmo*, partially compensated by

the fall in *Lucentis* sales of 25% (28% at CER) in the United States due to competitive pressure. In other therapeutic areas, sales of *Activase/TNKase* were 10% (14% at CER) lower, mainly due to the unwinding of temporary stockpiling in the United States by distributors and customers at the end of 2021.

Sales by therapeutic area

Therapeutic area	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)
Oncology	19,995	20,467	-2	-1
Neuroscience	7,817	6,275	+25	+23
Immunology	7,181	8,373	-14	-14
Hemophilia A	3,823	3,022	+27	+27
Infectious diseases	2,161	2,226	-3	+7
Ophthalmology	1,605	1,355	+18	+14
Other therapeutic areas	2,969	3,323	-11	-11
Total sales	**45,551**	**45,041**	**+1**	**+2**

Sales of products

Product	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)
Oncology				
Perjeta	4,087	3,955	+3	+5
Tecentriq	3,717	3,315	+12	+14
Herceptin	2,142	2,694	-20	-19
Avastin	2,122	3,056	-31	-28
Kadcyla	2,080	1,982	+5	+7
MabThera/Rituxan[(1)]	1,599	1,999	-20	-21
Alecensa	1,513	1,356	+12	+15
Phesgo	740	340	+118	+121
Gazyva/Gazyvaro	730	678	+8	+9
Polivy	437	247	+77	+85
Erivedge	271	269	+1	+1
Others	557	576	-3	0
Total Oncology	**19,995**	**20,467**	**-2**	**-1**
Neuroscience				
Ocrevus	6,036	5,055	+19	+17
Evrysdi	1,119	602	+86	+87
Madopar	379	394	-4	-2
Others	283	224	+26	+32
Total Neuroscience	**7,817**	**6,275**	**+25**	**+23**
Immunology				
Actemra/RoActemra	2,701	3,562	-24	-22
Xolair	2,208	1,942	+14	+9
Esbriet	718	1,039	-31	-31
Pulmozyme	543	566	-4	-5
CellCept	503	592	-15	-11
MabThera/Rituxan[(1)]	476	566	-16	-18
Others	32	106	-70	-66
Total Immunology	**7,181**	**8,373**	**-14**	**-14**
Hemophilia A				
Hemlibra	3,823	3,022	+27	+27

Product	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)
Total Hemophilia A	**3,823**	**3,022**	**+27**	**+27**
Infectious Diseases				
Ronapreve	1,679	1,630	+3	+17
Rocephin	152	244	-38	-37
Others	330	352	-6	-5
Total Infectious Diseases	**2,161**	**2,226**	**-3**	**+7**
Ophthalmology				
Lucentis	1,012	1,353	-25	-28
Vabysmo	591	0	-	-
Others	2	2	0	+80
Total Ophthalmology	**1,605**	**1,355**	**+18**	**+14**
Other therapeutic areas				
Activase/TNKase	1,177	1,312	-10	-14
Mircera	408	435	-6	-5
Others	1,384	1,576	-12	-9
Total other therapeutic areas	**2,969**	**3,323**	**-11**	**-11**
Total sales	**45,551**	**45,041**	**+1**	**+2**

(1) Total *MabThera/Rituxan* sales of CHF 2,075 million in 2022 compared to CHF 2,565 million in 2021, split between oncology and immunology therapeutic areas.

Ocrevus

Ocrevus is used for relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS). There was continuously growing demand in both indications in the United States. The growth there was driven both by new and returning patients, with a higher proportion of sales coming from returning patients. In Europe and the International region, *Ocrevus* continued to show high uptake, notably in Germany, Italy, Spain and Canada.

HER2 Franchise (Perjeta, Herceptin, Kadcyla and Phesgo)

The Roche Group's HER2 products (*Perjeta*, *Herceptin*, *Kadcyla* and *Phesgo*) are used for HER2-positive breast cancer and HER2-positive metastatic (advanced) gastric cancer (*Herceptin* only). Sales in the HER2 franchise increased by 1% (3% at CER) to CHF 9.0 billion. Sales of *Perjeta* grew by 3% (5% at CER), notably in the International region with higher demand in China in both early and metastatic breast cancer settings. In the United States, sales of *Perjeta* increased by 8% (4% at CER) due to growth in the adjuvant setting being largely offset by a reduction in sales volume following the launch of Phesgo. *Herceptin* sales were 20% (19% at CER) lower as a result of biosimilar erosion. *Kadcyla* sales increased by 5% (7% at CER) driven by usage in the early breast cancer setting, with notable growth in Japan and Italy. *Phesgo* sales continued to show a strong uptake in Europe, notably in France and the UK, and in the United States.

Hemlibra

Hemlibra is used for hemophilia A. Sales growth continued, especially in the United States and Europe in the non-inhibitor segment. Sales in the International region grew across major markets. Sales in Japan were higher due to further market penetration.

Tecentriq

Tecentriq is used for advanced bladder cancer, advanced lung cancer, initial therapy of non-squamous non-small cell lung cancer (NSCLC), extensive-stage small cell lung cancer (SCLC), PD-L1-positive triple-negative breast cancer (TNBC) and unresectable or metastatic hepatocellular carcinoma (HCC). Sales increased by 12% (14% at CER) with growth mainly in the United States and Europe. In the United States, sales were higher driven by the new indications for NSCLC and HCC. In Europe, the growth was mainly driven by the SCLC and TNBC indications, notably in France and Germany.

Actemra/RoActemra

Actemra/RoActemra is used for rheumatoid arthritis, forms of juvenile idiopathic arthritis, giant cell arteritis, CAR T-cell-induced severe or life-threatening cytokine release syndrome and COVID-19. Sales decreased by 24% (22% at CER), mainly in the United States and International region, driven by lower demand from hospitalized patients with COVID-19 in 2022.

Avastin

Avastin is used for advanced colorectal, breast, lung, kidney, cervical and ovarian cancer, relapsed glioblastoma and liver cancer in combination with *Tecentriq*. Sales decreased across all regions, mainly in the United States and Europe due to the continuing impact of biosimilars. In the International region, the main driver in the sales decline was biosimilar competition in China.

Xolair

Xolair is used for chronic spontaneous urticaria and allergic asthma. Sales increased by 14% (9% at CER) driven by growth in the chronic spontaneous urticaria indication. *Xolair* remains the market leader in the larger allergic asthma indication.

MabThera/Rituxan

MabThera/Rituxan is used for non-Hodgkin lymphoma (NHL), chronic lymphocytic leukemia (CLL), follicular lymphoma (FL), pemphigus vulgaris (PV), rheumatoid arthritis (RA) as well as certain types of antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis. Sales were 19% (20% at CER) lower due to biosimilar erosion across all regions and in both the oncology and immunology segments.

Alecensa

Alecensa is used for ALK-positive non-small cell lung cancer (NSCLC). The global uptake continued with a 12% (15% at CER) increase in sales. The International region, notably China, and the United States were the main drivers.

Ronapreve

Ronapreve is used for the treatment of recently diagnosed high-risk patients with mild to moderate COVID-19 in some jurisdictions. The Roche Group is collaborating with Regeneron to develop, manufacture and distribute *Ronapreve*, a neutralizing antibody combination. Under the terms of the agreement, Regeneron is responsible for distribution in the United States and the Roche Group is responsible for distribution outside the United States. Sales for *Ronapreve* increased by 3% (17% at CER) driven by sales in Japan.

Activase/TNKase

Activase/TNKase is used for acute ischemic stroke (AIS) and acute myocardial infarction (AMI). Sales were 10% (14% at CER) lower mainly due to temporary stockpiling in the United States by distributors and customers at the end of 2021.

Evrysdi

Evrysdi is used for spinal muscular atrophy (SMA). Evrysdi continued to show a strong uptake across all regions, driven by Europe and the International region.

Lucentis

Lucentis is used for neovascular or "wet" age-related macular degeneration (nAMD), macular edema following retinal vein occlusion (RVO), diabetic macular edema (DME) and diabetic retinopathy (DR). Sales decreased by 25% (28% at CER), due to competitive pressure. The first biosimilar version of *Lucentis* with a restricted label came to market in the United States at the beginning of the third quarter of 2022.

Esbriet

Esbriet is used for idiopathic pulmonary fibrosis (IPF). Sales declined by 31% (31% at CER) driven by the launch of the first United States generic versions in the second quarter of 2022 and by a reduced share of new patient prescriptions.

Vabysmo

Vabysmo is used for neovascular or "wet" age-related macular degeneration (nAMD) and diabetic macular edema (DME). Sales of this new eye medicine showed a strong uptake following its approval in the United States in January 2022.

Sales by region

Sales by region in 2022 and 2021

Region	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)
United States	23,322	22,505	+4	-1
Europe	8,143	8,876	-8	-2
Japan	4,949	4,506	+10	+26
International	9,137	9,154	0	+1
- of which China	*3,039*	*3,276*	*-7*	*-7*
Total sales	**45,551**	**45,041**	**+1**	**+2**

In the United States, sales increased by 4% in CHF terms due to the impact of exchange rates against the Swiss franc while sales declined by 1% at CER driven by a combined 22% (25% at CER) fall in total *MabThera/Rituxan*, *Herceptin* and *Avastin* sales and by lower sales of *Actemra/RoActemra*, *Lucentis* and *Esbriet*, partly offset by increased sales of *Ocrevus*, *Vabysmo*, *Hemlibra* and *Tecentriq*. Vabysmo showed a high initial uptake, with both new patients and patients switching from other medications, and achieved CHF 0.5 billion of sales in the United States since its launch. *Ocrevus* sales increased by 19% (14% at CER) driven by both new and returning patient demand. Hemlibra continued to show growth in the non-inhibitor segment with a sales growth of 28% (22% at CER). *Tecentriq* sales increased by 17% (12% at CER) due to continued growth in new indications. *Xolair* sales increased by 14% (9% at CER), with growth in the chronic spontaneous urticaria indication. Sales of *Phesgo* continued to show a strong uptake since the launch in 2020. *Evrysdi* showed a continued uptake since its launch, with a sales growth of 29% (23% at CER). *Actemra/RoActemra* sales decreased by 32% (35% at CER) due to lower demand from hospitalized patients with COVID-19 in 2022. *Esbriet* sales declined mainly due to the launch of the first United States generic versions in the second quarter of 2022. *Lucentis* sales decreased due to competitive pressure.

In Europe, sales declined by 8% (2% at CER) mainly driven by the base impact (i.e. the non-recurrence in 2022) of the sales of *Ronapreve* in 2021. Excluding *Ronapreve*, sales declined by 1% in CHF terms and grew by 6% at CER, with sales of new products more than offsetting the impacts of biosimilar competition. The latter led to a combined sales decline of 34% (29% at CER) for *MabThera/Rituxan*, *Herceptin* and *Avastin*. *Evrysdi* showed high uptake mainly in Germany, the UK and Italy. *Phesgo* reported strong momentum across all countries with France and the

UK being key growth drivers. There was a sales growth of 17% (25% at CER) of *Ocrevus*, notably in Germany, Italy and Spain.

In Japan, sales increased by 10% (26% at CER) mainly as a result of *Ronapreve* sales of CHF 1.5 billion, supported by sales growth for recently launched products including *Evrysdi*, *Polivy*, *Hemlibra* and *Enspryng*. This more than offset the impact of biosimilars and government price cuts. There was a combined 28% (18% at CER) fall in sales of *MabThera/Rituxan*, *Herceptin* and *Avastin* arising from biosimilar competition. Price cuts in Japan had an impact across the portfolio.

In International, sales remained stable in CHF due to the impact of exchange rates against the Swiss francs and increased by 1% at CER with a sales growth of 5% at CER in Brazil and 4% at CER in Canada. Sales in China were 7% (7% at CER) lower mainly driven by the biosimilar erosion for *MabThera/Rituxan*, *Herceptin* and *Avastin* and lower sales of *Rocephin*, partially offset by continued sales growth of *Alecensa*, *Gazyva/Gazyvaro* and *Perjeta*. The COVID-19 restrictions in China had a certain negative impact on sales across the product portfolio. Excluding China, sales in the International region increased by 4% (6% at CER) mainly driven by higher demand for *Perjeta*, *Hemlibra*, *Ocrevus* and *Kadcyla*.

Operating Results

Royalties and other operating income

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Royalty income	924	1,064	-13	-15
Income from out-licensing agreements	842	111	Over +500	Over +500
Income from disposal of products, profit-sharing agreements and other	1,311	1,794	-27	-29
Total - IFRS and Core basis	**3,077**	**2,969**	**+4**	**+3**

Royalties and other operating income

IFRS royalties and other operating income increased by 4% (3% at CER) to CHF 3.1 billion. Royalty income was 13% (15% at CER) lower due to lower royalty income from *Lucentis*. Income from out-licensing agreements increased as a result of income from the *Ultomiris* patent settlement. Effective March 17, 2022, Chugai and Alexion Pharmaceuticals, Inc. ("Alexion"), a fully owned subsidiary of AstraZeneca PLC, entered into a settlement agreement resolving all patent disputes between the two companies related to *Ultomiris* (ravulizumab). Under the terms of the agreement, Alexion made a single payment of U.S.$ 775 million to Chugai. No further amounts are payable by either party. The agreement includes the granting by Chugai to Alexion of a worldwide, non-exclusive, fully paid-up license in respect of *Ultomiris*. Accordingly, this revenue of CHF 726 million has been presented as "Income from out-licensing agreements" in the 2022 Consolidated Financial Statements, and in accordance with Roche's established core results concept, has been treated as part of core net income. Income from product disposals included the sale of rights for *Rocaltrol* for China for CHF 272 million, the sale of the global rights for *Valcyte* for CHF 185 million and the sale of the global rights for *Xeloda* excluding China and Japan for CHF 150 million. Profit-share income was lower due to a reduction of CHF 0.6 billion from the profit-sharing agreement with Regeneron relating to United States sales of *Ronapreve*. The profit-share income from sales of *Venclexta/Venclyxto* in the United States increased by 13% at CER to CHF 452 million.

Cost of sales

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Cost of sales - IFRS basis	**(11,397)**	**(10,634)**	**+7**	**+7**
Global restructuring plans	251	1	Over +500	Over +500

	2022	2021	% change (CHF)	% change (CER)
		(CHF in millions, except percentage data)		
Amortization of intangible assets	412	1,083	-62	-63
Impairment of intangible assets	1,472	101	Over +500	Over +500
Cost of sales - Core basis	**(9,262)**	**(9,449)**	**-2**	**-2**
Thereof:				
Manufacturing cost of goods sold and period costs	(5,538)	(6,030)	-8	-7
Royalty expenses	(1,614)	(1,342)	+20	+18
Collaboration and profit-sharing agreements	(2,076)	(2,189)	-5	-4
Amortization of commercial software intangible assets	(3)	0	-	-
Impairment of property, plant and equipment and right-of-use assets	(31)	112	-	-

IFRS cost of sales increased by 7% (7% at CER) to CHF 11.4 billion. Core cost of sales decreased by 2% (2% at CER) to CHF 9.3 billion primarily due to lower manufacturing costs, driven by a favorable product mix impact in 2022. There were base impacts in 2021 (i.e. the non-recurrence in 2022) of incremental production costs of CHF 575 million arising from the response to the COVID-19 pandemic and income of CHF 184 million from the reversal of an idle-plant impairment. As a percentage of sales, core cost of sales decreased by 0.7 percentage points to 20.3%. Royalty expenses were 20% (18% at CER) higher driven by increased sales of certain royalty-bearing products, notably *Ocrevus* and *Evrysdi*. Collaboration and profit-sharing expenses decreased by 5% (4% at CER) mainly due to lower sales of *MabThera/Rituxan* in the United States. Impairment charges for intangible assets for marketed products were CHF 1.5 billion. The main items were CHF 0.7 billion for the *Gavreto* intangible asset due to lower sales expectations. In addition there were impairment charges of CHF 0.3 billion relating to Flatiron's technology and CHF 0.3 billion for *Rozlytrek* from the *Ignyta* acquisition. The decrease in amortization charges of intangible assets was primarily attributable to the *Esbriet* intangible asset becoming fully amortized in late 2021. Global restructuring costs are mainly related to the manufacturing network strategy review impacting various sites including in the United States, Switzerland and Germany.

Marketing and distribution

	2022	2021	% change (CHF)	% change (CER)
		(CHF in millions, except percentage data)		
Marketing and distribution - IFRS basis	**(6,725)**	**(6,874)**	**-2**	**-2**
Global restructuring plans	55	324	-83	-82
Amortization of intangible assets	13	18	-28	-24
Impairment of intangible assets	0	15	-100	-100
Total - Core basis	**(6,657)**	**(6,517)**	**+2**	**+2**

IFRS marketing and distribution costs were CHF 6.7 billion, a decrease of 2% (2% at CER). Core marketing and distribution costs increased by 2% (2% at CER) to CHF 6.7 billion. As a percentage of sales, core marketing and distribution costs increased to 14.6% from 14.5% in 2021. Major marketing and distribution activities included investments in digital customer support and in ongoing launches, notably *Vabysmo*. There was also spending on *Ocrevus* and *Tecentriq*, and on pre-launch activities. On an IFRS basis, costs decreased mainly due to the restructuring costs in 2021 from transformation initiatives in sales affiliates.

Research and development

	2022	2021	% change (CHF)	% change (CER)
		(CHF in millions, except percentage data)		
Research and development - IFRS basis	**(14,060)**	**(12,993)**	**+8**	**+8**
Global restructuring plans	263	209	+26	+25
Amortization of intangible assets	336	297	+13	+10

	2022	2021	% change (CHF)	% change (CER)
		(CHF in millions, except percentage data)		
Impairment of intangible assets	1,365	535	+155	+146
Total - Core basis	**(12,096)**	**(11,952)**	**+1**	**+1**

IFRS research and development costs were CHF 14.0 billion, an increase of 8% (8% at CER). Core research and development costs increased by 1% (1% at CER) and represented 26.6% as a percentage of sales. Oncology remained the primary area of research and development with the cancer immunotherapy portfolio being a key driver. Neuroscience, immunology and ophthalmology represent significant areas of spending. The growth in 2022 was mostly driven by higher investments in Spark Therapeutics to support the investigational programs such as hemophilia A and B and studies relating to Pompe disease. Chugai also showed an increase in spending driven by late-stage investments in oncology. There were continued investments in research and development activities in China. This was offset by a decline in late-stage portfolio investments, with significantly lower COVID-19-related spending for the co-development of Regeneron, which was CHF 163 million in 2021. Intangible asset impairment charges for assets still in the research and development stage totaled CHF 1.4 billion. The major items were a charge of CHF 0.5 billion for the partial impairment of the intangible asset SPK-8011, a novel gene therapy for the treatment of hemophilia A that was acquired as part of the Spark Therapeutics acquisition, and a charge of CHF 0.4 billion for the full impairment of the intangible asset PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition. Restructuring costs from the research and development portfolio prioritization program are mainly related to study closure costs.

Additionally, in-licensing transactions, business combinations and asset acquisitions resulted in intangible assets of CHF 1.2 billion being recognized compared to CHF 1.1 billion in 2021.

General and administration

	2022	2021	% change (CHF)	% change (CER)
		(CHF in millions, except percentage data)		
General and administration - IFRS basis	**(1,632)**	**(1,979)**	**-18**	**-17**
Global restructuring plans	213	326	-35	-35
Mergers and acquisitions and alliance transactions	(6)	23	-	-
Legal and environmental cases	(16)	86	-	-
Total - Core basis	**(1,441)**	**(1,544)**	**-7**	**-6**
Thereof:				
Administration	(1,378)	(1,410)	-2	-2
Pensions - past service costs	4	16	-75	-75
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	5	(1)	-	-
Business taxes and capital taxes	(160)	(209)	-23	-19
Other general items	88	60	+47	+39

IFRS general and administration costs were CHF 1.6 billion, a decrease of 18% (17% at CER). Core general and administration costs decreased by 7% (6% at CER) to CHF 1.4 billion and, as a percentage of sales, decreased to 3.2% from 3.4%. Administration costs were lower mainly due to lower legal expenses. Business taxes and capital taxes decreased as a result of lower excise tax expense in 2022 in the United States. Restructuring costs were lower than 2021, which included costs for the Basel/Kaiseraugst site. In 2022, income from legal and environmental cases was due to a partial release of certain legal provisions based on the latest developments.

Roche Pharmaceuticals and Chugai subdivisional operating results

Pharmaceuticals subdivisional operating results

	Roche Pharmaceuticals		Chugai		Pharmaceuticals Division[1]	
	2022	2021	2022	2021	2022	2021
	(CHF in millions, except percentage data)					
Sales						
- External customers	40,602	40,535	4,949	4,506	45,551	45,041
- Within division	3,384	2,190	2,602	2,179	5,986	4,369
Operating profit	11,323	12,601	3,988	3,525	14,814	15,530
- margin, % of sales to external customers	27.9	31.1	80.6	78.2	32.5	34.5
Core operating profit	15,617	15,523	4,052	3,621	19,172	18,548
- margin, % of sales to external customers	38.5	38.3	81.9	80.4	42.1	41.2
Operating free cash flow	13,374	14,088	2,359	2,539	15,753	16,639
- margin, % of sales to external customers	32.9	34.8	47.7	56.3	34.6	36.9

(1) Pharmaceuticals Division total core operating profit and operating profit both include the elimination of CHF minus 497 million of unrealized intercompany gains between Roche Pharmaceuticals and Chugai in 2022 compared to CHF minus 596 million in 2021.

The increase in the exchange rate of the Japanese yen had an adverse impact of approximately 11 percentage points on the Chugai results when expressed in Swiss francs for the Group's consolidated results. Sales by Chugai to external customers increased by 10% (26% at CER as reported in Japanese yen), driven by sales of *Ronapreve*, while sales within the division increased by 19% (37% at CER as reported in Japanese yen) due to higher sales of *Hemlibra* by Chugai to Roche Pharmaceuticals. Chugai's core operating profit increased by 12% (23% at CER) as a result of the income from the *Ultomiris* patent settlement and higher gross profit from sales to external customers and within the division. This was partially offset by lower royalty income from Roche Pharmaceuticals and higher research and development costs. Operating free cash flow at Chugai decreased by 7% (2% at CER) mainly as a result of an increase in trade receivables due to *Ronapreve* sales in December 2022, partially offset by the *Ultomiris* patent settlement and the underlying operating performance.

Financial position

Net operating assets

	December 31, 2022	December 31, 2021	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Trade receivables	8,617	7,478	+15	+22	1,525	(386)
Inventories	5,259	4,728	+11	+15	731	(200)
Trade payables	(2,363)	(2,421)	-2	+1	1	57
Net trade working capital	**11,513**	**9,785**	**+18**	**+24**	**2,257**	**(529)**
Other receivables (payables)	(7,722)	(7,380)	+5	+7	(531)	188
Net working capital	**3,791**	**2,405**	**+58**	**+75**	**1,726**	**(340)**
Property, plant and equipment	15,788	16,055	-2	+1	124	(391)
Right-of-use assets	845	916	-8	-6	(53)	(18)
Goodwill and intangible assets	13,676	15,987	-14	-15	(2,451)	140
Provisions	(2,392)	(2,704)	-12	-11	274	38
Other long-term assets, net	848	756	+12	+16	109	(17)
Long-term net operating assets[1]	**28,765**	**31,010**	**-7**	**-6**	**(1,997)**	**(248)**

	December 31, 2022	December 31, 2021	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Net operating assets	**32,556**	**33,415**	**-3**	**0**	**(271)**	**(588)**

Note: The absolute amount of the movement between the 2022 and 2021 consolidated balances reported in Swiss francs is split between actual 2022 transactions (translated at average rates for 2021) and the currency translation adjustment (CTA) that arises on consolidation. The 2022 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc appreciated significantly against the Japanese yen. This was partially offset by the depreciation of the Swiss franc against the U.S. dollar. This resulted in a net negative translation impact.

Net working capital. Net working capital increased by 58% (75% at CER) to CHF 3.8 billion, with trade receivables being the main driver. The increase in trade receivables of 15% (22% at CER) was driven by *Ronapreve* sales in Japan in December 2022 and by the extended payment terms in the United States for certain products. The increase was also due to *Ocrevus* sales growth in United States, as well as the timing of collections in the United States generally. The increase in inventories of 11% (15% at CER) was driven by ensuring supply resilience, notably for *Actemra/RoActemra* after significant depletion of inventory levels due to previously high demand from COVID-19 patients, and also for critical raw materials given global supply scarcity. The ramp-up of launch products, notably *Vabysmo* and *Phesgo*, was also a driver in the growth of inventories. The net liability position for other receivables/payables increased due to lower receivables for the Regeneron profit share income.

Long-term net operating assets. Overall long-term net operating assets decreased by 7% (6% at CER) to CHF 28.8 billion, mainly due to lower intangible assets and slightly offset by a decrease in provisions. Intangible assets decreased as a result of impairment charges. Provisions decreased due to the recording of restructuring provisions at the end of 2021 and the utilization of these restructuring provisions in 2022. Capital expenditure included manufacturing investments in Japan, the United States, Switzerland and Germany as well as site developments in Switzerland, South San Francisco and at Chugai's research facilities in Yokohama.

Free cash flow

Operating free cash flow

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit - IFRS basis	**14,814**	**15,530**	**-5**	**-2**
Depreciation, amortization and impairment	5,306	3,458	+53	+50
Provisions	(248)	661	-	-
Equity compensation plans	571	513	+11	+7
Other	150	308	-51	-49
Operating profit cash adjustments[(1)]	**5,779**	**4,940**	**+17**	**+14**
Operating profit, net of operating cash adjustments	**20,593**	**20,470**	**+1**	**+2**
(Increase) decrease in net working capital	(1,745)	(745)	+134	+154
Investments in property, plant and equipment	(1,744)	(2,008)	-13	-11
Principal portion of lease liabilities paid	(274)	(255)	+7	+10
Investments in intangible assets	(1,077)	(823)	+31	+29
Operating free cash flow	**15,753**	**16,639**	**-5**	**-4**
as % of sales	34.6	36.9	-2.3	-2.4

(1) Operating profit cash adjustments consist of the elimination of depreciation, amortization and impairment charges and the replacement of the operating income/expenses for provisions, equity compensation plans and other adjustments with their cash equivalents.

The Pharmaceuticals Division's operating free cash flow decreased by 5% (4% at CER) to CHF 15.8 billion. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, increased by 1% (2% at CER), while core operating profit increased by 3% (5% at CER). This difference was mainly due to

increased provisions in 2021. Net working capital absorbed an additional CHF 1.7 billion of cash, driven by the increase in trade receivables and the increase in inventories. Capital expenditure was 13% (11% at CER) lower in comparison with 2021. Investments in intangible assets were 31% (29% at CER) higher than in 2021. They included payments for intangible assets acquired at the end of 2021.

Diagnostics Division

Diagnostics Division results for 2022

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Sales	17,730	17,760	0	+3
Royalties and other operating income	68	80	-15	-13
Revenue	**17,798**	**17,840**	**0**	**+2**
Cost of sales	(9,000)	(9,013)	0	+3
Marketing and distribution	(2,914)	(3,046)	-4	-2
Research and development	(1,963)	(1,806)	+9	+9
General and administration	(597)	(656)	-9	-6
Operating profit - IFRS basis	**3,324**	**3,319**	**0**	**+5**
margin, % of sales	18.7	18.7	0	+0.4
Core operating profit	**3,556**	**3,925**	**-9**	**-5**
margin, % of sales	20.1	22.1	-2.0	-1.7
Net operating assets	**16,518**	**16,060**	**+3**	**+6**
Operating free cash flow	2,561	3,370	-24	-21
margin, % of sales	14.4	19.0	-4.6	-4.5

Sales

The Diagnostics Division reported sales of CHF 17.7 billion, remaining stable in CHF terms (an increase of 3% at CER) compared to 2021. There was growth in routine testing, which more than compensated for the sales decrease from the lower demand for COVID-19-related products in 2022. Sales in the division's base business (i.e. sales excluding the sale of COVID-19 related tests) increased by 7% at CER across all regions, with immunodiagnostics being the main growth driver. The sales of COVID-19-related tests in 2022 decreased by 13% (10% at CER) to CHF 4.1 billion compared to CHF 4.7 billion in 2021 due to lower demand for COVID-19-related products, with the SARS-CoV-2 Rapid Antigen test accounting for approximately 56% of the COVID-19-related sales.

The SARS-CoV-2 Rapid Antigen test was the main growth driver in the Point of Care customer area while growth in routine testing was the main contributor to the increased sales in the Core Lab and Pathology Lab customer areas. Sales in the Molecular Lab customer area decreased due to lower COVID-19-related sales of SARS-CoV-2 assays on the cobas 6800/8800 range. Diabetes Care sales decreased by 5% (2% at CER), driven by the base impact (i.e. the non-recurrence in 2022) from the resolution of a rebate dispute in 2021.

Sales by customer area

Customer area	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)	% of total sales[1]
Core Lab	7,775	7,560	+3	+6	43.9
Point of Care	3,589	3,134	+15	+17	20.2
Molecular Lab	3,450	4,174	-17	-15	19.5
Diabetes Care	1,598	1,690	-5	-2	9.0
Pathology Lab	1,318	1,202	+10	+11	7.4
Total sales	**17,730**	**17,760**	**0**	**+3**	**100**

(1) In 2022 sales in the Point of Care customer area included sales from the Liat business (POC molecular), and sales in the Core Lab customer area included sales from the Life Science Alliances business. These were both previously shown as part of the Molecular

Lab customer area. The comparative information for 2021 has been restated accordingly. Sales for 2021 were: POC molecular CHF 551 million, Life Science Alliances CHF 87 million.

Core Lab

This customer area focuses on central labs and provides diagnostics solutions in the areas of immunoassays, clinical chemistry and custom biotech. Sales increased by 3% (6% at CER) to CHF 7.8 billion due to the 7% at CER growth in immunodiagnostics products, such as cardiac and oncology tests, and the 9% at CER growth in the clinical chemistry business. Sales in the custom biotech business were 7% at CER lower. Sales grew across all regions, with the largest contribution coming from the Asia-Pacific and EMEA regions, which grew by 8% at CER and 6% at CER, respectively.

Point of Care

This customer area provides diagnostics solutions immediately at the point of care such as in emergency rooms, general practitioners' practices and directly with patients and includes blood gas and electrolyte (BGE) tests. Sales of the SARS-CoV-2 Rapid Antigen test are reported in this customer area and these were the main driver of the 15% (17% at CER) sales growth. Sales of these tests were concentrated in the Asia-Pacific and North America regions.

Molecular Lab

This customer area focuses on molecular labs and provides diagnostics solutions for the detection and monitoring of pathogens, donor screening, sexual health and genomics. Sales declined by 17% (15% at CER) due to lower COVID-19-related sales of SARS-CoV-2 assays on the cobas 6800/8800 range, partly offset by growth in the base business (i.e. excluding the COVID-19 related tests) across the portfolio.

Diabetes Care

This customer area provides diagnostics solutions for patients and healthcare professionals enabling integrated personalized diabetes management. Sales decreased by 5% (2% at CER) due to the base impact (i.e. the non-recurrence in 2022) of the resolution of a rebate dispute in 2021. Excluding this, sales remained stable. The continued contraction of the blood glucose monitoring market due to patients switching to continuous glucose monitoring systems, in particular in the United States and major European markets, was offset by higher demand in emerging markets.

Pathology Lab

This customer area focuses on pathology labs and provides diagnostics solutions for tissue biopsies and companion diagnostics. These are targeted diagnostics to aid in the choice of specific therapies for each patient. Sales increased by 10% (11% at CER) due to growth in the advanced staining and the companion diagnostics businesses.

Sales by region

Region	2022 (CHF in millions)	2021 (CHF in millions)	% change (CHF)	% change (CER)	% of total sales
Europe, Middle East and Africa (EMEA) ...	5,888	7,537	-22	-16	33.2
North America	5,141	4,369	+18	+13	29.0
- of which United States	*4,518*	*3,941*	*+15*	*+10*	*25.5*
Asia-Pacific	5,639	4,756	+19	+23	31.8
- of which China	*2,580*	*2,430*	*+6*	*+6*	*14.6*
Latin America	1,062	1,098	-3	-1	6.0
Total sales	**17,730**	**17,760**	**0**	**+3**	**100**

Sales in the EMEA region decreased by 22% (16% at CER) to CHF 5.9 billion due to the significant reduction of COVID-19-related sales compared to the previous year, partly offset by growth in the immunoassay business. In North America the 18% (13% at CER) sales growth was driven by the sales of the SARS-CoV-2 Rapid Antigen test.

Asia-Pacific sales were 19% (23% at CER) higher as a result of increased sales of the SARS-CoV-2 Rapid Antigen test and due to growth in the immunoassays business.

Operating Results

Royalties and other operating income

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Royalty income	61	43	+42	+46
Income from out-licensing agreements	0	18	-100	-100
Income from disposal of products and other	7	19	-63	-66
Total - IFRS and Core basis	**68**	**80**	**-15**	**-13**

Both IFRS and core royalties and other operating income decreased by 15% (13% at CER) driven by the base impact (i.e. the non-recurrence in 2022) from an out-licensing agreement in Diabetes Care in 2021.

Cost of sales

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Cost of sales - IFRS basis	**(9,000)**	**(9,013)**	**0**	**+3**
Global restructuring plans	44	191	-77	-76
Amortization of intangible assets	143	122	+17	+16
Mergers and acquisitions and alliance transactions	0	11	-100	-100
Total - Core basis	**(8,813)**	**(8,689)**	**+1**	**+4**
Thereof:				
Manufacturing cost of goods sold and period costs	(8,680)	(8,478)	+2	+5
Royalty expenses	(130)	(116)	+12	+11
Amortization of commercial software intangible assets	(2)	0	-	-
Impairment of property, plant and equipment and right-of-use assets	(1)	(95)	-99	-99

IFRS cost of sales were CHF 9.0 billion, remaining stable (an increase of 3% at CER) compared to 2021. Core cost of sales increased by 1% (4% at CER) to CHF 8.8 billion. This increase was above sales which remained stable in CHF terms (growth of 3% at CER) compared to 2021 and arose from the product mix driven by increased sales volumes of SARS-CoV-2 Rapid Antigen tests and lower volumes of SARS-CoV-2 PCR tests. There were also higher freight costs. In 2021, impairments on property, plant and equipment were incurred in connection with the at-risk manufacturing ramp-up and rollout of COVID-19-related products. The core cost of sales ratio increased by 0.8 percentage points to 49.7%. Global restructuring costs decreased due to restructuring activities in Diabetes Care in 2021.

Marketing and distribution

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Marketing and distribution - IFRS basis	**(2,914)**	**(3,046)**	**-4**	**-2**
Global restructuring plans	4	100	-96	-96
Amortization of intangible assets	21	19	+11	+12
Total - Core basis	**(2,889)**	**(2,927)**	**-1**	**+1**

IFRS marketing and distribution costs were CHF 2.9 billion, a decrease of 4% (2% at CER). Core marketing and distribution costs decreased by 1% (increased by 1% at CER) to CHF 2.9 billion, due to higher distribution costs related to SARS-CoV-2 Rapid Antigen tests, partly offset by lower personnel expenses. On a core basis, marketing and distribution costs as a percentage of sales decreased to 16.3% compared to 16.5% in 2021. Global restructuring costs decreased due to restructuring activities in 2021, notably in Diabetes Care.

Research and development

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Research and development - IFRS basis	**(1,963)**	**(1,806)**	**+9**	**+9**
Global restructuring plans	(2)	33	-	-
Amortization of intangible assets	8	17	-53	-55
Total - Core basis	**(1,957)**	**(1,756)**	**+11**	**+12**

IFRS research and development costs were CHF 2.0 billion, an increase of 9% (9% at CER). Core research and development costs increased by 11% (12% at CER) to CHF 2.0 billion, with digital solutions being the main growth driver. In addition, investments continued for projects in sequencing, cardiac disease and mass spectrometry. As a percentage of sales, research and development core costs increased to 11.0% from 9.9% in 2021.

General and administration

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
General and administration - IFRS basis	**(597)**	**(656)**	-9	**-6**
Global restructuring plans	30	63	-52	-50
Mergers and acquisitions and alliances transactions	(14)	21	-	-
Legal and environmental cases	(2)	29	-	-
Total - Core basis	**(583)**	**(543)**	**+7**	**+10**
Thereof:				
Administration	(606)	(598)	+1	+4
Pensions - past service costs	0	9	-100	-100
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	0	(1)	-	-
Gains (losses) on divestment of subsidiaries	1	4	-75	-68
Business taxes and capital taxes	(23)	(20)	+15	+19
Other general items	45	63	-29	-31

IFRS general and administration costs were CHF 597 million, a decrease of 9% (6% at CER). Core general and administration costs increased by 7% (10% at CER) to CHF 0.6 billion, driven by the base impact (i.e. the non-recurrence in 2022) in other general items from a sales tax refund in 2021 and due to higher administration costs from the shift of the reporting lines of certain support functions. As a percentage of sales, core costs increased to 3.3% from 3.1% in 2021. Mergers and acquisitions and alliance transaction costs included income of CHF 27 million from the release of contingent consideration provisions in 2022.

Financial position

Net operating assets

	December 31, 2022	December 31, 2021	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Trade receivables	3,108	3,454	-10	-5	(202)	(144)
Inventories	3,346	2,987	+12	+15	455	(96)

	December 31, 2022	December 31, 2021	% change (CHF)	% change (CER)	Movement: Transactions	Movement: CTA and other
	(CHF in millions, except percentage data)					
Trade payables	(1,282)	(1,250)	+3	+6	(70)	38
Net trade working capital	**5,172**	**5,191**	**0**	**+4**	**183**	**(202)**
Other receivables (payables)	(1,904)	(2,161)	-12	-10	218	39
Net working capital	**3,268**	**3,030**	**+8**	**+14**	**401**	**(163)**
Property, plant and equipment	7,016	6,852	+2	+6	414	(250)
Right-of-use assets	239	273	-12	-8	(22)	(12)
Goodwill and intangible assets	6,829	6,939	-2	-1	(96)	(14)
Provisions	(832)	(1,062)	-22	-20	221	9
Other long-term assets, net	(2)	28	-107	-115	(35)	5
Long-term net operating assets	**13,250**	**13,030**	**+2**	**+4**	**482**	**(262)**
Net operating assets	**16,518**	**16,060**	**+3**	**+6**	**883**	**(425)**

Note: The absolute amount of the movement between the 2022 and 2021 consolidated balances reported in Swiss francs is split between actual 2022 transactions (translated at average rates for 2021) and the currency translation adjustment (CTA) that arises on consolidation. The 2022 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements).

Currency translation effects on balance sheet amounts. Compared to the start of 2022, the Swiss franc appreciated against the euro having a negative effect on the net operating assets of the Diagnostics Division. This resulted in a negative net translation impact.

Net working capital. Net working capital increased by 8% (14% at CER) to CHF 3.3 billion driven by the 12% (15% at CER) increase in inventories. The increase was in part to support the growth of the division's base business (i.e. excluding the sale of COVID-19 related tests) notably in the Core Lab customer area. In addition, there were increased inbound shipments of instruments towards the end of 2022 due to the recovery from a supply backlog. The 10% (5% at CER) decrease in trade receivables was due to the lower demand for COVID-19-related tests in the last quarter of 2022 compared to 2021. The decrease in net liability for other receivables/payables came from higher employee-related accruals in 2021.

Long-term net operating assets. Overall long-term net operating assets increased by 2% (4% at CER). Property, plant and equipment increased as a result of instrument placements as well as site investments in Germany and the United States. Goodwill and intangible assets decreased by 2% (1% at CER) following the regular amortization charges, partly offset by contingent payments for asset acquisitions previously closed. Provisions were lower due to the utilization and release of restructuring provisions and the release of contingent consideration provisions.

Free cash flow

Operating free cash flow

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**3,324**	**3,319**	**0**	**+5**
Depreciation, amortization and impairment	1,434	1,568	-9	-6
Provisions	(225)	125	-	-
Equity compensation plans	106	98	+8	+6
Other	391	371	+5	+8
Operating profit cash adjustments	**1,706**	**2,162**	**-21**	**-19**
Operating profit, net of operating cash adjustments	**5,030**	**5,481**	**-8**	**-5**
(Increase) decrease in net working capital	(706)	(342)	+106	+120
Investments in property, plant and equipment	(1,619)	(1,621)	0	+4
Principal portion of lease liabilities paid	(118)	(115)	+3	+6
Investments in intangible assets	(26)	(33)	-21	-20

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating free cash flow	**2,561**	**3,370**	**-24**	**-21**
as % of sales	14.4	19.0	-4.6	-4.5

The operating free cash flow of the Diagnostics Division decreased by 24% (21% at CER) to CHF 2.6 billion from CHF 3.4 billion in 2021. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, decreased by 8% (5% at CER), in line with the core operating profit decrease of 9% (5% at CER). Net working capital absorbed CHF 0.7 billion of cash in 2022, which was attributable to higher inventories. Capital expenditure remained stable in CHF terms and increased by 4% at CER compared to 2021 due to instrument placements as well as site investments in Germany and the United States.

Corporate operating results

General and administration

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
General and administration - IFRS basis	**(662)**	**(694)**	-5	**+2**
Global restructuring plans	111	115	-3	-2
Legal and environmental cases	(4)	3	-	-
Total - Core basis	**(555)**	**(576)**	**-4**	**+4**
Thereof:				
Administration	(546)	(536)	+2	+2
Business taxes and capital taxes	(9)	(9)	0	-9
Other general items	0	(31)	-100	-100

IFRS general and administration costs were CHF 662 million, a decrease of 5% in CHF terms and an increase of 2% at CER, which was related to cost transfers into corporate functions. Administration costs increased by 2% (2% at CER) to CHF 546 million. Other general items decreased mainly due to lower IT project costs within the overall net amount. Net working capital was lower due to increased payables. The change in long-term net operating assets was due to the utilization of provisions for ongoing environmental remediation activities at Nutley in the United States and at Grenzach in Germany. Corporate operating free cash flow showed an increased outflow, driven by movements in the net working capital and increased capital expenditure.

Foreign exchange impact on operating results

The Roche Group's exposure to movements in foreign currencies affecting its operating results, as expressed in Swiss francs, is summarized by the following key figures and comments.

Growth

	2022	2021	2022	2021
	% change (constant exchange rates)		% change (CHF)	
Pharmaceuticals Division				
Sales	+2	+3	+1	+1
Core operating profit	+5	-2	+3	-5
Diagnostics Division				
Sales	+3	+29	0	+29
Core operating profit	-5	+54	-9	+53

Group

Sales	+2	+9	+1	+8
Core operating profit	+3	+4	+1	+2

Exchange rates against the Swiss franc

	December 31, 2022	Average 2022	December 31, 2021	Average 2021
1 U.S.$	0.92	0.95	0.91	0.91
1 EUR	0.98	1.00	1.03	1.08
100 JPY	0.69	0.73	0.79	0.83

In 2022 compared to 2021, the Swiss franc was weaker against the U.S. dollar, but was stronger against the euro and the Japanese yen. The net impact expressed in Swiss francs compared to constant exchange rates was 1 percentage point on sales, 2 percentage points on core operating profit and 3 percentage points on IFRS net income.

Currency sensitivities

The sensitivity of Roche Group's sales and core operating profit to a 1% increase in average foreign currency exchange rates against the Swiss franc during 2022 is shown in the table below.

Currency sensitivities

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales	Core operating profit
	(CHF in millions)	
U.S. dollar	288	102
Euro	93	34
Japanese yen	59	57
All other currencies	175	92

The Roche Group's revenues are primarily generated from sales of products to customers. Such revenues are mainly received in the local currency of the customer's home market, although in certain emerging markets invoicing is made in major international currencies such as the U.S. dollar and euro. Cost of sales, marketing and some administration costs follow the same currency pattern as sales. The majority of research and development activities are incurred at the Group's global research facilities, and therefore the costs are mainly concentrated in U.S. dollars, Swiss francs and euros. General and administration costs tend to be incurred mainly at central locations in the United States, Switzerland and Germany. Chugai's revenues and costs are denominated in Japanese yen.

Treasury and taxation results

Treasury and taxation results – IFRS basis

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**17,476**	**18,155**	**-4**	**-1**
Financing costs	(665)	(418)	+59	+56
Other financial income (expense)	(484)	(339)	+43	+50
Profit before taxes	**16,327**	**17,398**	**-6**	**-3**
Income taxes	(2,796)	(2,463)	+14	+19
Net income	**13,531**	**14,935**	**-9**	**-6**
Attributable to:				
- Roche shareholders	12,421	13,930	-11	-8
- Non-controlling interests	1,110	1,005	+10	+20

Treasury and taxation results – Core basis

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Operating profit	**22,173**	**21,897**	**+1**	**+3**
Financing costs	(686)	(412)	+67	+64
Other financial income (expense)	(528)	(339)	+56	+63
Profit before taxes	**20,959**	**21,146**	**-1**	**+1**
Income taxes	(3,429)	(3,075)	+12	+15
Net income	**17,530**	**18,071**	**-3**	**-1**
Attributable to:				
Roche shareholders	16,401	17,038	-4	-2
Non-controlling interests	1,129	1,033	+9	+19

Treasury and taxation financial position

	December 31, 2022	December 31, 2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Net debt	(15,584)	(18,167)	-14	-18
Lease liabilities	(1,193)	(1,354)	-12	-9
Pensions	(3,604)	(4,605)	-22	-19
Income taxes	2,908	2,273	+28	+33
Equity investments	671	738	-9	-18
Derivatives, net	(459)	(73)	Over +500	Over +500
Collateral, net	180	(17)	-	-
Interest payable	(140)	(102)	+37	+37
Associated companies and other, net	317	375	-15	+5
Total net assets (liabilities)	**(16,904)**	**(20,932)**	**-19**	**-22**

Treasury free cash flow and taxation cash flow

	2022	2021	% change (CHF)	% change (CER)
	(CHF in millions, except percentage data)			
Treasury activities	(530)	(377)	+41	+39
Taxes paid	(4,102)	(3,343)	+23	+26
Total	**(4,632)**	**(3,720)**	**+25**	**+27**

Financing costs

IFRS financing costs were CHF 665 million, an increase of 59% (56% at CER). Core financing costs were CHF 686 million, an increase of 67% (64% at CER) compared to 2021. Interest expenses on debt increased by 85% (81% at CER) to CHF 588 million due to the issuance of debt in December 2021, February, March and September 2022 as well as increases in interest rates which affected the cost of short-term borrowings, such as commercial paper. See Note 4 to the 2022 Consolidated Financial Statements for a full analysis of financing costs.

Other financial income (expense)

IFRS other financial income (expense) was a net expense of CHF 484 million, compared to a net expense of CHF 339 million in 2021. Core other financial income (expense) was a net expense of CHF 528 million compared to a net expense of CHF 339 million in 2021. Core net income from equity securities, which reflects the fair value changes

in the Roche Venture Fund investments, was a net loss of CHF 123 million compared to a net loss of CHF 87 million in 2021. The net foreign exchange results, which reflect hedging costs and gains and losses on unhedged positions, were net losses of CHF 278 million compared to net losses of CHF 232 million in 2021. Losses on the net monetary positions in hyperinflationary economies in Argentina and Türkiye were CHF 70 million compared to losses of CHF 20 million in 2021. See Note 4 to the 2022 Consolidated Financial Statements for a full analysis of other financial income (expense).

Income taxes

The Roche Group's effective IFRS tax rate increased by 2.9 percentage points to 17.1% compared to 14.2% in 2021. In addition to the core impacts mentioned below, the impairments of intangible assets that are not tax deductible further increased the IFRS tax rate.

The Roche Group's effective core tax rate increased by 1.9 percentage points to 16.4% in 2022 compared to 14.5% in 2021. The increase was mainly due to the impact from the resolution of several tax disputes, which reduced the Roche Group's effective core tax rate by 1.5 percentage points in 2022 compared to 3.3 percentage points in 2021.

See Note 5 to the 2022 Consolidated Financial Statements for further details on the Roche Group's income tax expenses and related balance sheet positions.

Group's effective tax rate

	2022			2021		
	Profit before tax	Income taxes	Tax rate (%)	Profit before tax	Income taxes	Tax rate (%)
	(CHF in millions, except percentage data)					
Group's effective tax rate - IFRS basis	**16,327**	**(2,796)**	**17.1**	**17,398**	**(2,463)**	**14.2**
Global restructuring plans	969	(193)	19.9	1,362	(267)	19.6
Goodwill and intangible assets	3,770	(515)	13.7	2,207	(316)	14.3
Mergers and acquisitions and alliance transactions	(65)	(1)	-	57	(10)	17.5
Legal and environmental cases	(42)	8	19.0	122	(15)	12.3
Pension plan settlements	0	0	-	0	0	-
Normalization of equity compensation plan tax benefit	0	68	-	0	(4)	-
Group's effective tax rate - core basis	**20,959**	**(3,429)**	**16.4**	**21,146**	**(3,075)**	**14.5**

Financial position

The decrease in net debt was due to the free cash flow of CHF 13.0 billion, partly offset by the dividend payments of CHF 7.8 billion. The CHF 19.0 billion bridge loan facility drawn in 2021 to finance the share repurchase from Novartis was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. The new debt issued to refinance the bridge loan facility was U.S.$ 6.0 billion issued in December 2021, CHF 3.0 billion issued in February 2022 and U.S.$ 5.0 billion issued in March 2022. Further debt of CHF 0.8 billion was issued in September 2022. Lease liabilities decreased to CHF 1.2 billion due to the regular payments. The net pension liability was lower following increases in discount rates. The net tax assets increased mainly due to taxes paid exceeding the income tax expenses, partially offset by the deferred tax effects of the pension and equity compensation plans. At December 31, 2022 the Roche Group held equity investments with a market value of CHF 0.7 billion, which consist mostly of holdings in biotechnology and other pharmaceuticals companies which were acquired as part of licensing transactions and scientific collaborations or as investments of

the Roche Venture Fund. The net derivative liabilities increased to CHF 0.5 billion as a result of interest rate and exchange rate movements.

Group cash flow – Divisional breakdown

Free cash flow

	Pharmaceuticals	Diagnostics	Corporate	Group
		(CHF in millions)		
2022				
Operating profit - IFRS basis	14,814	3,324	(662)	17,476
Operating profit cash adjustments	5,779	1,706	87	7,572
Operating profit, net of operating cash adjustments	20,593	5,030	(575)	25,048
(Increase) decrease in net working capital	(1,745)	(706)	33	(2,418)
Investments in property, plant and equipment	(1,744)	(1,619)	(86)	(3,449)
Principal portion of lease liabilities paid	(274)	(118)	(13)	(405)
Investments in intangible assets	(1,077)	(26)	0	(1,103)
Operating free cash flow	**15,753**	**2,561**	**(641)**	**17,673**
Treasury activities				(530)
Taxes paid				(4,102)
Free cash flow				**13,041**
2021				
Operating profit - IFRS basis	15,530	3,319	(694)	18,155
Operating profit cash adjustments	4,940	2,162	79	7,181
Operating profit, net of operating cash adjustments	20,470	5,481	(615)	25,336
(Increase) decrease in net working capital	(745)	(342)	93	(994)
Investments in property, plant and equipment	(2,008)	(1,621)	(64)	(3,693)
Principal portion of lease liabilities paid	(255)	(115)	(12)	(382)
Investments in intangible assets	(823)	(33)	0	(856)
Operating free cash flow	**16,639**	**3,370**	**(598)**	**19,411**
Treasury activities				(377)
Taxes paid				(3,343)
Free cash flow				**15,691**

Free cash flow

The net cash outflow from treasury activities was CHF 0.5 billion compared to an outflow of CHF 0.4 billion in 2021. This was mainly due to higher interest payments following increases in interest rates that affected the cost of short-term borrowings. Total taxes paid were CHF 4.1 billion, an increase of 23% (26% at CER), with higher payments in the United States due to tax requirements on the mandatory capitalization of research and development expenses becoming effective in 2022, and higher payments in Japan.

Operating free cash flow

Operating free cash flow decreased by 9% (8% at CER) to CHF 17.7 billion. This was mainly due to the increased net working capital that absorbed an additional CHF 2.4 billion of cash, driven by the increase in trade receivables in the Pharmaceuticals Division and inventories in both divisions. The free cash flow was CHF 13.0 billion, a decrease of 17% (16% at CER). This was a result of the lower operating free cash flow, higher short-term borrowing costs due to increased interest rates and higher tax payments, notably in the United States and Japan.

Liquidity

Debt profile

Net debt

Total debt of the Group as of June 30, 2024, December 31, 2023, December 31, 2022 and December 31, 2021 was CHF 34.4 billion, CHF 29.2 billion, CHF 25.4 billion and CHF 31.2 billion, respectively.

The net debt position of the Group at June 30, 2024 was CHF 25.6 billion, an increase of CHF 6.9 billion from December 31, 2023. The increase during the first half of 2024 was due to CHF 7.9 billion for the annual dividend payments and the CHF 2.5 billion payment for the Carmot acquisition, which exceeded the free cash flow of CHF 5.6 billion.

The net debt position of the Group as of December 31, 2023 was CHF 18.7 billion, an increase of CHF 3.1 billion from December 31, 2022 primarily due to the CHF 6.2 billion payment for the Telavant asset acquisition.

The net debt position of the Group at December 31, 2022 decreased by CHF 2.6 billion to CHF 15.6 billion. The decrease in net debt was due to the free cash flow of CHF 13.0 billion, partly offset by the dividend payments of CHF 7.8 billion.

The net debt position of the Group at December 31, 2021 increased by CHF 16.3 billion to CHF 18.2 billion. The increase in net debt was due to the financing of the repurchase of Roche shares of CHF 19.0 billion held by Novartis, dividend payments of CHF 8.1 billion and merger and acquisition payments of CHF 2.4 billion, partly offset by the free cash flow of CHF 15.7 billion.

Net debt

	(CHF in millions)
As of January 1, 2024	
Cash and cash equivalents	5,376
Marketable securities	5,134
Long-term debt	(24,809)
Short-term debt	(4,400)
Net debt at beginning of period	**(18,699)**
Change in net debt during the six months ended June 30, 2024	
Free cash flow	5,591
Dividend payments	(7,889)
Transactions in own equity instruments	(514)
Mergers and acquisitions, net of divestments of subsidiaries	(2,459)
Hedging and collateral arrangements	(108)
Currency translation, fair value and other movements	(1,549)
Change in net debt	**(6,928)**
As of June 30, 2024	
Cash and cash equivalents	4,824
Marketable securities	3,990
Long-term debt	(28,420)
Short-term debt	(6,021)
Net debt at end of period	**(25,627)**

	(CHF in millions)
As of January 1, 2023	
Cash and cash equivalents	4,991
Marketable securities	4,776

	(CHF in millions)
Long-term debt	(21,391)
Short-term debt	(3,960)
Net debt at beginning of period	**(15,584)**
Change in net debt during the year ended December 31, 2023	
Free cash flow	11,288
Dividend payments	(7,926)
Transactions in own equity instruments	(1,144)
Mergers and acquisitions, net of divestments of subsidiaries	(6,242)
Hedging and collateral arrangements	155
Currency translation, fair value and other movements	754
Change in net debt	**(3,115)**
As of December 31, 2023	
Cash and cash equivalents	5,376
Marketable securities	5,134
Long-term debt	(24,809)
Short-term debt	(4,400)
Net debt at end of period	**(18,699)**

Sources of debt

The Group's funding sources include primarily unsecured bond and note issuances for a term greater than one year. The following table sets forth the Group's outstanding debt by source as of June 30, 2024 and December 31, 2023.

	June 30, 2024	December 31, 2023
	(CHF in millions)	(CHF in millions)
Debt, consisting of		
Bonds and notes	32,210	27,812
Commercial paper	1,624	848
Amounts due to banks and other financial institutions	606	547
Other borrowings	1	2
Total debt	**34,441**	**29,209**
Reported as		
Long-term debt	28,420	24,809
Short-term debt	6,021	4,400
Total debt	**34,441**	**29,209**

Liquidity profile

The following table sets forth a profile of the contractual maturity of the Group's financial liabilities, as of the dates indicated. With respect to all columns other than "Carrying value," this represents undiscounted cash flow including interest payments.

	Carrying Value	Total	Less than 1 Year	1 - 2 Years	2 - 5 Years	Over 5 Years
	(CHF in millions)					
As of December 31, 2023						
Debt[1]						
Bonds and notes	27,812	35,231	4,616	4,038	11,326	15,251

	Carrying Value	Total	Less than 1 Year	1 - 2 Years	2 - 5 Years	Over 5 Years
			(CHF in millions)			
Other debt	1,397	1,397	1,397	0	0	0
Contingent consideration[2]	95	106	35	13	38	20
Accounts payable[3]	4,325	4,325	4,325	–	–	–
Other non-current liabilities[4]	1,541	1,708	–	504	481	723
of which lease liabilities	*1,282*	*1,449*	–	*260*	*478*	*711*
Other current liabilities[5]	12,150	12,173	12,079	55	39	0
of which lease liabilities	*291*	*314*	*314*	–	–	–
of which derivative financial instruments	*420*	*420*	*326*	*55*	*39*	*0*
Liabilities directly associated with assets held for sale[6]	8	8	8	–	–	–
Total financial liabilities	**47,328**	**54,948**	**22,460**	**4,610**	**11,884**	**15,994**

(1) See Note 21 to the 2023 Consolidated Financial Statements for further information.

(2) See Note 20 to the 2023 Consolidated Financial Statements for further information.

(3) See Note 17 to the 2023 Consolidated Financial Statements for further information.

(4) See Note 18 to the 2023 Consolidated Financial Statements for further information.

(5) See Note 19 to the 2023 Consolidated Financial Statements for further information.

(6) See Note 6 to the 2023 Consolidated Financial Statements for further information.

Bonds and notes: aggregate principal amounts as of June 30, 2024 by contractual maturity

	U.S. Dollar Principal	Euro Principal	Swiss Franc Principal	Total[1]	Total[1]
	(U.S.$ in millions)	(EUR in millions)	(CHF in millions)	(U.S.$ in millions)	(CHF in millions)
2024	589	0	750	1,424	1,280
2025	2,256	1,000	500	3,883	3,489
2026	3,050	0	425	3,523	3,166
2027	2,100	600	825	3,660	3,290
2028	3,900	0	140	4,056	3,645
2029-2033	6,475	1,400	1,940	10,132	9,106
2034 and beyond	6,304	2,250	530	9,302	8,360
Total	**24,674**	**5,250**	**5,110**	**35,980**	**32,336**

(1) Total translated as of June 30, 2024 exchange rates.

The Roche Group plans to meet its debt obligations using existing liquid funds as well as cash generated from business operations. In 2023, the free cash flow was CHF 11.3 billion compared to CHF 13.0 billion in 2022, which included the cash generated from operations, as well as payment of interest and tax. In the first half of 2024 the free cash flow was CHF 5.6 billion.

In 2022, the free cash flow was CHF 13.0 billion compared to CHF 15.7 billion in 2021, which included the cash generated from operations, as well as payment of interest and tax. In the first half of 2023 the free cash flow was CHF 6.1 billion.

The Company has an established commercial paper program under which it can issue up to U.S.$7.5 billion of unsecured commercial paper notes guaranteed by the Guarantor. The committed credit line that is available as a back-stop supporting the commercial paper program was U.S.$7.5 billion at June 30, 2024. On July 3, 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026. The maturity of the notes under the program cannot exceed 365 days from the date of issuance. At June 30, 2024,

unsecured commercial paper notes with a principal amount of U.S.$ 1.8 billion and an average interest rate of 5.33% were outstanding.

For longer-term financing the Group maintains high long-term investment-grade credit ratings of AA by Standard & Poor's, Aa2 by Moody's and AA by Fitch which should facilitate efficient access to international capital markets.

On January 19, 2024, the Group as borrower, and Barclays Bank PLC and Deutsche Bank AG, Luxembourg Branch as original lenders, entered into a short-term bridge facility for general corporate purposes, including but not limited to mergers and acquisitions and repayments of maturing debts. On January 26, 2024, the Group utilized U.S.$2.85 billion of this bridge facility, of which U.S.$1.85 billion and U.S.$1.0 billion were repaid on March 8, 2024 and May 3, 2024, respectively. The bridge facility matured on May 17, 2024.

On November 3, 2021, Roche, as borrower, and BNP Paribas and Deutsche Bank AG, Luxembourg Branch, as original lenders, among others, entered into a bridge facility for total commitments of CHF 9.8 billion and U.S.$10 billion (as amended from time to time, the "Bridge Facility"). The Bridge Facility matured on May 3, 2022. The borrowings under the Bridge Facility were used to finance the repurchase of shares from Novartis.

Further information on the Roche Group's debt is set forth in Note 11 to the H1 2024 Interim Consolidated Financial Statements, Note 21 to the 2023 Consolidated Financial Statements and Note 21 to the 2022 Consolidated Financial Statements.

Financial risks

Credit risk

Credit risk arises from the possibility that counterparties to transactions may default on their obligations causing financial losses for the Roche Group. As at June 30, 2024, the rating profile of the Roche Group's CHF 8.8 billion of cash and fixed income marketable securities remained high with 93% being invested in the A–AAA range. The Roche Group has signed netting and collateral agreements with the counterparties in order to mitigate counterparty risk on derivative positions. Bad debt expenses and overdue receivables remained at a relatively low level.

As at June 30, 2024, the Roche Group had trade receivables of CHF 12.2 billion. These are subject to a policy of active credit risk management which focuses on the assessment of country risk, credit availability, ongoing credit evaluation and account monitoring procedures. The objective of trade receivables management is to maximize the collection of unpaid amounts.

Liquidity risk

Liquidity risk arises through a surplus of financial obligations over available financial assets due at any point in time. The Roche Group's approach to liquidity risk is to maintain sufficient readily available reserves in order to meet its liquidity requirements at any point in time. In addition to the current liquidity position, the Roche Group has high cash generation ability. Those future cash flows will be used to repay debt instruments in the coming years. Free cash flow was CHF 5.6 billion in the first half of 2024, as compared to CHF 6.1 billion in the first half of 2023.

The Roche Group has entered into contract manufacturing agreements with various companies to further develop manufacturing capacity and flexibility, mainly in the Pharmaceuticals Division. There are future minimum take-or-pay commitments within some of these agreements with a total potential commitment from the Group of CHF 1.7 billion at December 31, 2023.

Roche continues to enjoy high long-term investment-grade credit ratings of AA by Standard & Poor's, Aa2 by Moody's and AA by Fitch. At the same time, Roche is rated at the highest available short-term ratings by those agencies. In the event of financing requirements, the credit ratings of the Roche Group should permit efficient access to international capital markets, including the commercial paper market. The Roche Group has committed credit lines with various financial institutions totaling U.S. $7.5 billion, available as back-stop lines for the commercial

paper program. As at June 30, 2024, no debt has been drawn under these credit lines. On January 19, 2024, the Group executed a short-term bridge facility agreement mentioned above under "— *Liquidty — Liquidity profile*."

Market risk

Market risk arises from changing market prices of the Roche Group's financial assets or financial liabilities. The exposures are predominantly related to changes in interest rates, foreign exchange rates and equity prices. The Group uses Value-at-Risk ("VaR") to assess the impact of market risk on its financial instruments. VaR data indicates the value range within which a given financial instrument will fluctuate with a pre-set probability as a result of movements in market prices. The Group's VaR has increased since December 31, 2023, reflecting bond issuances during the first half of 2024.

Interest rate risk

Interest rate risk arises from movements in interest rates which could affect the Roche Group's financial result or the value of the Roche Group equity. The Group mainly raises debt on a fixed rate basis for bonds and notes. The Roche Group is exposed to movements in interest rates, mainly for its U.S. dollar, Swiss franc and euro floating rate financial instruments and short-term debt. The Roche Group's interest rate risk management strategy is to optimize the net interest result. The Roche Group may use forward contracts, options and interest rate swaps to hedge its interest rate exposures. Depending on the interest rate environment of major currencies, the Group will use these instruments to generate an appropriate mix of fixed and floating rate exposures.

Further information on financial risk management and financial risks and the VaR methodology is included in Note 16 to the H1 2024 Interim Consolidated Financial Statements, Note 31 to the 2023 Consolidated Financial Statements and Note 31 to the 2022 Consolidated Financial Statements.

BUSINESS

Overview of the Company

Roche Holdings, Inc. was incorporated in the State of Delaware on December 4, 1987 and is an indirect wholly owned subsidiary of Roche. The Company is the holding company for Roche's principal operating subsidiaries and equity investments in the United States. As such, the Company provides financing to its subsidiaries and refinances their obligations. As of June 30, 2024, the Company had notes outstanding in aggregate principal amounts of U.S.$24,303 million (excluding U.S.$288 million of outstanding notes issued by Genentech). These notes represent unsecured, direct and unsubordinated obligations of the Company.

The Company and its subsidiaries operate businesses in two different areas, pharmaceuticals and diagnostics. The Pharmaceuticals Division includes Hoffmann-La Roche Inc. and Genentech, Inc.

The Pharmaceuticals Division is engaged in the research and development, manufacture and marketing of pharmaceutical products, sold primarily to wholesalers and hospitals.

The Diagnostics Division includes Roche Diagnostics Corporation, Roche Diagnostics Operations, Inc. and Roche Molecular Systems, Inc. The Diagnostics Division is engaged in the research and development, manufacture and marketing of diagnostic reagents, test kits and equipment. The Diagnostics Division includes the supply of diagnostic equipment, reagents, services in the field of *in vitro* diagnostics and life sciences. The diagnostics products are sold primarily to retailers, wholesalers, hospitals, laboratory companies and research institutions.

The Company's registered office is located at 1209 Orange Street, Wilmington, Delaware 19801, United States, and its corporate office is located at 1 DNA Way, Building 20 – MS24, South San Francisco, California 94080, United States (telephone number: +1-650-225-7893).

Overview of the Guarantor

Roche Holding Ltd is the parent company of an international research-based healthcare group, which was founded in 1896 and is active in more than 150 countries and as of December 31, 2023, employed more than 100,000 people worldwide. In 1989, Roche Holding Ltd assumed its present name following a capital and corporate restructuring which created Roche Holding Ltd as a holding company and transferred operating businesses and related assets and liabilities to a newly established operating subsidiary, F. Hoffmann-La Roche Ltd, also incorporated in Basel. Roche is a limited liability joint-stock company incorporated under the laws of Switzerland. Roche's registered office is Grenzacherstrasse 124, 4058 Basel, Switzerland (telephone number: +41 61 688 11 11).

As of June 30, 2024, the Roche Group was one of the largest companies in Switzerland in terms of market capitalization across all industries (source: Bloomberg). Based on 2023 sales, the Roche Group was among the world's largest producers of pharmaceuticals and was one of the world's leading suppliers of *in vitro* diagnostics (source: Roche Group internal analysis, IQVIA Boston Medical Consultants). The Roche Group has two operational divisions: pharmaceuticals and diagnostics. These divisions offer products for screening and early detection, prevention, diagnosis of disease, treatment and treatment monitoring. Combining the strengths of both divisions provides the Roche Group with a competitive advantage in driving personalized healthcare solutions.

The Roche Group's principal strengths are its long tradition of research, its clinical development of new products, its balanced and diversified portfolio of innovative products, its strategic alliances and its position among the leaders in important market segments.

The Roche Group is one of the world's largest biotech companies and a leading provider of cancer treatment drugs worldwide. The Roche Group is also the world leader of *in vitro* diagnostics and tissue-based cancer diagnostics and a frontrunner in diabetes management (source: Roche Group internal analysis, IQVIA Boston Medical Consultants). The Pharmaceuticals Division is active in major therapeutic areas, such as oncology, hematology, neurology, immunology, ophthalmology, and infectious diseases. Furthermore, the Roche Group has one of the strongest drug development pipelines in the industry with 77 new molecular entities in clinical development as of July 18, 2024 and 41 projects in phase III overall (i.e., in the phase of efficacy testing) with 11 projects in registration. The Roche Group's personalized healthcare strategy, which allows doctors to pinpoint those patients most likely to benefit from

a drug, aims at providing medicines and diagnostics that enable tangible improvements in the health, quality of life and survival of patients.

Sustainability is an integral part of the Roche Group's approach to business. The Roche Group contributes to society by developing innovative medicines and diagnostics, and offering digital solutions that help people live healthier lives. In November 2022, the Roche Group announced that it is committing to the Science Based Targets initiative and the Sustainable Markets Initiative to achieve net zero for scope 1, 2 and 3 greenhouse gas emissions. The Roche Group joined the Sustainable Markets Initiative, which was launched at COP26 as a private-public collaboration of fourteen members to support transition to net zero emissions. The Roche Group is also participating in the Energize renewable electricity program which aims to increase access to renewable electricity across supply chains in the pharmaceutical industry. Roche Group believes that this approach helps to generate value for society while also supporting Roche Group to achieve sustainable business growth.

Roche Group organization

Recent acquisitions or other M&A developments

On July 29, 2024, the Roche Group acquired a 100% controlling interest in selected subsidiaries of LumiraDx Limited ("LumiraDX"), a company incorporated under the laws of the Cayman Islands, as part of a pre-packaged UK administration sale. With the acquisition, the Roche Group obtained access to LumiraDx's point-of-care technology which combines multiple diagnostic modalities on a single platform. LumiraDx is reported in the Diagnostics Division. The cash consideration paid at the acquisition date is U.S.$295 million (subject to customary closing adjustments) and an additional payment of up to U.S.$69 million for the reimbursement of amounts to fund the point-of-care technology platform business until the closing of the acquisition.

On January 26, 2024, the Roche Group acquired a 100% controlling interest in Carmot Therapeutics, Inc. ("Carmot"), a privately owned U.S. company based in Berkeley, California. With the acquisition, the Roche Group obtained access to Carmot's current research and development portfolio, which includes three clinical-stage product candidates to treat obesity and diabetes, as well as a number of preclinical programs. Carmot's lead product candidate, CT-388, is a phase II-ready dual GLP-1/GIP receptor agonist for the treatment of overweight and obese patients with comorbidities. Carmot is reported in the Pharmaceuticals Division. The purchase consideration was U.S.$2.9 billion in cash and up to U.S.$0.4 billion from a contingent consideration arrangement.

On December 14, 2023, the Roche Group acquired a 100% controlling interest in Telavant Holdings, Inc. ("Telavant"), a U.S. company owned by Roivant Sciences Ltd. ("Roivant") and Pfizer Ltd. ("Pfizer") and based in New York. With the acquisition, the Roche Group obtained full rights to further develop and manufacture RVT-3101 and commercialize it in the U.S. and in Japan pending clinical and regulatory success. Outside of the U.S. and Japan, Pfizer holds commercialization rights. RVT-3101 is a phase III-ready novel TL1A-directed antibody for the treatment of inflammatory bowel disease, including ulcerative colitis and Crohn's disease, and potentially multiple other diseases. In addition, with the acquisition, the Roche Group obtained an option to enter into a global collaboration with Pfizer on a next-generation p40/TL1A-directed bispecific antibody which is currently in phase I. Telavant is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was U.S.$7.1 billion. An additional contingent payment of U.S.$150 million may be made based on the achievement of a predetermined performance-related near-term milestone.

In May 2023, the Roche Group announced plans to exit its legacy Genentech manufacturing facility in Vacaville, California, as part of a broader strategy to evolve its manufacturing capabilities in line with future pipeline requirements. On March 20, 2024, the Group announced a definitive agreement with Lonza Group AG ("Lonza") under which Lonza will acquire this facility for U.S.$1.2 billion in conjunction with a manufacturing agreement and related quality assurance services and warehousing. Subject to the completion of applicable regulatory approvals and transition preparations, the transaction is expected to close in the second half of 2024. As of June 30, 2024, the assets and certain liabilities directly associated with the Vacaville manufacturing plant, with a carrying value of CHF 740 million, were classified as held for sale. This transaction is reported in the Pharmaceuticals Division.

On September 26, 2022, the Roche Group acquired a 100% controlling interest in Good Therapeutics, Inc. ("Good Therapeutics"), a privately owned U.S. company based in Seattle, Washington. With the acquisition, the Roche Group gained access to Good Therapeutics' PD-1-regulated IL-2 program. Good Therapeutics is reported in the

Pharmaceuticals Division. The cash consideration paid at the acquisition date was U.S.$197 million. Additional contingent payments may be made by the Roche Group based upon the achievement of performance-related milestones. This transaction did not qualify as business combination under IFRS 3 and has been accounted for as addition to intangible assets.

Strategic alliances and licensing

The Roche Group regularly enters into research and development alliances in order to strengthen its competitive position and meet significant medical needs. To this end, the Group maintains a host of scientific and commercial collaborations with external biotech companies, universities and research organizations around the world.

In the first half of 2024, in-licensing and alliance transactions resulted in the recognition of intangible assets of CHF 0.3 billion (CHF 0.2 billion in the first half of 2023).

In July 2023, the Roche Group announced that it had entered into a collaboration and license agreement with Alnylam Pharmaceuticals, Inc. ("Alnylam") to develop and commercialize zilebesiran, an investigational RNAi therapeutic currently in Phase 2 for the treatment of hypertension. As a part of this agreement, Alnylam and the Roche Group will co-commercialize zilebesiran in the United States and share cost and profits equally. Outside the United States, the Roche Group obtains exclusive commercialization rights. Alnylam will lead a joint clinical development plan for the first indication with the Roche Group's participation, which includes a cardiovascular outcomes trial prior to submission of zilebesiran for regulatory approval, with all development costs shared by Alnylam and by the Roche Group. The Roche Group may lead development for additional indications in the future. Under the terms of the agreement, Alnylam will receive an upfront payment of U.S.$310 million and is eligible to receive development, regulatory and commercial milestones including substantial near-term milestones, together with equal profit and loss share in the United States and royalties outside of the United States.

In March 2023, the Roche Group announced that it had entered into a collaboration with Eli Lilly and Company ("Lilly") to support the development of the Roche Group's Elecsys Amyloid Plasma Panel ("EAPP"). The EAPP is a blood test that aims to facilitate the earlier diagnosis of Alzheimer's disease. This collaboration is aligned to both the Roche Group's and Lilly's shared objective to support patients by improving the journey to a timely and accurate diagnosis and treatment. If approved, the EAPP test would be an additional tool to identify low likelihood of amyloid pathology in symptomatic patients and determine whether they should proceed to further evaluation and testing that may confirm a diagnosis.

In August 2022, the Roche Group announced a global license agreement with Kiniksa Pharmaceuticals for the rights to develop and commercialize vixarelimab, a fully human monoclonal antibody targeting oncostatin M receptor beta.

In July 2022, the Roche Group entered into a strategic global research collaboration and license agreement with Poseida Therapeutics, Inc. to develop allogeneic CAR-T therapies directed to hematologic malignancies. The collaboration covers the research and development of multiple existing and novel "off-the-shelf" cell therapies against targets in multiple myeloma, B-cell lymphomas and other hematologic indications.

The Group licenses to other firms development projects and technologies that it chooses not to develop on its own or that do not fit into its strategic plans. Additionally, the Group licenses technologies from third parties that complement its research and development efforts or products that more fully utilize the Group's marketing resources.

Global restructuring plans

During the six months ended June 30, 2024, the Roche Group continued the implementation of various global restructuring plans initiated in 2024 and prior years.

Total costs for global restructuring plans were CHF 762 million in the first six months of 2024, compared to CHF 678 million in the first six months of 2023.

The Pharmaceuticals Division incurred restructuring costs of CHF 454 million, primarily for research and development optimization initiatives, manufacturing network strategy and a business process transformation to simplify the systems landscape. The Diagnostics Division incurred costs of CHF 60 million for manufacturing and supply chain optimizations, research and development productivity initiatives and business transformations to drive organizational and commercial effectiveness. This was partly offset by reversals of unused restructuring provisions following the completion of certain optimization plans within the Diagnostics Division. Corporate costs were CHF 248 million and included a business process transformation to simplify the systems landscape as well as to reduce process complexity. This transformation is a multi-year cross-divisional program to drive efficiency gains through system and process optimization.

Further details are described in Note 7 to each of the H1 2024 Interim Consolidated Financial Statements, the 2023 Consolidated Financial Statements and the 2022 Consolidated Financial Statements.

Business activities and markets

The Roche Group consists of two divisions: Pharmaceuticals and Diagnostics.

Pharmaceuticals Division

With sales of CHF 22.6 billion in the first six months of 2024, CHF 22.5 billion in the first six months of 2023, the Pharmaceuticals Division represented 75.8% and 75.6% of the Group's sales in the first six months of 2024 and 2023, respectively. The sales for the first six months of 2023 have been restated to account for the Foundation Medicine business, which was moved to the Diagnostics Division from the Pharmaceuticals Division effective January 1, 2024.

The following is a description of the Roche Group's main therapeutic areas and the major products within each area:

Oncology

The Group, including Chugai, is one of the world leading providers of cancer care products. Its portfolio currently includes several key drugs that help patients live longer in a number of different tumor types:

- *Tecentriq*, approved in 2016, is the Group's first immunotherapy medicine that has the potential to be used as a foundational combination partner with other immunotherapies, targeted medicines and various chemotherapies across a broad range of cancers. *Tecentriq* is approved in the United States, EU and countries around the world, either alone or in combination with targeted therapies and/or chemotherapies in various forms of NSCLC, SCLC, certain types of metastatic urothelial cancer, in PD-L1-positive metastatic triple-negative breast cancer and for hepatocellular carcinoma. In the United States, *Tecentriq* is also approved in combination with *Cotellic* and *Zelboraf* for the treatment of people with BRAF V600 mutation-positive advanced melanoma.

- *Perjeta*, *Kadcyla* and *Herceptin* are used in the treatment of HER2-positive breast cancer and *Herceptin* for HER2-positive metastatic (advanced) gastric (stomach) cancer. *Phesgo* combines *Perjeta* and *Herceptin* with Halozyme Therapeutics' Enhanze drug delivery technology in a novel formulation for subcutaneous (SC) use and was approved for the treatment of early and metastatic HER2-positive breast cancer in 2020. It is the first time that Group has combined two monoclonal antibodies that can be administered by a single SC injection.

- *Gazyva/Gazyvaro* is approved in combination with chlorambucil for people with previously untreated chronic lymphocytic leukemia (CLL), in combination with bendamustine for people with certain types of previously treated follicular lymphoma, in combination with chemotherapy for previously untreated, follicular lymphoma.

- *Venclexta/Venclyxto*, approved since 2016, is a first-in-class targeted medicine used for the treatment of newly diagnosed AML in adults 75 years or older, or who have comorbidities that preclude use of intensive induction chemotherapy, and in the EU (as *Venclyxto*) for the treatment of adult patients with newly diagnosed AML who are ineligible for intensive chemotherapy. *Venclexta/Venclyxto* is approved in the

United States for adult patients with CLL or SLL; in combination with azacitidine, or decitabine, or low-dose cytarabine for the treatment of newly diagnosed AML in adults 75 years or older, or who have comorbidities that preclude use of intensive induction chemotherapy and in the EU in combination with *MabThera/Rituxan* for the treatment of adult patients with CLL who have received at least one prior therapy; in combination with *Gazyva/Gazyvaro* for the treatment of adult patients with previously untreated CLL; and as a monotherapy for the treatment of CLL in the presence of 17p deletion or TP53 mutation in people who are unsuitable for or have failed a B-cell receptor pathway inhibitor. *Venclexta/Venclyxto* is being developed by AbbVie and the Group. It is jointly commercialized by AbbVie and Genentech, a member of the Group, in the U.S. and commercialized by AbbVie outside of the United States.

- *Polivy*, which is part of a combination therapy for the treatment of adults with relapsed or refractory diffuse large B-cell lymphoma was granted accelerated approval in the United States in 2019 and conditional approval in the EU in 2020. In 2023, *Polivy* was approved in the United States, following EU approval in 2022, for first line diffuse large B-cell lymphoma in combination with R-CHP for the treatment of adult patients that meet certain criteria.

- *Alecensa* is a highly selective, CNS active, oral medicine that is used to treat a specific type of lung cancer identified as ALK-positive. *Alecensa*, first granted accelerated approval in 2015 in the United States, is approved as a first-line treatment for ALK-positive, metastatic NSCLC around the world including in Europe. In 2024, *Alecensa* was approved in the United States, EU, and China for adjuvant ALK-positive NSCLC.

- In 2022, *Lunsumio* was approved in the United States and was granted conditional marketing authorization in the EU for the treatment of relapsed or refractory follicular lymphoma and in early 2023, *Columvi* was approved in the United States in June 2023 and in the EU in July 2023 for the treatment of relapsed or refractory diffuse large B-cell lymphoma.

- *MabThera/Rituxan* is a treatment for patients with common forms of blood cancers, non-Hodgkin's lymphoma (NHL) and chronic lymphocytic leukemia (CLL).

- *Avastin* is an antiangiogenesis treatment for several types of cancer including advanced colorectal, breast (excluding the United States), lung, kidney and ovarian cancer, as well as for relapsed glioblastoma, a type of brain tumor.

Immunology

The Group's principal products in this area includes:

- *Actemra/RoActemra* for the treatment of rheumatoid arthritis, a chronic, progressive inflammatory disease of the joints and surrounding tissues that is associated with intense pain, irreversible joint destruction and systemic complications, and

- *Xolair* to treat allergic asthma and chronic spontaneous urticaria, which it sells in the United States (outside the United States *Xolair* is marketed by Novartis). In 2024, *Xolair* was approved in the United States for the reduction of allergic reactions, including anaphylaxis, that may occur with accidental exposure to one or more foods in adult and paediatric patients aged one year and older with IgE-mediated food allergy.

- The Roche Group also produces *Pulmozyme*, for use in the treatment of cystic fibrosis, *CellCept* for use in preventing solid organ transplant rejection, as well as *Esbriet*, a medicine for idiopathic pulmonary fibrosis.

Ophthalmology

The Group produces *Lucentis* for the treatment of "wet" age-related macular degeneration (AMD) of the eye, macular edema following retinal vein occlusion and diabetic macular edema, which it sells in the United States (outside the United States *Lucentis* is marketed by Novartis). In October 2021, the Roche Group received U.S. approval for *Susvimo* for the treatment of AMD. In January 2022, *Vabysmo* received FDA approval for the treatment of neovascular or "wet" age-related macular degeneration (nAMD) and diabetic macular edema (DME), and in

October 2023, the FDA approved *Vabysmo* for the treatment of macular edema following retinal vein occlusion (RVO).

Hemophilia A

The Group produces *Hemlibra* for the treatment of hemophilia A with factor VIII inhibitors. It is also approved to treat people with hemophilia A without factor VIII inhibitors. *Hemlibra* is the only prophylactic treatment that can be administered subcutaneously and with multiple dosing options (once weekly, once every two weeks or once every four weeks).

Infectious Diseases

The Group has several widely used drugs which have proved to be effective in the treatment of a number of viral diseases. The Group's principal products in this area are *Tamiflu* (anti-influenza) and *Xofluza* (anti-influenza). In addition, the Roche Group sells *Ronapreve* for the treatment and prevention of SARS-CoV2 infections. In 2022, *Xofluza* was approved in the United States for treatment of influenza in children aged five years and older and *Actemra* was approved by the FDA for treatment of COVID-19 in hospitalized adults who are receiving systemic corticosteroids and require supplemental oxygen, non-invasive or invasive mechanical ventilation or extracorporeal membrane oxygenation.

Neurology

The Group produces *Ocrevus* (launched in the United States in April 2017) for treatment of relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS), *Enspryng* for the treatment of neuromyelitis optica spectrum disorder (NMOSD) as well as *Madopar* for treatment of patients with Parkinson's disease and restless leg syndrome. The Roche Group also produces *Evrysdi* for the treatment of spinal muscular atrophy (SMA).

Other Therapeutic Areas

The Roche Group produces *Activase/TNKase* which is approved for treating heart attacks and acute massive pulmonary embolism, and can also be used to treat adults with acute ischemic stroke.

Mircera and *NeoRecormon/Epogin* are medicines used to treat symptomatic anemia in patients with chronic kidney disease.

Principal prescription products

Listed below are the Roche Group's top-selling pharmaceutical products in the first six months of 2024, together with summary sales and sales growth rate information as compared to the first six months of 2023 in CHF and at CER.

Product	**Generic name**	**Indication**	**Sales (CHF in millions)**	**% change (CHF)**	**% change (CER)**
Ocrevus	ocrelizumab	multiple sclerosis	3,359	+5	+8
Hemlibra	emicizumab	hemophilia A	2,143	+3	+7
Perjeta	pertuzumab	HER2-positive breast cancer	1,921	-8	-2
Tecentriq	atezolizumab	bladder cancer, lung cancer, triple-negative breast cancer, hepatocellular carcinoma	1,798	-3	+2
Actemra/RoActemra	tocilizumab	rheumatoid arthritis	1,276	-2	+3
Xolair	omalizumab	allergic asthma, chronic spontaneous urticarial, food allergy	1,110	+8	+10
Kadcyla	trastuzumab emtansine	HER2-positive breast cancer	999	0	+6

Product	Generic name	Indication	Sales (CHF in millions)	% change (CHF)	% change (CER)
Vabysmo	faricimab-svoa	neovascular "wet" age-related macular degeneration, diabetic macular edema, macular edema following RVO	1,794	+87	+93
MabThera/Rituxan	rituximab	non-Hodgkin's lymphoma, chronic lymphocytic leukemia, rheumatoid arthritis	706	-20	-17
Herceptin	trastuzumab	HER2-positive breast cancer	740	-16	-11
Avastin	bevacizumab	colorectal cancer, non-small cell lung cancer, breast cancer, kidney cancer	654	-22	-16
Alecensa	alectinib	ALK-positive lung cancer	766	+1	+7
Evrysdi	risdiplam	spinal muscular atrophy	838	+19	+25
Activase/TNKase	alteplase, tenecteplase	acute myocardial infarction (heart attack), acute ischemic stroke	593	-5	-2
Ronapreve	casirivimab/imdevimab	high-risk patients with mild to moderate COVID-19	2	-100	-100
Phesgo	pertuzumab trastuzumab hyaluronidase	HER2-positive breast cancer	799	+55	+60
Gazyva/Gazyvaro	obinutuzumab	chronic lymphocytic leukemia	445	+11	+15
Polivy	polatuzumab vedotin	diffuse large B-cell lymphoma	513	+45	+54
Lucentis	ranibizumab	"wet" age-related macular degeneration, macular edema following retinal vein occlusion, diabetic macular edema, diabetic retinopathy with diabetic macular edema	87	-71	-70
Pulmozyme	dornase alfa	cystic fibrosis	225	-5	-2

Listed below are the Roche Group's top-selling pharmaceutical products in the year ended December 31, 2023, together with summary sales and sales growth rate information as compared to the year ended December 31, 2022 in CHF and at CER.

Product	Generic Name	Indication	Sales (CHF in millions)	% Change (CHF)	% Change (CER)
Ocrevus	ocrelizumab	multiple sclerosis	6,381	+6	+13
Hemlibra	emicizumab	hemophilia A	4,147	+8	+16
Perjeta	pertuzumab	HER2-positive breast cancer	3,768	-8	+1
Tecentriq	atezolizumab	bladder cancer, lung cancer, triple-negative breast cancer, hepatocellular carcinoma	3,766	+1	+9
Actemra/RoActemra	tocilizumab	rheumatoid arthritis	2,630	-3	+5
Xolair	omalizumab	allergic asthma, chronic spontaneous urticarial	2,176	-1	+5
Kadcyla	trastuzumab emtansine	HER2-positive breast cancer	1,966	-5	+4
Vabysmo	faricimab	neovascular "wet" age-related macular degeneration, diabetic macular edema, macular edema following RVO	2,357	+299	+324

Product	Generic Name	Indication	Sales (CHF in millions)	% Change (CHF)	% Change (CER)
MabThera/Rituxan	rituximab	non-Hodgkin's lymphoma, chronic lymphocytic leukemia, rheumatoid arthritis	1,630	-21	-15
Herceptin	trastuzumab	HER2-positive breast cancer	1,626	-24	-16
Avastin	bevacizumab	colorectal cancer, non-small cell lung cancer, breast cancer, kidney cancer	1,573	-26	-19
Alecensa	alectinib	ALK-positive lung cancer	1,502	-1	+8
Evrysdi	risdiplam	spinal muscular atrophy	1,419	+27	+39
Activase/TNKase	alteplase, tenecteplase	acute myocardial infarction (heart attack), acute ischemic stroke	1,173	0	+6
Ronapreve	casirivimab/imdevimab	high-risk patients with mild to moderate COVID-19	525	-69	-65
Phesgo	pertuzumab trastuzumab hyaluronidase	HER2-positive breast cancer	1,120	+51	+64
Gazyva/Gazyvaro	obinutuzumab	chronic lymphocytic leukemia	811	+11	+19
Polivy	polatuzumab vedotin	relapsed or refractory diffuse large B-cell lymphoma	837	+92	+108
Lucentis	ranibizumab	"wet" age-related macular degeneration, macular edema following retinal vein occlusion, diabetic macular edema, diabetic retinopathy with diabetic macular edema	460	-55	-52
Pulmozyme	dornase alfa	cystic fibrosis	452	-17	-10
Mircera	methoxy polyethylene glycol-epoetin beta	anemia due to chronic kidney disease	426	+4	+13
Esbriet	pirfenidone	idiopathic pulmonary fibrosis	202	-72	-70
CellCept	mycophenolate mofetil	prophylaxis of organ rejection in recipients of allogeneic kidney, heart or liver transplants	393	-22	-14
Enspryng	satralizumab	neuromyelitis optica spectrum disorder	256	+33	+49
Madopar	levodopa benserazide	Parkinson's disease	355	-6	0
Erivedge	vismodegib	basal cell carcinoma	245	-10	0

Research and development

The table below sets forth the total research and development expenditure in the Pharmaceuticals Division for the six months ended June 30, 2024 and 2023 and the years ended December 31, 2023 and 2022.

The Roche Group places an important emphasis on investment in research and development to maintain its market position and reputation as a healthcare innovator. To support this goal, the Roche Group has built a unique innovation network of independent research and development centers with 32 research and development sites in the Pharmaceuticals Division and the Diagnostics Division worldwide.

	Six months ended June 30,		For the Year Ended December 31,	
	2024	2023 [1]	2023[2]	2022(restated)[2]
	(CHF in millions, except percentage data)			
Pharmaceuticals R&D expenditure - IFRS basis	**(6,408)**	**(5,947)**	**(12,352)**	**(13,384)**
Pharmaceuticals R&D expenditure - Core basis	**(5,335)**	**(5,507)**	**(11,490)**	**(11,420)**
Pharmaceuticals R&D expenditure (core basis) as a percentage of Pharmaceuticals Division sales	**23.6%**	**24.5%**	**25.8%**	**25.1%**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative H1 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

(2) Effective January 1, 2023, the Group has made certain presentational and cost allocation changes to the income statement. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023*." The comparative information for 2022 has been restated. The information for the years 2023 and 2022 has not been restated for the Foundation Medicines business which was moved to the Diagnostics Division from the Pharmaceuticals Division effective January 1, 2024, as stated in "*Presentation of financial and other information–Change in operating segments effective January 1, 2024*." Therefore, the information for the years 2023 and 2022 cannot be directly compared to the H1 2024 and H1 2023 information.

As a result of its research efforts, the Roche Group ranks among the world's largest biotech companies, with truly differentiated medicines in oncology, hematology, immunology, infectious diseases, ophthalmology and neurology. The Pharmaceuticals Division's clinical development portfolio included 77 new molecular entities of which 10 were in late-stage development (including registration) as of July 18, 2024. A new molecular entity is an active pharmaceutical ingredient that has never before been marketed (in any country) in any form. The Group's portfolio included 83 early development projects in phase I and II across seven therapeutic areas and 52 projects in late development phases (phase III and registration) across five therapeutic areas.

Phase I development consists of initial studies in humans, which can include healthy volunteers. Phase II development consists of efficacy, tolerability and dose-finding studies in a small number of patients. Phase III testing consists of large-scale studies in patients for statistical confirmation of safety and efficacy.

Close cooperation between the Pharmaceuticals Division and the Diagnostics Division is a key strategic advantage for the Roche Group. The two divisions can share intellectual property, technologies and research findings freely. Among other things, this allows the Roche Group to combine and leverage both divisions' leadership in the key field of molecular biology. In addition, it enables diagnostics expertise to be integrated into all parts of the pharmaceuticals research and development process. This is central to the Roche Group's goal of advancing personalized healthcare, an approach that seeks to tailor treatments to specific patient subpopulations based on emerging scientific understanding of biology and disease at the molecular level.

Pharmaceuticals Division — key news flow for 2022, 2023 and 2024 to August 21, 2024

Compound	Indication	Clinical trial	Outcome	Regulatory	Status
2024					
Alecensa	Adjuvant ALK+ NSCLC	Ph III ALINA	✓ (2023)	U.S./EU approval	✓
inavolisib + palbociclib + fulvestrant	1L PIK3CA-mut-HR+BC	Ph III INAVO120	✓ (2023)	U.S./EU filing	✓(U.S.)
Tecentriq	Subcutaneous administration	Ph III IMscin001	✓ (2022)	U.S./EU approval	✓ (EU)

Compound	Indication	Clinical trial	Outcome	Regulatory	Status
crovalimab	PNH	Ph III COMMODORE 1/2	✓ (2023)	U.S./EU approval	✓(U.S.)
Elevidys	DMD	Ph III EMBARK	X (2023)	EU filing	✓
Ocrevus 6m SC	RMS/PPMS	Ph III OCRINA II	✓ (2023)	U.S./EU approval	✓ (EU)
Susvimo	DME	Ph III PAGODA	✓ (2023)	U.S. filing	✓
Susvimo	DR	Ph III PAVILION	✓ (2023)	U.S. filing	✓
Vabysmo	RVO	Ph III BALATON / COMINO	✓ (2023)	U.S./EU approval	✓
Xolair	Food allergy	Ph III OUtMATCH	✓ (2023)	U.S. approval	✓
Tiragolumab + Tecentriq	1L PDL1+ NSCLC	Ph III SKYSCRAPER-01			
Tiragolumab + Tecentriq + chemo	1L NSCLC	Ph III SKYSCRAPER-06	X		
Venclexta + azacitidine	1L high risk MDS	Ph III VERONA	2025		
Columvi + GemOx	2L+ DLBCL	Ph III STARGLO	✓		
Lunnsumio + Polivy	2L+ DLBCL	Ph III SUNMO	2025		
Gazyva	Lupus nephritis	Ph III REGENCY			
Enspryng	Generalized Myasthenia gravis	Ph III LUMINESCE	✓	Not to be filed	
Evrysdi + GYM329	SMA	Ph II MANATEE			
prasinezumab	Parkinson's disease	Ph IIb PADOVA			
trontinemab	Alzheimer's disease	Ph Ib/IIa Brainshuttle™ AD			
vamikibart	DME	Ph II BARDENAS / ALLUVIUM			
ASO factor B	Geographic atrophy	Ph II GOLDEN STUDY	X		
zilebesiran	Hypertension	Ph II KARDIA-2	✓		
CT-388	Obesity w/wo T2D (QW SC)	Ph Ib	✓		
CT-868	TD1 w. Obesity (QD SC)	Ph II			
CT-996	Obesity w/wo T2D (QW oral)	Ph I	✓		
2023					
Hemlibra	Moderate hemophilia	Ph III HAVEN 6	✓ (2021)	EU approval	✓

Compound	Indication	Clinical trial	Outcome	Regulatory	Status
Polivy + R-CHP	1L DLBCL	Ph III POLARIX	✓ (2021)	U.S./EU approval	✓
Columvi	3L+ DLBCL	Ph Ib NP30179	✓ (2022)	U.S./EU approval	✓
Xofluza	Influenza (paediatric 1+ yrs)			EU approval	✓
Tecentriq + Avastin	Adjuvant HCC	Ph III IMbrave050	X (2024)		
Tecentriq	Adjuvant SCCHN	Ph III IMvoke010	X		
Tecentriq + chemo	Adjuvant TNBC	Ph III IMpassion030	X		
Tiragolumab + Tecentriq + chemo	1L esophageal cancer	Ph III SKYSCARPER-08 (China only)	✓		
Venclexta + dexamethasone	t(11;14) R/R MM	Ph III CANOVA	X		
Phesgo OBI (on body injector)	HER2+ BC	Ph I (pivotal)	✓		
TNKase	Stroke patients 4.5-24h	Ph III TIMELESS	X		
2022					
Vabysmo	nAMD	Ph III TENAYA / LUCERNE	✓ (2021)	U.S./EU approval	✓
Vabysmo	DME	Ph III YOSEMITE / RHINE	✓ (2020)	U.S./EU approval	✓
Susvimo	nAMD	Ph III Archway	✓ (2020)	U.S./EU approval	✓ (US)
Lunsumio (mosunetuzumab)	3L+ FL	Ph Ib GO29781	✓ (2021)	U.S./EU approval	✓
Tecentriq	Adjuvant NSCLC	Ph III IMpower010	✓ (2021)	U.S./EU approval	✓
Tecentriq + tiragolumab + chemo	1L ES-SCLC	Ph III SKYSCRAPER-02	X		
Tecentriq	Adjuvant RCC	Ph III IMmotion010	X		
giredestrant	2/3L HR+ mBC	Ph II acelERA	X		
Tecentriq + chemo	Periadjuvant NSCLC	Ph III IMpower030	Delayed		
gantenerumab	Alzheimer's disease	Ph III GRADUATE 1/2	X		

Major development activities in 2022, 2023 and 2024 to August 21, 2024

The Roche Group's commitment to developing new treatment options remained unchanged in 2022, 2023, and 2024 to the date of this offering memorandum. The strong flow of positive study results and approvals form the basis for the Group's future growth.

In July 2024, the Roche Group announced positive topline results from two arms of an ongoing multi-part Phase I clinical trial for CT-996, an investigational, once-daily, oral small molecule GLP-1 receptor agonist being developed for the treatment of both type 2 diabetes and obesity. The data showed that treatment with CT-996 in participants with obesity and without type 2 diabetes resulted in a clinically meaningful placebo-adjusted mean weight loss of -6.1% within four weeks ($p < 0.001$).

In July 2024, the Roche Group announced that phase II/III SKYSCRAPER-06 study, evaluating tiragolumab plus *Tecentriq* (atezolizumab) and chemotherapy versus pembrolizumab and chemotherapy as an initial (first-line) treatment for people with previously untreated, locally advanced unresectable or metastatic non-squamous non-small cell lung cancer, did not meet its primary endpoints of progression-free survival (PFS) at its primary analysis with a hazard ratio (HR) of 1.27 [95% CI: 1.02,1.57] and overall survival (OS) at its first interim analysis with a HR of 1.33 [95% CI: 1.02, 1.73], which was immature.

In June 2024, the Roche Group announced new five-year data confirming the sustained efficacy and safety profile of *Evrysdi* (risdiplam) in children with Type 1 spinal muscular atrophy (SMA) from the open-label extension of the pivotal FIREFISH study. By the end of year five, 91% of children treated with *Evrysdi* were alive, 81% were alive without permanent ventilation and the majority were able to sit without support for at least 30 seconds (59%). At the end of year five, seven children were able to stand, three with support, four unaided and six could walk with support. Without disease modifying treatment, natural history studies indicate that children with Type 1 SMA would not only never be able to reach such milestones, but also not typically live past the age of two.

In May 2024, the Roche Group announced positive results from the Phase I clinical trial of CT-388, a dual GLP-1/GIP receptor agonist being developed for the treatment of obesity and type 2 diabetes. The study found that a once-weekly subcutaneous injection of CT-388 over 24 weeks resulted in significant weight loss in healthy adults with obesity compared to placebo. The weight loss achieved with CT-388 was clinically meaningful, with a mean placebo-adjusted weight loss of 18.8% (p-value < 0.001). At week 24, 100% of CT-388 treated participants achieved a weight loss of >5%, 85% achieved >10%, 70% achieved >15%, and 45% achieved >20%.

In April 2024, the Roche Group announced that Phase III STARGLO study met its primary endpoint of overall survival. The study demonstrated that people with relapsed or refractory (R/R) diffuse large B-cell lymphoma (DLBCL), who have received at least one prior line of therapy and are not candidates for autologous stem cell transplant, lived longer when treated with *Columvi* (glofitamab) in combination with gemcitabine and oxaliplatin (*GemOx*) versus *MabThera/Rituxan* (rituximab) in combination with *GemOx*.

In March 2024, the Roche Group and Alnylam reported positive topline results from Phase II KARDIA-2 study in people with hypertension, demonstrating clinically significant blood pressure reductions with zilebesiran when added to standard of care.

In December 2023, the Roche Group announced positive long-term follow-up data from the pivotal, phase III KATHERINE study. *Kadcyla* is the first targeted therapy to show significant overall survival benefit in people with HER2-positive early-stage breast cancer with residual invasive disease after neoadjuvant treatment. In addition the Roche Group announced positive Phase III results for *inavolisib* combination in people with advanced hormone receptor-positive, HER2-negative breast cancer with a PIK3CA mutation.

In October 2023, the Roche Group announced results from the Phase 3 EMBARK study of *Elevidys* (delandistrogene moxeparvovec) in ambulatory boys with Duchenne muscular dystrophy aged 4-7 years. The study did not reach primary endpoint, but shows positive efficacy outcomes on all timed functional key endpoints.

In September 2023, the Roche Group announced that *Alecensa* (alectinib) delivered unprecedented Phase III results for people with ALK-positive early-stage lung cancer. The Phase III ALINA study evaluating *Alecensa*, compared with platinum-based chemotherapy, met its primary endpoint of disease-free survival (DFS) at a prespecified interim analysis. *Alecensa* demonstrated a statistically significant and clinically meaningful improvement in DFS as adjuvant therapy in people with completely resected stage IB (tumor ≥4cm) to IIIA ALK-positive non-small cell lung cancer (NSCLC). *Alecensa* is the first and only ALK inhibitor to demonstrate a reduction in the risk of disease recurrence or death for people with early-stage ALK-positive NSCLC in a Phase III trial.

In July 2023, the Roche Group announced that the Phase III OCARINA II trial evaluating *Ocrevus* (ocrelizumab) as a twice a year 10-minute subcutaneous injection met its primary and secondary endpoints in patients with relapsing forms of multiple sclerosis (MS) or primary progressive MS (RMS or PPMS). *Ocrevus* subcutaneous injection was shown to be non-inferior to *Ocrevus* given by intravenous infusion (IV), as measured by pharmacokinetics (levels in the blood) over 12 weeks. *Ocrevus* subcutaneous injection was also comparable with *Ocrevus IV* in controlling magnetic resonance imaging (MRI) lesion activity in the brain over 12 weeks. The safety profile of *Ocrevus* subcutaneous injection was consistent with that of *Ocrevus IV*.

In February 2023, the Roche Group announced positive results from the global phase III COMMODORE 2 study, evaluating the efficacy and safety of crovalimab in people with paroxysmal nocturnal hemoglobinuria (PNH) who have not been previously treated with complement inhibitors. The study met its co-primary efficacy endpoints of transfusion avoidance and control of hemolysis (the ongoing destruction of red blood cells measured by lactate dehydrogenase levels). Results showed that crovalimab, a novel, investigational anti-C5 recycling monoclonal antibody, given as a subcutaneous injection every four weeks, achieved disease control and was non-inferior to eculizumab, a current standard of care, which is given intravenously every two weeks. The results of the phase III COMMODORE 1 study in people with PNH switching from currently approved C5 inhibitors supported the favorable benefit-risk profile of crovalimab, as seen in the COMMODORE 2 study.

In January 2023, the Roche Group announced that the Phase III IMbrave050 study met its primary endpoint of recurrence-free survival (RFS) at the prespecified interim analysis. The study is evaluating *Tecentriq* (atezolizumab) in combination with *Avastin* (bevacizumab) as adjuvant treatment following surgery for people with early-stage hepatocellular carcinoma (HCC) at high risk of disease recurrence. The *Tecentriq* combination showed a statistically significant improvement in RFS in the intention-to-treat population of HCC patients who have an increased risk of recurrence following resection or ablation with curative intent, compared with active surveillance.

In December 2022, the Roche Group announced new pivotal data from the Phase III IMscin001 study, evaluating the investigational subcutaneous formulation of *Tecentriq* (atezolizumab), a cancer immunotherapy approved for various tumor types. Data showed comparable exposure (levels of the molecule in the blood) and similar safety and efficacy for *Tecentriq*, when administered subcutaneously (injected under the skin), compared to standard IV infusion, in people with previously treated locally advanced or metastatic non-small cell lung cancer. The Roche Group announced positive new data from the phase III COMMODORE 3 study in China, demonstrating that crovalimab, a novel anti-C5 recycling monoclonal antibody, is efficacious and well-tolerated in people with PNH. The study met its co-primary efficacy endpoints of transfusion avoidance (TA) and hemolysis control, demonstrating that participants with PNH, who have not been treated previously with complement inhibitors and who received subcutaneous crovalimab injections every four weeks, achieved disease control.

In November 2022, the Roche Group announced results from the GRADUATE I and II studies evaluating gantenerumab in people with mild cognitive impairment (MCI) due to Alzheimer's and mild Alzheimer's dementia, collectively called early Alzheimer's disease. The studies did not meet their primary endpoint of slowing clinical decline.

In October 2022, positive topline results were announced from two global phase III studies, BALATON and COMINO, evaluating the first and only bispecific antibody for the eye, *Vabysmo* (faricimab), in macular edema due to branch and central retinal vein occlusion (BRVO and CRVO). RVO is a vision-threatening condition that impacts 28 million people globally. Both studies met their primary endpoints, showing that people with macular edema due to BRVO and CRVO receiving *Vabysmo* injections every four weeks, for up to 24 weeks, achieved non-inferior visual acuity gains compared to those receiving aflibercept injections every four weeks.

In June 2022, the Roche Group announced that a phase II study of crenezumab failed to meet its primary endpoint in the treatment of cognitively unimpaired people who carry a specific genetic mutation which causes early-onset Alzheimer's disease. The results were presented at the 2022 Alzheimer's Association International Conference in August 2022.

In May 2022, the Roche Group announced that new pivotal data demonstrate that glofitamab induce high and durable complete response rates in people with heavily pre-treated diffuse large B-cell lymphoma. The data was presented for the first time in early June at the 2022 American Society of Clinical Oncology Annual Meeting and the European Hematology Association 2022 Congress. Also in May 2022, the Roche Group announced results from its

phase III SKYSCRAPER-01 study, evaluating the investigational anti-TIGIT immunotherapy tiragolumab plus *Tecentriq* (atezolizumab) versus *Tecentriq* alone as an initial (first-line) treatment for people with PD-L1-high locally advanced or metastatic non-small cell lung cancer (NSCLC). The study did not meet its co-primary endpoint of progression-free survival. At this first analysis, the other co-primary endpoint of overall survival (OS) was immature, and the study will continue until the next planned analysis.

In March 2022, the Roche Group announced that the phase III SKYSCRAPER-02 study, evaluating the investigational anti-TIGIT immunotherapy tiragolumab plus *Tecentriq* (atezolizumab) and chemotherapy (carboplatin and etoposide) as an initial (first-line) treatment for people with extensive-stage small cell lung cancer (ES-SCLC), did not meet its co-primary endpoint of progression-free survival.

In February 2022, the Roche Group announced new two-year data from the phase III studies of *Vabysmo* (faricimab) and *Susvimo* (previously called Port Delivery System with ranibizumab) that reinforce the potential to maintain vision with fewer treatments for people with two leading causes of vision loss, diabetic macular edema (DME) and neovascular or "wet" age-related macular degeneration (nAMD).

Major regulatory approvals in 2022, 2023, and 2024 to August 21, 2024

In July 2024, the Roche Group announced the reintroduction of *Susvimo* (ranibizumab injection) 100 mg/mL for intravitreal use via ocular implant for the treatment of people in the United States with neovascular or "wet" age-related macular degeneration (nAMD), following the end of a voluntary recall. The FDA has approved a post-approval supplement to the Biologics License Application for *Susvimo*, reflecting component-level updates made to the ocular implant and refill needle. In addition, the Roche Group announced that the FDA has approved the *Vabysmo* (faricimab) 6.0 mg single-dose prefilled syringe (PFS) for use in the treatment of neovascular or "wet" age-related macular degeneration (nAMD), diabetic macular edema (DME) and macular edema following retinal vein occlusion (RVO). Furthermore, the Roche Group announced that the European Commission has approved *Vabysmo* (faricimab) for the treatment of visual impairment due to macular edema secondary to retinal vein occlusion (RVO, branch RVO or central RVO).

In June 2024, the Roche Group announced that the European Commission has granted marketing authorization for *Ocrevus* (ocrelizumab) subcutaneous (SC) for the treatment of relapsing multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS). *Ocrevus SC* is a 10-minute injection that maintains the same twice-yearly schedule as the previously approved intravenous (IV) infusion.

In April 2024, the FDA approved *Alecensa* (alectinib) for adjuvant treatment in adult patients following tumor resection of anaplastic lymphoma kinase (ALK)-positive non-small cell lung cancer (NSCLC) (tumors ≥ 4 cm or node positive), as detected by an FDA-approved test. *Alecensa* received EU approval in June 2024 for adjuvant treatment following tumor resection for adult patients with anaplastic lymphoma kinase (ALK)-positive non-small cell lung cancer (NSCLC) at high risk of recurrence (Stage IB [≥4 cm]–IIIA NSCLC [7th edition UICC/AJCC]).

In February 2024, the FDA approved Xolair for the reduction of allergic reactions, including anaphylaxis that may occur with accidental exposure to one or more foods in adult and paediatric patients aged one year and older with IgE-mediated food allergy. The FDA approval is based on data from the NIH-sponsored phase III OUtMATCH study, which showed a significantly higher proportion of food allergy patients as young as one year old treated with Xolair could tolerate small amounts of peanut, milk, egg and cashew without an allergic reaction, compared to placebo.

In January 2024, the Roche Group announced that the European Commission approved *Tecentriq SC*, the EU's first PD-(L)1 cancer immunotherapy subcutaneous injection for multiple cancer types. Subcutaneous (SC) injection offers the potential for a faster, more convenient alternative to intravenous (IV) infusion and is preferred by cancer patients, nurses and physicians. *Tecentriq SC* reduces treatment time by approximately 80%, compared with standard IV infusion.

In October 2023, the Roche Group announced that the FDA approved *Vabysmo* for the treatment of macular edema following retinal vein occlusion (RVO). RVO is the third indication for *Vabysmo*, in addition to neovascular or "wet" age-related macular degeneration and diabetic macular edema. The approval was based on two phase III studies demonstrating early and sustained vision improvements that were non-inferior to aflibercept. *Vabysmo* also

demonstrated rapid and robust drying of retinal fluid. Additional U.S. label update across indications includes information on rare post-marketing reports of retinal vasculitis and/or retinal vascular occlusion; reporting rate is in line with other broadly used intravitreal treatments.

In September 2023, the Roche Group announced that the FDA accepted its application for crovalimab, an investigational, novel anti-C5 recycling monoclonal antibody, for the treatment of paroxysmal nocturnal hemoglobinuria. The acceptance was based on results from the pivotal phase III COMMODORE 2 study, which demonstrated that in people with PNH, crovalimab achieved disease control and was well-tolerated. Results from the phase III COMMODORE 1 study, demonstrating the consistent benefit-risk profile of crovalimab, also supported the application.

In August 2023, the Roche Group announced that the EC approved *Evrysdi* (risdiplam) for babies under two months old with spinal muscular atrophy (SMA) Type 1, Type 2 or Type 3 or with one to four SMN2 copies. The EC approval is based on the RAINBOWFISH interim analysis (n=18), which included six babies with two or three copies of the SMN2 gene who completed at least one year of study assessments. Of these, 100% (6/6) were able to sit after one year of treatment with *Evrysdi*, 67% (4/6) could stand and 50% (3/6) could walk independently. All infants were alive at 12 months without permanent ventilation.

In July 2023, the EC granted conditional marketing authorization for *Columvi* (glofitamab) for the treatment of adult patients with relapsed or refractory (R/R) diffuse large B-cell lymphoma (DLBCL) after two or more lines of systemic therapy. With this approval, *Columvi* is the first CD20xCD3 T-cell-engaging bispecific antibody available to treat people in Europe with the most common and aggressive form of lymphoma following multiple lines of therapy. The Roche Group believes that *Columvi* has the potential to change the current standard of care in DLBCL.

In June 2023, the FDA approved *Columvi* (glofitamab-gxbm) for the treatment of adult patients with relapsed or refractory (R/R) diffuse large B-cell lymphoma (DLBCL) not otherwise specified or large B-cell lymphoma (LBCL) arising from follicular lymphoma, after two or more lines of systemic therapy. This indication is approved under accelerated approval based on response rate and durability of response in the phase I/II NP30179 study. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial.

In April 2023, the FDA approved the Roche Group's *Polivy* in combination with R-CHP for adults with certain types of previously untreated diffuse large B-cell lymphoma. *Polivy* combination is the first FDA-approved therapy in nearly 20 years for the first-line treatment of diffuse large B-cell lymphoma, an aggressive disease and the most common form of non-Hodgkin lymphoma in the United States. European Medicines Agency's Committee for Medicinal Products for Human Use recommended the approval of *Columvi* (glofitamab), for the treatment of adult patients with relapsed or refractory (R/R) diffuse large B-cell lymphoma (DLBCL) after two or more lines of systemic therapy. The Roche Group believes that *Columvi* has the potential to change the current standard of care in DLBCL. As well as inducing early and long-lasting responses in people with heavily pre-treated or refractory DLBCL, potentially allowing patients a treatment free period, *Columvi* is designed to be given for a fixed period of time so that people know when their treatment will end.

In February 2023, the EC approved label expansion of the Roche Group's *Hemlibra* to include patients with moderate hemophilia A in Europe. *Hemlibra* is already approved for severe hemophilia A in the EU. Moderate hemophilia A can have a significant impact on the lives of people affected, with only 15% living a bleed-free life.

In January 2023, FDA accepted the Roche Group's Biologics License Application (BLA) and granted priority review for *Columvi* (glofitamab), an investigational CD20xCD3 T-cell engaging bispecific antibody, for the treatment of adult patients with relapsed or refractory (R/R) large B-cell lymphoma (LBCL) after two or more lines of systemic therapy. LBCL is an aggressive (fast-growing) type of non-Hodgkin lymphoma (NHL) and is one of the most prevalent types of blood cancer among adults in the United States. The FDA is expected to make a decision on approval of this novel cancer immunotherapy by July 1, 2023. If approved, *Columvi* (glofitamab) would be the first fixed-duration, off-the-shelf CD20xCD3 T-cell engaging bispecific antibody available to treat people with an aggressive lymphoma who have previously received multiple courses of treatment. In January 2023, the EC approved *Xofluza* (baloxavir marboxil) in children aged one year and above for the treatment of uncomplicated influenza and for post-exposure prophylaxis of influenza. Post-exposure prophylaxis aims to prevent influenza in

individuals following contact with someone infected with the influenza virus. This approval marked the first single-dose, oral influenza medicine approved in Europe for children, and means that *Xofluza* can be used to treat and prevent uncomplicated influenza in children aged one year and above, and in adolescents and adults.

In December 2022, FDA approved *Lunsumio* (mosunetuzumab-axgb) for the treatment of adult patients with relapsed or refractory (R/R) follicular lymphoma (FL) after two or more lines of systemic therapy. This indication was approved under accelerated approval based on response rate. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial. *Lunsumio*, a CD20xCD3 T-cell engaging bispecific antibody, represents a new class of fixed-duration cancer immunotherapy, which is off-the-shelf and readily available, so that patients do not have to wait to start treatment.

In November 2022, Sarepta announced that the FDA accepted the Biologics License Application (BLA) seeking accelerated approval of SRP-9001 (delandistrogene moxeparvovec) for the treatment of ambulant individuals with Duchenne muscular dystrophy (DMD). SRP-9001 was granted Priority Review by the FDA, with a regulatory action date of May 29, 2023. On June 22, 2023, the FDA approved SRP-9001 for treatment of ambulatory pediatric patients aged 4 through 5 years with DMD with a confirmed mutation in the DMD gene.

In August 2022, the FDA approved a supplemental New Drug Application (sNDA) for *Xofluza* (baloxavir marboxil) for the treatment of acute uncomplicated influenza in otherwise healthy children aged five to less than 12 years of age who have been symptomatic for no more than 48 hours. This marked the first single-dose oral influenza medicine approved in the United States for children in this age group. Additionally, the FDA approved *Xofluza* for the prevention (post-exposure prophylaxis) of influenza in children aged five to less than 12 years of age following contact with someone with influenza. Chugai obtained approval from the Ministry of Health, Labor and Welfare (MHLW) in Japan for *Polivy* plus R-CHP as a new treatment option, the first in 20 years, for untreated diffuse large B-cell lymphoma (DLBCL) following the approval for relapsed or refractory DLBCL last year.

In July 2022, the FDA granted Priority Review for *Lunsumio* (mosunetuzumab), a potential first-in-class CD20xCD3 T-cell engaging bispecific antibody, for the treatment of adults with relapsed or refractory (R/R) follicular lymphoma (FL) who have received at least two prior systemic therapies. On June 3, 2022, the European Commission granted conditional marketing authorization for *Lunsumio.*

In June 2022, the European Commission approved *Tecentriq* (atezolizumab) as an adjuvant treatment, following complete resection and platinum-based chemotherapy, for a subset of adults with early-stage non-small cell lung cancer (NSCLC) with a high risk of recurrence.

In May 2022, the FDA approved a label extension for *Evrysdi* (risdiplam) to include babies under two months old with spinal muscular atrophy (SMA). Also in May 2022, the European Commission granted approval of *Polivy* (polatuzumab vedotin) in combination with *MabThera* (rituximab) plus cyclophosphamide, doxorubicin, and prednisone (R-CHP) for the treatment of adult patients with previously untreated diffuse large B-cell lymphoma.

In March 2022, the MHLW in Japan approved *Vabysmo*, the first bispecific antibody in ophthalmology, for neovascular age-related macular degeneration (nAMD) and diabetic macular edema (DME).

In January 2022, the FDA approved *Vabysmo* for the treatment of nAMD and DME - the first in a new class of eye medicines targeting two key pathways that drive retinal disorders. *Vabysmo* potentially offers durable vision outcomes with fewer eye injections than the current standard of care. Also in January 2022, the Roche Group announced that the FDA has granted priority review of a supplemental new drug application for the use of *Evrysdi* to treat presymptomatic babies under two months of age with SMA. Interim data showed that the majority of pre-symptomatic babies treated with *Evrysdi* for at least one year were able to sit, stand and walk within timeframes typical of healthy babies, as well as maintain swallowing.

Manufacturing and procurement

The Roche Group's portfolio of pharmaceutical products is diverse, comprising innovative medicines based on traditional chemistry as well as biotechnology. The production of the Roche Group's pharmaceuticals – for many different therapeutic areas and in various dosage forms – is coordinated from its headquarters in Basel, Switzerland,

and carried out in a total of 14 manufacturing sites in seven countries, including Chugai, which operates three production sites in Japan. The Group produces key pharmaceutical products at more than one site, thereby reducing the risk of supply interruptions and balancing production capacity. The Group also outsources various phases of drug production to contract manufacturing organizations to create capacity, access specialized capabilities and optimize operating costs.

Procurement is a key operating function that manages expenditures to third parties, including direct expenses for items such as raw materials, active pharmaceutical ingredients, instruments, components, spare parts and contract manufacturing, and indirect expenses such as services, IT and laboratory supplies. Global procurement at the Roche Group is a dedicated team of specialists who deliver a consistent, standard set of procurement activities and expertise to support the business decision making process.

Diagnostics Division

The Roche Group's Diagnostics Division is a market leader in *in vitro* diagnostics: its products are used to test blood, other body fluids and tissues to obtain information in screening for disease, in diagnosis, in selection of treatment and in monitoring treatment or disease. Its product portfolio ranges from blood glucose meters for people with diabetes, over Point of Care testing devices for use in doctors' offices to high-throughput analyzers for hospitals and commercial diagnostic laboratories. The division also supplies state-of-the-art instruments and reagents for life science research. With sales of CHF 7.2 billion in the first six months of 2024 and CHF 7.3 billion in the first six months of 2023, the Diagnostics Division represented 24.2% and 24.4%, respectively, of the Group's sales for each period. The sales for the first six months of 2023 have been restated to account for the Foundation Medicine business, which was moved to the Diagnostics Division from the Pharmaceuticals Division effective January 1, 2024. Additionally, effective January 1, 2024, the Diagnostics Division is divided into the following four customer areas: Core Lab, Molecular Lab, Near Patient Care, and Pathology Lab. These customer areas represented 56.4%, 17.7%, 15.2% and 10.7%, respectively, of the Diagnostics Division's sales in the first six months of 2024.

Core Lab

Core Lab delivers high medical value and testing efficiency, through lab-based testing solutions. This includes clinical chemistry and immunoassay systems, which covers high medical value tests for screening, diagnosis, prediction, and monitoring of diseases, across a wide field of indications such as oncology, hematology, women's health, infectious diseases, endocrinology and cardiology. In addition, Core Lab also delivers testing solutions for coagulation, hematology and urinalysis. The testing solutions are reliable and flexible to the varying testing demands of different healthcare systems, while also delivering efficiency through automation and integration with other laboratory testing and digital solutions, which can help facilitate quicker clinical decisions and improve patient outcomes.

Molecular Lab

Molecular Labs offers a wide array of innovative molecular diagnostic products, including PCR and next-generation sequencing ("NGS") solutions. Committed to improving clinical outcomes and treatment pathways, the customer area focuses on pain points and needs of the central molecular lab and the clinicians who rely on these results. Areas of diagnostics include infectious diseases, hematopathology, oncology treatment/screening, genetics/non-invasive prenatal testing, and PCR/NGS workflow. As of January 1, 2024, this customer area also includes the Foundation Medicine business, which drives advancements in cancer genomics through its portfolio of comprehensive genomic profiling ("CGP") tests.

Near Patient Care

Near Patient Care provides diagnostics solutions in decentralized settings such as in emergency rooms, general practitioners' practices, and directly to patients and includes integrated personalized diabetes management solutions. Near Patient Care diagnostics solutions help both healthcare professionals and patients achieve improved clinical and health-economic outcomes. The customer area focuses on delivering robust, connected, easy to use solutions outside of the central lab and at the "point of care," providing immediate results and allowing treatment decisions to be made more quickly inside and outside the hospital. Near Patient Care features a broad portfolio of solutions including molecular point of care testing solutions, blood gas and electrolyte analyzers, high-performance and

digitally-connected blood glucose meters, blood glucose monitoring systems, data management and decision support tools as well as insulin delivery systems. Solutions for diabetes management are offered under the Accu-Chek and mySugr brands.

Pathology Lab

Pathology Lab is the global market leader and innovator of tissue-based diagnostic solutions for patients and anatomic pathology labs, revolutionizing cancer diagnostics worldwide through state-of-the-art technologies rooted in testing automation. More than 250 biopsy-based cancer tests are provided with related instruments and integrated workflow solutions globally. Through its collaborative work in developing companion diagnostic assays for internal and external pharmaceutical partners, Roche is advancing the field of personalized healthcare, which links the most accurate diagnosis with the most targeted and relevant therapeutic treatment available for each patient.

Research and development

In the Diagnostics Division, spending on research and development was 12.9% and 13.0% of sales in the six months ended June 30, 2024 and 2023, respectively, on a core basis. The main areas of activity included the development of high medical value assays, notably in oncology, as well as digital laboratory and digital clinical solutions and sequencing. In addition, there were continuing investments in cardiometabolic diseases, particularly for continuous blood glucose monitoring, and mass spectrometry.

The following table sets forth the total research and development expenditure in the Diagnostics Division for the six months ended June 30, 2024 and 2023, and the years ended December 31, 2023 and 2022.

	Six months ended June 30,		**For the Year Ended December 31,**	
	2024	**2023[1]**	**2023[2]**	**2022 (restated)[2]**
	(CHF in millions, except percentage data)			
Diagnostics R&D expenditure - IFRS basis	**(980)**	**(971)**	**(1,848)**	**(1,841)**
Diagnostics R&D expenditure - Core basis	**(933)**	**(942)**	**(1,747)**	**(1,835)**
Diagnostics R&D expenditure - Core basis - as a percentage of Diagnostics Division sales	**12.9%**	**13.0%**	**12.4%**	**10.3%**

(1) Effective January 1, 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from January 1, 2024, the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative H1 2023 results have been restated in the H1 2024 Interim Consolidated Financial Statements. See "*Presentation of financial and other information—Change in operating segments effective January 1, 2024*."

(2) Effective January 1, 2023, the Group has made certain presentational and cost allocation changes to the income statement. See "*Presentation of financial and other information—Presentational and cost allocation changes effective January 1, 2023*." The comparative information for 2022 has been restated. The information for the years 2023 and 2022 has not been restated for the Foundation Medicines business which was moved to the Diagnostics Division from the Pharmaceuticals Division effective January 1, 2024 as stated in "*Presentation of financial and other information–Change in operating segments effective January 1, 2024*." Therefore, the information for the years 2023 and 2022 cannot be directly compared to the H1 2024 and H1 2023 information.

Diagnostics Division – key product launches in 2024 to August 21, 2024

Area	***Product***	***Description***	***Markets***
Instruments Automation			

Area	***Product***	***Description***	***Markets***
Core Lab	*i601 mass spectrometry system*	*Launch of a unique total solution for clinical mass spectrometry testing: fully automated, integrated and IVD-compliant*	*CE*
	cobasc703	*Introducing high-throughput clinical chemistry testing to cobas pro integrated solutions*	*CE* ✓
	cobas ISE neo	*Introducing high-throughput ISE testing to cobas pro integrated solutions*	*CE* ✓
Near Patient Care	*Accu·Chek SmartGuide (Continuous Glucose Monitoring)*	*Launch of Roche's first generation Continuous Glucose Monitoring (CGM) solution*	*CE* ✓
Molecular Lab	*cobas 6800/8800 v2.0*	*Upgraded system with increased flexibility, higher throughput and greater automation to enable broader test menu. Retrofittable with existing cobas 6800/8800 installed base*	*CE*
Pathology Lab	*Primary Diagnosis Claim on DP600 US*	*FDA 510k Primary Diagnosis clearance on DP600 scanner as a critical step to advance Digital Pathology*	*U.S.*
Tests			
Core Lab	*cobas pro serology solution (blood screening)*	*FDA approval of our serology Roche Blood Safety Solution (RBSS) for the United States donor screening market (largest donor screening market globally)*	*U.S.* ✓
Near Patient Care	*cobas Liat Respiratory Panel (SARS-CoV-2, Flu A/B & RSV)*	*Detection and differentiation of four respiratory targets: SARS-CoV-2, Influenza A, Influenza B & respiratory syncytial virus (RSV)*	*U.S.* *EUA* ✓
Molecular Lab	*cobas Respiratory flex*	*Using novel Temperature Assisted Generation of Signal (TAGS®) Multiplex technology & digital reflex approach, enables strategic efficiency with flexible testing for cobas x800 Systems*	*CE* *U.S.*
	cobas Malaria (blood screening)	*RT qualitative PCR test on the cobas® x800 systems detecting all five plasmodium species that occur in humans. Utilized for malaria screening of blood donors, blood products, organs, and tissues*	*CE* ✓ *U.S.* ✓
Pathology Lab	*VENTANA Kappa Lambda Dual ISH mRNA Probe Cocktail*	*Aid in diagnosis of B·cell lymphomas and plasma cell neoplasms*	*CE* ✓ *U.S.*
Digital Solutions			
Diagnostics Insights	*navify Analytics family*	*Supports lab directors/managers to track, review, identify trends/challenges and optimize operations. Has four apps tailored to Core, Pathology, Molecular Labs and Point of Care*	*Global*

Diagnostics Division — key product launches in 2022 and 2023.

Area Instruments/ Automation	***Product Name***	***Description***	***Market***
Core Lab	*CCM Vertical*	*Modular transportation system*	*Global ✓*
	cobas pure integrated solutions	*Low-to-medium volume SWA*	*U.S. ✓* *China ✓*
	cobas pro integrated solutions	*New high throughput configurations of the cobas pro instrument*	*China ✓*
Point of Care	*cobas pulse*	*Successor of Accu-Chek Inform II*	*CE ✓* *U.S. 2024*
Molecular Lab	*cobas 5800*	*Fully automated low throughput PCR system*	*U.S. ✓*
	Digital LightCycler	*Novel digital PCR platform for lab developed tests (LDTs) and in-vitro diagnostics labs*	*WW ✓*
	LightCycler Pro	*Flexible real-time PCR instrument with dual IVD and research mode as well as enhanced system features*	*U.S. & CE ✓*
Pathology Lab	*BenchMark ULTRA PLUS*	*Automated immunohistochemistry/in situ hybridization (ISH) advanced staining platform*	*U.S. & CE ✓*
	DP600	*High capacity pathology slide scanner for high volume digitization applications*	*WW ✓*
Tests			
Pathology Lab	*IDH1 R132H (IDH Glioma)*	*Neuropathology Immunohistochemistry (IHC) solution supporting the detection of tumor cells with the IDH1 R132H mutation*	*U.S. ✓*
	HER2 Low Breast	*Assay for diagnosis of HER2 low expression breast cancer*	*U.S. ✓*
	PRAME	*First immunohistochemistry assay for differential diagnosis of benign malignant melanocytic lesions in skin cancer*	*U.S. & CE ✓*
	HPV Self Sampling	*Self sample collection device for patients at home to collect sample for cervical cancer testing*	*CE ✓*
Core Lab	*Anti-HEV IgG and Anti-HEV IgM*	*The two asays expand the hepatitis panel (HAV, HBV, HCV, HEV) on the same analytical platform*	*CE ✓*

Area	*Product Name*	*Description*	*Market*
	IL-6 Neonatal sepsis (claim extension)	*Immunoassay aiding in diagnosis of sepsis in neonates*	*CE* ✓
	RUO Amyloid Plasma Assays (pTau181 & ApoE4)	*Qualitative immunoassays measuring the phosphorylated Tau 181 protein and apolipoprotein E4 in human plasma*	*U.S.* ✓
	HBeAg Quant	*Immunoassay aiding in diagnosis, monitoring and predicting treatment response for patients with hepatitis B viral infection*	*CE* ✓
	cobas HCV DUO	*Antigen/antibody assay for faster diagnosis of hepatitis C*	*CE* ✓
	Elecsys pTau/AB42 ratio Gen2 (CSF)	*Detect amyloid disease and enable a broader availability of testing for patients suspected of Alzheimer's Disease*	*U.S.* ✓
Molecular Lab	*cobas SARS-CoV-2 DUO*	*Automated RT-PCR assay for use on the cobas 6800/8800 systems*	*U.S. EUA* ✓ *OUS*[1] ✓
	cobas 5800 Menu Expansion	*Assays to test for SARSS-CoV-2, chlamydia trachomatis (CT)/neisseria gonorrhoeae (NG) and cytomegalovirus (CVM)*	*U.S. & CE* ✓
Digital Solutions			
Pathology Lab	*RUO Digital Pathology Algorithm: PD L1 SP142*	*Digital pathology algorithm aiding pathologists in scoring PD L1 (SP142) breast samples*	*WW* ✓
	NAVIFY Algorithm Suite	*Open library of certified IVD based clinical algorithms*	*Selected markets*[2] ✓
	Menu for NAVIFY Algorithm Suite	*Certified clinical algorithms for oncology applications*	*Selected markets*[2] ✓
Lab Insights	*cobas infinity lab 3.05*	*Lab middleware enabling ecosystem of cloud-based solutions*	*WW* ✓
	NAVIFY Marketplace	*Digital marketplace offering full range of applications*	*Selected markets*[2] ✓
	NAVIFY Sample Tracking	*Open sample tracking to improve testing traceability and quality*	*Selected markets*[2] ✓
	NAVIFY Kidney Companion	*Digital solution providing insights for chronic kidney disease patient management*	*CE*
	Cervical Cancer Screening	*Digital solution improving the management of screening programs*	*CE*

Area	*Product Name*	*Description*	*Market*
	Cobas infinity edge suite	*Portfolio of digital products to support decentralization of testing and data*	*CE* ✓
	NAVIFY Core Integrator	*Data integration platform for laboratory customers across disciplines*	*CE* ✓
Diabetes Care	*Payer Dashboard*	*Population-level insights via dashboard for HCPs, Admins and Payers*	*OUS*[1] ✓
	mySugr Pump V2.0	*Extended functionalities and smartphone compatibility*	*OUS*[1]

(1) Outside the United States.
(2) Only selected countries.

In July 2024, the Roche Group received the CE Mark for its AI-enabled Accu-Chek SmartGuide continuous glucose monitoring (CGM) solution offering critical predictions to people living with diabetes. This significant milestone paves the way for the solution to be made available to people living with type 1 and type 2 diabetes over the age of 18 on flexible insulin therapy.

In June 2024, the FDA granted Emergency Use Authorization for the Roche Group's cobas liat SARS-CoV-2, Influenza A/B & RSV nucleic acid test, an automated multiplex real-time polymerase chain reaction (RT-PCR) assay on the cobas liat system. Producing results in just 20 minutes on a compact analyzer suitable for most healthcare settings, the test uses either a single nasopharyngeal or anterior nasal-swab sample to confirm or rule out infection with SARS-CoV-2, influenza A virus, influenza B virus and respiratory syncytial virus (RSV).
Also in June 2024, the Roche Group launched the first clinically approved, highly sensitive in-situ hybridization (ISH) test to more easily diagnose patients who may have B-cell lymphoma in countries accepting the CE Mark. The VENTANA Kappa and Lambda Dual ISH mRNA Probe Cocktail assay is designed to help pathologists differentiate a B-cell malignancy from a normal, reactive response to an infection.

Furthermore, the Roche Group launched its new analytical units, cobas c 703 and cobas ISE neo, for the cobas pro integrated solutions, in countries accepting the CE mark. The cobas pro integrated solutions is a scalable and modular diagnostic platform designed for high-volume laboratories. The cobas c 703 and cobas ISE neo analytical units offer cutting-edge features to help address some of the key challenges faced by diagnostic laboratories worldwide such as shortage of qualified staff and space limitations.

In May 2024, the Roche Group received Breakthrough Device Designation from the FDA for its Tina-quant lipoprotein Lp(a) RxDx assay to identify patients who may benefit from innovative Lp(a)-lowering therapy currently in development. Lp(a) is emerging as an important, yet under-recognized, potential risk factor for cardiovascular disease, a major public health issue.

In April 2024, the Roche Group received Breakthrough Device Designation from the FDA for its Elecsys pTau217 assay. This blood test, which is being developed in collaboration with Eli Lilly and Company, will be used to help identify the presence or absence of amyloid pathology in individuals, which can help ensure they are able to receive appropriate care. This may include participation in clinical trials or access to approved disease-modifying therapies. If approved, the test could help rapidly broaden access to a more timely and accurate diagnosis and potentially mitigate the impact of Alzheimer's disease on people and society.

In March 2024, the Roche Group received FDA approval for the first molecular test to screen for malaria in blood donors for use on the cobas 6800/8800 Systems. This approved test can aid healthcare professionals in reducing potential risks of patient infection from transfused blood products. The cobas Malaria test provides a highly sensitive and specific solution to help ensure that infected blood units are removed from the blood supply.

In November 2023, the Roche Group launched automated serology hepatitis E virus tests, including a test to detect acute HEV infections, recommended in the new WHO 2023 Essential Diagnostics List. The new tests allow clinicians to diagnose acute and chronic infections amongst patients presenting with or without signs of the illness as recommended by the European Association for the Study of the Liver (EASL). The tests complete the Roche Group's panel used for the differential diagnosis of acute viral hepatitis caused by the hepatitis A, B, C and E viruses.

The Roche Group also launched *LightCycler PRO* System its next-generation qPCR system to advance clinical needs in molecular diagnostics and address public health challenges. The new system will advance personalized healthcare and support outbreak readiness by delivering agility and flexibility for translational research and diagnostics.

In October 2023, the Roche Group announced that the Elecsys IL-6 immunoassay has become the first IL-6 test to have a certified claim for use in diagnosis of neonatal sepsis, in countries accepting the CE Mark. Elecsys IL-6 aids physicians in combating the impact of neonatal sepsis by facilitating an early diagnosis. Early and improved diagnosis can contribute to appropriate use of antibiotics, as well as potentially decreasing mortality rates and mitigating long-term consequences of sepsis.

In April 2023, the Roche Group introduced navify Algorithm Suite, a digital library of medical algorithms that enhances clinical decision-making to optimize patient care. navify Algorithm Suite is a secure digital ecosystem that links physicians easily to a range of medical algorithms from the Roche Group and its innovation partners without the hurdle of integrating multiple algorithm providers. First available medical algorithms focus on identifying patients at risk for some liver and colon cancers. Medical algorithms for cardiac, lung and other disease states are in the pipeline.

In February 2023, the Roche Group launched two antibodies to identify key clinical mutations in patients with brain cancer. The IDH1 R132H and ATRX antibodies are the latest additions to the Roche Group's neuropathology portfolio, which contains 29 biomarkers. The Roche Group's IDH1 and ATRX assays are optimized and fully-automated on the BenchMark series of instruments. The two tests are available in the United States. They will likely be available in other non-CE markets later this year and in countries that accept the CE mark in 2024.

In January 2023, the Roche Group and its subsidiary TIB Molbiol launched a COVID-19 PCR test to detect the fast spreading XBB.1.5 Omicron sub-variant and runs on the real-time PCR platforms LightCycler 480 II* and cobas z480. The XBB.1.5 variant is prevalent in the United States and has spread to other countries. Being able to differentiate emerging variants and understand their similarities and mutations provides a basis for experts to make predictions about their spread and respond with appropriate treatment strategies.

In December 2022, Roche Group's Elecsys beta-Amyloid (1-42) CSF II (Abeta42) and Elecsys Phospho-Tau (181P) CSF (pTau181) assays received FDA 510(k) clearance. The Elecsys AD CSF Abeta42 and pTau181 assays (used as a pTau181/Abeta42 ratio) measure two biomarkers that are hallmarks of Alzheimer's pathology, beta-amyloid and tau proteins, in adults ages 55 and older being evaluated for the disease.

In October 2022, FDA granted 510(k) clearance for the cobas SARS-CoV-2 Qualitative PCR test for use on the fully automated cobas 6800 and cobas 8800 Systems. This standalone test is intended for the qualitative detection of SARS-CoV-2, the virus that causes COVID-19 disease, in nasal and nasopharyngeal samples from symptomatic patients who are suspected of having COVID-19 as determined by their healthcare provider.
In November 2022, the Roche Group announced publication of the Safety, Tolerability and Efficacy of Rapid Optimization of Heart Failure (STRONG-HF) study in patients hospitalized for acute heart failure. The study, which included utilization of the Roche Elecsys NT-proBNP biomarker, was terminated early for superior efficacy in the active arm of the study versus the usual standard of care, as it was considered unethical to continue with usual care.

In August 2022, the Roche Group launched the Elecsys IGRA SARS-CoV-2 test in countries that accept the CE Mark. The test will support better understanding of immune response to SARS-CoV-2 infection and vaccination and will be an additional tool to make better-informed decisions around care, sanitary measures and treatment options. This will be particularly important for at-risk patient groups. The Roche Group launched the Digital LightCycler System, the Roche Group's first digital polymerase chain reaction (PCR) system. This system detects disease and is

designed to accurately quantify trace amounts of specific DNA and RNA targets not typically detectable by conventional PCR methods.

In July 2022, the Roche Group launched Elecsys HCV Duo, the first commercially available diagnostic test for the simultaneous and independent determination of the hepatitis C virus (HCV) antigen and antibody status. The FDA granted Breakthrough Device Designation to the Elecsys Amyloid Plasma Panel, a solution to enable Alzheimer's disease to be detected earlier.

In June 2022, the Roche Group launched BenchMark ULTRA PLUS system, its newest advanced tissue staining platform, for cancer diagnostics enabling timely, targeted patient care. Also in June 2022, the Roche Group launched VENTANA DP 600, a high-capacity slide scanner that creates high-resolution, digital images of stained tissue samples that help to diagnose cancer and determine a patient's treatment, enhancing patient care with precise diagnostics. The Roche Group also launched a self-sampling solution for the cobas HPV test in countries accepting the CE mark.

The Roche Group received FDA Emergency Use Authorization in June 2022 for cobas SARS-CoV-2 Duo, a test that combines the standard qualitative result of a traditional SARS-CoV-2 PCR test with a quantitative result, which measures the viral load of a patient suspected of COVID-19.

In May 2022, the Roche Group and its subsidiary TIB Molbiol swiftly developed three unique PCR LightMix Modular Virus test kits that detect the monkeypox virus and aid in tracking its epidemiologic spread. These tests are not authorized in all jurisdictions. In October 2022, the Roche Group received FDA Emergency Use Authorization for cobas MPXV for use on the cobas 6800/8800 Systems.

In January 2022, the Roche Group launched in select countries accepting the CE mark the cobas pulse system, an industry first professional blood glucose management solution with mobile digital health capabilities to improve patient care. The Roche Group introduced cobas infinity edge, a new open digital ecosystem for point of care professionals, driving improved patient outcomes and operational efficiencies in healthcare. The Roche Group believes that the new digital ecosystem breaks down common information silos for point of care (POC) professionals, reducing costs and administrative burdens by connecting information securely and compliantly across devices, providers, and locations.

In January 2022, the Roche Group launched the SARS-CoV-2 & Flu A/B Rapid Antigen Test for professional use in markets accepting the CE mark. The SARS-CoV-2 & Flu A/B Rapid Antigen Test is intended for use by healthcare professionals to rapidly differentiate between SARS-CoV-2 and influenza viruses A and B infections in individuals with symptoms consistent with COVID-19 or influenza.

Manufacturing and procurement

As of June 30, 2023, the Group's Diagnostics Division comprised eleven manufacturing sites (two of which were joint Diagnostics / Pharmaceuticals sites) and three global supply hubs in Europe, the United States and China. This network handles all aspects of procurement, manufacturing and logistics for a broad portfolio of products.

The majority of instruments and tests are manufactured in-house, which allows the Roche Group to maintain cost and quality advantages and leverage proprietary technologies and special expertise. In general, the Roche Group uses external manufacturers to access intellectual property and unique technologies, enabling the Roche Group to focus on its core competencies and optimize efficiencies and costs. For example, the Roche Group outsources the production of hand-held blood glucose meters, large work stations, and consumables.

Marketing and distribution

The Roche Group places an emphasis on regional and local activities that deliver value, improve access to healthcare and maintain high standards of patient care and safety.

The Group works closely with local health authorities and other healthcare providers to develop ways to bring the Group's medicines and tests to as many patients as possible.

The Group is actively involved in contributing to health technology assessments, where healthcare authorities systematically evaluate the medical benefit of the Group's medicines and diagnostic tests in relation to the investment. In many of the Group's markets, a further development has been the increased adoption of post-launch assessments, where emphasis is being placed on "real life" evidence of the comparative effectiveness, safety and economic impact of the Group's medicines. The Group's marketing and distribution strategy is tailored to each market in which the Group operates to develop models that are effective within individual healthcare systems. This often involves providing a comprehensive array of solutions, from affordability programs, to strengthening local infrastructure, to working with groups to provide effective patient education and support programs.

The Group has developed a value-based approach to pricing of its medicines, which reflect the benefits they deliver to patients, their families, healthcare systems and society as a whole. Through this approach the Group aims to support access to its medicines for as many patients as possible today, while at the same time ensuring to be able to continue investing into highly complex and risky areas of drug development for future innovation. Through its pricing approach, the Group works closely with payers, governments and health care systems around the world to develop flexible and tailored pricing solutions as well as patient support programs to mitigate financial uncertainty and support those who have to pay for treatment themselves.

When an additional level of price flexibility may support greater and sustainable access to medicines in low and lower middle income countries, the Roche Group can consider the application of International Differential Pricing (IDP), which is a framework for aligning prices to a country's gross domestic product, as well as to the United Nations' Human Development Index and public healthcare investment.

The Group also maintains patient assistance and patient support programs ("PSP") to help people obtain insurance, co-pay support, provide funding to indigent patients or, in some instances, partial supply of medicines to start or continue treatment. PSP are sometimes supported by third parties, particularly in emerging markets and in markets in which the Group has no physical presence. The Group also provides numerous value-added services to patients, healthcare providers and the general public, including developing healthcare infrastructure, educating healthcare professionals and providing patient support networks.

Chugai

Effective October 1, 2002, the Group and Chugai completed an alliance to create a leading research-driven Japanese pharmaceutical company, which was formed by the merger of Chugai and Roche's Japanese pharmaceuticals subsidiary, Nippon Roche. The merged company, known as Chugai, is a fully consolidated subsidiary of the Group. As of June 30, 2024, the Group's interest in Chugai was 61.1%.

The common stock of Chugai is publicly traded and is listed on the Tokyo Stock Exchange under the stock code TSE:4519. Chugai prepares financial statements in accordance with IFRS Accounting Standards, as issued by the IASB, which are filed on a quarterly basis with the Tokyo Stock Exchange. Due to certain consolidation entries there are minor differences between Chugai's stand-alone IFRS results and the results of Chugai as consolidated by the Roche Group in accordance with IFRS Accounting Standards, as issued by the IASB.

Relationship with Chugai

Chugai has entered into certain agreements with Roche, which are discussed below:

Basic Alliance Agreement: As part of the Basic Alliance Agreement signed in December 2001 and partially revised in July 2022, Roche and Chugai entered into certain arrangements covering the future operation and governance of Chugai. Amongst other matters these cover the following areas:

- the structuring of the alliance;
- Roche's rights as a shareholder;
- Roche's rights to nominate members of Chugai's Board of Directors; and
- certain limitations to Roche's ability to buy or sell Chugai's common stock.

Chugai issues additional shares of common stock in connection with its convertible debt and equity compensation plans, and may issue additional shares for other purposes. If this occurs, Chugai will guarantee Roche's right to maintain its shareholding percentage in Chugai by allowing Roche to exercise its pre-emptive right or other rights.

Licensing Agreements: Under the Japan Umbrella Rights Agreement signed in December 2001, Chugai has exclusive rights to market Roche's pharmaceutical products in Japan. Chugai has a right of first refusal on the development and marketing in Japan of all development compounds advanced by Roche.

The Rest of the World Umbrella Rights Agreement (excluding Japan and South Korea) signed in May 2002 was revised and the Amended and Restated Rest of the World Umbrella Rights Agreement (excluding Japan, South Korea and Taiwan) was signed in August 2014. Under this Agreement, Roche has the right of first refusal on the development and marketing of Chugai's development compounds in markets outside Japan, excluding South Korea and Taiwan.

Further to these agreements, Roche and Chugai have signed a series of separate agreements for certain specific products. Depending on the specific circumstances and the terms of the agreement, this may result in payments on an arm's length basis between Roche and Chugai, for any or all of the following matters:

- upfront payments, if a right of first refusal to license a product is exercised;
- milestone payments, dependent upon the achievement of agreed performance targets; and
- royalties on future product sales.

These specific product agreements may also cover the manufacture and supply of the respective products to meet the other party's clinical or commercial requirements on an arm's-length basis.

Research Collaboration Agreements: Roche and Chugai have entered into research collaboration agreements in the areas of small molecule synthetic drug research and biotechnology-based drug discovery.

Patents and trademarks

The Group attaches considerable importance to its intellectual property rights, including its patents, trademarks, copyrights and trade secrets, and believes that its worldwide portfolio of patents and trademarks is of particular value to its business.

The Group believes it has patent protection in its major markets for most of its new top-selling pharmaceutical products. The Group has either obtained patent protection, or is in the process of seeking patent protection, for most of the new products which are currently being introduced or are under development. The Group has sought protection under trademark law for all of the Group's significant pharmaceutical products in their major markets, and the Group pursues a policy of protecting its trademarks vigorously against infringement. The Group's trademarks are used in many jurisdictions. There may be locally registered variations for each of these trademarks.

The Group has obtained patent protection for the majority of new parameter or new biomarker products and technologies developed in the Diagnostics Division, and the major product lines of the Diagnostics Division are protected by registered trademarks.

The Group is committed not to file new patents and not to enforce patents in Low Income Countries (as defined by the World Bank) and in Least Developed Countries (as defined by the United Nations).

For the financial impact of competition from biosimilar and generic medicines, please see "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group — Comparison of years ended December 31, 2022 and 2021 — Competition from biosimilar and generic medicines*", "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group — Comparison of years ended December 31, 2023 and 2022 — Competition from biosimilar and generic medicines*" and "*Management's Discussion and Analysis of Results of Operations and Financial Condition of the Roche Group —*

Comparison of the six months ended June 30, 2024 and 2023 — Competition from biosimilar and generic medicines."

Employees

As of December 31, 2023, the Roche Group employed more than 100,000 people worldwide while the number of women in key leadership positions remained at 36.7% in 2023.

Environmental and safety matters

The Group and its operations are subject to various foreign, federal, national, state, provincial and local environmental, health and safety laws and regulations governing, among other things, the emission and discharge of hazardous materials into the air, water or ground; the generation, storage, handling, processing, use and transportation of materials; the registration, evaluation and authorization of its chemical products; and employee health and safety.

The Group has incurred, and expects to incur, costs to investigate, remediate or otherwise address contamination with respect to its current and former facilities and properties, as well as with respect to third party landfills to which it has sent waste. As of June 30, 2024, the Group had CHF 360 million in environmental provisions, compared to CHF 361 million as of December 31, 2023. These include various separate environmental issues in a number of countries. The significant provisions relate to the estimated remediation costs for the manufacturing site at Clarecastle, Ireland, which was shut down in the meantime, and to the U.S. site in Nutley, New Jersey, which was divested in September 2016. In 2023, environmental provisions decreased by CHF 13 million, mainly due to utilizations and currency translation effects and partially offset by an increase in provisions. In 2023, the net environmental expenses were CHF 60 million (2022: net expenses of CHF 3 million) and included an increase of provisions of CHF 61 million mainly for the Clarecastle site following a reassessment of the expected costs of the environmental remediation in 2023.

Environmental provisions consist primarily of costs to fully clean and refurbish contaminated sites, including landfills, and to treat and contain contamination at certain other sites. These estimates are inherently uncertain as assumptions are required related to the detection of previously unknown contamination, the method and extent of remediation, the percentage of the problematic materials attributable to the Group at the remediation sites, and the financial capabilities of other potentially responsible parties. The estimates could change substantially over time as new facts emerge and each environmental remediation progresses.

As a result of its biotechnological and diagnostic production, the Group has incurred, and expects to incur, capital expenditures and other costs to comply with environmental laws and regulations, in particular with respect to compliance with environmental laws and regulations applicable to site development projects, and with respect to its air emissions, including of volatile organic compounds, particulate matter and greenhouse gases, and with respect to its waste water emissions, including metals, phosphorus, and total organic carbon.

The Group could also be held liable for any and all consequences arising out of human exposure to hazardous substances or other environmental damage. Risks inherent to the manufacture of pharmaceuticals and chemicals include fires and explosions, personal injury and death, property or natural resource damage and hazardous substance releases. For example, the Group has experienced releases of hazardous substances that have resulted in personal injury and property damage.

Real estate

The Group's real estate properties are primarily located in Switzerland, the EU, Japan and the United States.

Major sites are in Basel, Kaiseraugst and Rotkreuz, Switzerland; Grenzach-Wyhlen, Penzberg and Mannheim, Germany; Welwyn, Garden City, United Kingdom; South San Francisco, Vacaville, Pleasanton, Santa Clara and Oceanside (California), Branchburg (New Jersey), Indianapolis (Indiana), Tucson (Arizona) and Hillsboro (Oregon) in the United States; Rio de Janeiro in Brazil; Singapore; and Shanghai, China. Further sites include those owned by Chugai in Japan.

Legal proceedings

Except as described in Note 10 to the H1 2024 Interim Consolidated Financial Statements and Note 20 to the 2023 Consolidated Financial Statements, Roche is not, and has not been in the previous 12 months, subject to any material governmental, legal or arbitration proceedings, including any such material proceedings which are pending or threatened of which it is aware, which may reasonably be expected to have, or have had in the recent past, significant effects on Roche's or the Roche Group's financial position or profitability.

MANAGEMENT

Board of Directors

Pursuant to its Articles of Incorporation, the Board of Directors of Roche must consist of at least seven members. As at the date of this offering memorandum, the Board of Directors of Roche consists of ten members, each of whom has been elected by the shareholders at the Annual General Meeting held on March 12, 2024 for a one-year term ending at the Annual General Meeting scheduled for March 25, 2025.

The Board of Directors has ultimate management control of Roche. It establishes the principles of the strategy, organization, accounting and financial control of Roche and appoints and supervises the persons entrusted with management. Subject to the powers of the Board of Directors, the Corporate Executive Committee directs the management of Roche.

As at the date of this offering memorandum, the members of the Board of Directors of Roche are as follows:

Name	Title	Committee Membership
Dr. Severin Schwan	Chairman	D*, E
André Hoffmann	Vice Chairman	A*, C, D, E, G
Dr. Jörg Duschmalé	Director	B, C*, E, G
Dr. Jemilah Mahmood	Director	A, E, G
Dr. Patrick Frost	Director	B*, E, G
Anita Hauser	Director	C, D, E, G
Prof. Dr. Akiko Iwasaki	Director	A, E, G
Prof. Dr. Richard P. Lifton	Director	C, E, G
Dr. Mark Schneider	Director	B, E, G
Dr. Claudia Suessmuth Dyckerhoff	Director	A, B, E, G
Per-Olof Attinger	Secretary to the Board of Directors (non-member)	

A: Corporate Governance and Sustainability Committee

B: Audit Committee

C: Remuneration Committee

D: Chairman's Committee / Nomination Committee

E: Non-executive director

F: Executive Director – *currently no member*

G: Independent director

*: Committee chairperson

Corporate Executive Committee and Enlarged Corporate Executive Committee

As of the date of this offering memorandum, the members of the Corporate Executive Committee and of the Enlarged Corporate Executive Committee of Roche are as follows:

Name	Title/Areas of Responsibility
Corporate Executive Committee:	
Dr. Thomas Schinecker	Chief Executive Officer Roche Group
Teresa Graham	CEO Roche Pharmaceuticals
Matt Sause	CEO Roche Diagnostics
Dr. Alan Hippe	Chief Financial and Information Officer
Cristina A. Wilbur	Chief People Officer

Name	Title/Areas of Responsibility
Enlarged Corporate Executive Committee:	
Dr. Aviv Regev	Head of Genentech Research and Early Development (gRED)
Prof. Dr. Hans Clevers	Head of Roche Pharma Research and Early Development (pRED)
Boris L. Zaïtra	Head of Corporate Business Development
Barbara Schädler	Head of Group Communications
Claudia Böckstiegel	General Counsel
Silke Hörnstein	Head of Corporate Strategy and Sustainability
Dr. Levi Garraway	Head of Global Product Development and Chief Medical Officer

Secretary to the Corporate Executive Committee:

Silke Hörnstein

The Enlarged Corporate Executive Committee is composed of individuals responsible for additional functions within the Group which complement the division and function heads already represented in the Corporate Executive Committee.

The business address of each of the directors and members of the Enlarged Corporate Executive Committee is Grenzacherstrasse 124, 4058 Basel, Switzerland.

Corporate governance

Conflicts of Interest

There are no potential conflicts of interests between any duties owed by the directors or Enlarged Corporate Executive Committee members to the Roche Group and their private interests or other duties.

Compliance

The Roche Group meets all of the requirements with respect to Corporate Governance complying with the existing legal framework, the Directives of SIX Exchange Regulation AG (including the related Commentaries) and the Swiss Code of Best Practice for Corporate Governance as promulgated by the Swiss business federation (*economiesuisse*). The existing internal regulations – in particular, Roche's Articles of Incorporation and Bylaws – are designed to provide the necessary checks and balances in order to ensure good corporate governance.

Board Committees

Based on Roche Group's independence criteria as set forth below, the seats on the Board of Directors are held by independent directors. The only exception is Dr. Severin Schwan based on his former executive position in the company as the CEO until March 14, 2023.

Roche's Board of Directors' independence definition is based on the definition in the 'Swiss Code of best practice for Corporate Governance'of '*economiesuisse*' and its complemented by the following specific preceding criteria:

In order to be considered as independent, a director must:

- not have been an employee of the company in an executive function within the last three years;
- not be a family member of an employee of the company, who is or was employed in an executive function by the company or any of its subsidiaries;
- not be a member of the company's senior management;

- not be (or be affiliated with) an advisor or consultant to the company;
- not be affiliated with a significant customer or supplier of the company;
- have no personal services contract(s) with the company or a member of the company's senior management;
- not be affiliated with a not-for-profit entity that receives significant contributions from the company;
- not have been a partner or employee of the company's external auditor during the past two years; and
- must not have any other conflict of interest that the Board of Directors itself determines to mean they cannot be considered independent.

Chairman's Committee / Nomination Committee

The Chairman and the Vice Chairman of the Board of Directors serve jointly as the Chairman's Committee as well as a Nomination Committee. In the latter capacity they prepare proposals to the Board of Directors regarding the appointment of new Board members and are concerned with succession planning and the evaluation of candidates for the Enlarged Corporate Executive Committee.

Nomination and selection processes are guided by the Nomination Committee considering the expertise and experience of the relevant individuals, including related to economic, environmental and social issues, diversity, independence and other important factors.

Audit Committee

The Audit Committee assists the Board of Directors in overseeing the management of the Group's businesses, particularly with respect to financial matters. In particular, the committee reviews:

- accounting systems and procedures;
- the organization and scope of financial controlling including internal auditing;
- financial reporting to shareholders and the general public as well as the relationship with external auditors;
- financial planning, budgets and budget execution;
- internal financial control systems;
- investments of liquid assets and financial investments, including investments of assets by Roche's post-retirement benefit plans (investment principles and policies, funding status, investment instruments, diversification, return on investments, etc.);
- longer-term business plans and strategy and communication of the same in Roche's annual reports;
- risk management, internal control systems, risk plans; and
- taxation matters and oversees taxation risks and governance including the Group's taxation strategy.

Corporate Governance and Sustainability Committee

The Corporate Governance and Sustainability Committee assists the Board of Directors in matters relating to corporate governance and in promoting sustainable management of the Roche Group's activities. The Committee supervises compliance of internal business principles and principles of behavior with respect to legal as well as safety and environmental matters.

The Corporate Governance and Sustainability Committee also oversees the preparation of the sustainability report.

Remuneration Committee

The Remuneration Committee whose members are elected by the General Meeting from among the Board of Directors' members, decides on the remuneration of the Chairman of the Board of Directors (who must not be present at the time of such decision) and the CEO (who must not be present at the time of such decision). Furthermore, it is responsible for approving, upon proposal by the Chairman of the Board of Directors (other than in the case of his own compensation):

- the Group's remuneration policy;
- the remuneration of the members of the Board of Directors;
- the compensation packages of members of the Executive Committee (within the limits of the General Meeting's approval on the total remuneration of the Executive Committee); and
- stock options, bonuses and similar profit-sharing schemes, and for approving in principle pension fund benefits and other post-employment benefit plans.

Board of Directors and Board Committee Meetings

In 2023, the Board of Directors held 10 meetings.

The Board committees met as follows in 2023:

- Chairman's Committee / Nomination Committee: 7 meetings;
- Audit Committee: 5 meetings;
- Corporate Governance and Sustainability Committee: 3 meetings; and
- Remuneration Committee: 3 meetings.

SHARE CAPITAL AND SHAREHOLDERS

Roche's share capital is CHF 106,691,000 divided into 106,691,000 fully paid up bearer shares with a nominal value of CHF 1 each. As at the date of this offering memorandum, the total number of issued shares is 106,691,000. There are also 702,562,700 non-voting equity securities (*Genussscheine*) in issue at the date of this offering memorandum, which are, however, not considered to form a part of Roche's share capital.

The shares of Roche are bearer shares and Roche does not maintain a register of shareholders.

On December 5, 2019, the shareholder group with pooled voting rights announced that it would continue the shareholder pooling agreement existing since 1948 with a modified shareholder composition by including seven representatives of the fifth generation into the pool. In total, therefore, the pool comprises six members of the fourth and nine members of the fifth generation. The duration of the pool had already been extended for an indefinite period in 2009.

The following is an overview of the ownership of Roche's bearer shares as of December 31, 2023:

- 69,318,000 shares:

  Based on the information available to the Group, a shareholder group with pooled voting rights representing 64.97% of issued shares comprising Mr. André Hoffmann, Ms. Marie-Anne Hoffmann, Ms. Vera Michalski, Mr. Alexander Hoffmann, Mr. Frederic Hoffmann, Ms. Isabel Hoffmann, Mr. Lucas Hoffmann, Ms. Marina Hoffmann, Ms. Kasia Barbotin-Larrieu, Ms. Tatiana Fabre, Mr. Andreas Oeri, Ms. Catherine Oeri, Ms. Sabine Duschmalé, Mr. Jörg Duschmalé, Mr. Lukas Duschmalé, the charitable foundation Wolf and Artuma Holding Ltd.

- 8,091,900 shares:

  Ms. Maja Oeri, formerly a member of the pool, holds 8,091,900 shares, representing 7.58% of issued shares.

Other than as mentioned before, to the extent of Roche's knowledge, Roche is not directly or indirectly owned by anyone known to Roche.

DESCRIPTION OF THE NOTES

The following description is only a summary of the material terms of the Notes, the guarantees and the relevant fiscal and paying agency agreement, as defined below. The Company urges prospective investors to read these documents because they, not this description, define the rights of holders of these Notes. Prospective investors may request copies of these documents as specified under the heading "Available Information."

As used in this section of this offering memorandum, references to the "Company" are to Roche Holdings, Inc. and references to the "Guarantor" are to Roche Holding Ltd. Certain terms used in this section are defined under "—Definitions" below. Certain defined terms used, but not defined herein have the meanings specified in the Notes, the guarantees or the relevant fiscal and paying agency agreement.

General

The Company will offer U.S.$900,000,000 aggregate principal amount of 4.203% notes due 2029 (the "2029 Notes"), U.S.$1,000,000,000 aggregate principal amount of 4.592% notes due 2034 (the "2034 Notes") and U.S.$600,000,000 aggregate principal amount of 5.218% notes due 2054 (the "2054 Notes" and, together with the 2029 Notes and the 2034 Notes, the "Notes" and each a "series").

The 2054 Notes will be consolidated and form a single class with the existing Roche Holdings, Inc. U.S.$1,000,000,000 5.218% Notes due 2054 issued on March 8, 2024 (the "Original 2054 Notes"). Upon completion of this offering, the aggregate principal amount of the 2054 Notes outstanding will be U.S.$1,600,000,000.

The 2029 Notes will mature on September 9, 2029 (the "2029 Notes Maturity Date"), the 2034 Notes will mature on September 9, 2034 (the "2034 Notes Maturity Date") and the 2054 Notes will mature on March 8, 2054 (the "2054 Notes Maturity Date").

The Company will issue the 2029 Notes and the 2034 Notes pursuant to a fiscal and paying agency agreement to be dated as of September 9, 2024 (the "fiscal and paying agency agreement") among the Company, the Guarantor and Citibank, N.A., as fiscal agent, registrar, transfer agent and paying agent. The 2029 Notes and the 2034 Notes will each constitute a separate series of Notes under the fiscal and paying agency agreement.

The Company will issue the 2054 Notes pursuant to the fiscal and paying agency agreement dated March 8, 2024 (the "2054 Notes fiscal and paying agency agreement") among the Company, the Guarantor and Citibank, N.A., as fiscal agent, registrar, transfer agent and paying agent. The 2054 Notes will be consolidated and form a single class with the Original 2054 Notes. The 2054 Notes will become fully fungible with the Original 2054 Notes following the termination of certain U.S. selling restrictions. During the period subject to certain U.S. selling restrictions, the 2054 Notes offered pursuant to Regulation S will have a temporary CUSIP and ISIN.

The payment of principal of and premium, if any, and interest on the Notes will be fully and unconditionally guaranteed by the Guarantor pursuant to guarantees (each a "guarantee"). In case of any failure by the Company to make any required payment in respect of the Notes when due, whether on an interest, stated maturity or other specified payment date, upon acceleration or redemption, or otherwise, the Guarantor will cause payment to be made to the holders of the Notes. So long as any noteholder of a series makes a request, which may be oral or written, to the Company for payment, all holders of Notes of that series will be entitled to punctual payment under the related guarantees of the Guarantor. The foregoing procedural requirement to make such a request will not apply in the event of the initiation or pendency of any proceedings with respect to the Company under any applicable bankruptcy, liquidation, insolvency, reorganization or other similar law. A holder of a Note need not exhaust any recourse that it may have against the Company or other persons before being entitled to full payment from the Guarantor under the guarantee of such Note.

Each series of Notes will be senior unsecured obligations of the Company and will rank equally in right of payment with all of its other senior and unsecured debt obligations. The guarantees will be the Guarantor's senior unsecured obligations and will rank equally in right of payment with all of its other senior and unsecured debt obligations.

The Company will issue the Notes only in book-entry form, in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.

References to the fiscal agent, registrar, transfer agent or paying agent include any successor fiscal agent and any successor or additional registrar, transfer agent or paying agent appointed from time to time in connection with the Notes. References to the "agents" are, collectively, to the fiscal agent, the registrar, the transfer agent and the paying agent.

Interest on the Notes

The Notes of each series of Notes will each bear interest at the applicable interest rates shown on the cover of this offering memorandum and will accrue interest from September 9, 2024, or from the most recent date to which interest has been paid, or duly provided for, to but excluding the next date upon which interest is required to be paid. Interest on the 2054 Notes will be deemed to have accrued from, and including, September 8, 2024 to, but excluding, September 9, 2024.

Interest will be payable on the 2029 Notes and the 2034 Notes semi-annually in cash in arrears on March 9 and September 9 of each year, commencing on March 9, 2025 (each, an "Interest Payment Date"). Interest will be payable on the 2054 Notes semi-annually in cash in arrears on March 8 and September 8 of each year, commencing on March 8, 2025 (each a "2054 Interest Payment Date"). Interest on the 2054 Notes will be deemed to have accrued from the most recent date to which interest has been paid or, if no interest has been paid, from, and including, March 8, 2024 to, but excluding, September 9, 2024.

Interest will be paid to the person in whose name a 2029 Note or a 2034 Note is registered at the close of business on the February 22 or August 25 that precedes the Interest Payment Date. Interest will be paid to a person in whose name a 2054 Note is registered at the close of business on the February 21 or August 24 that precedes the 2054 Interest Payment Date (whether or not a Business Day).

Interest on the Notes will be paid on the basis of a 360-day year consisting of twelve 30-day months.

If an Interest Payment Date, a 2054 Interest Payment Date, redemption date or maturity date for the Notes would fall on a day that is not a Business Day, then such interest, principal or premium, if any, as the case may be, will be paid on the next succeeding Business Day, but no additional interest will accrue or be payable unless the Company fails to make payment on such next succeeding Business Day. If any of the Notes are redeemed, unless the Company defaults on payment of the redemption price, interest will cease to accrue on the redemption date of such Notes called for redemption.

Each interest period of the 2029 Notes and the 2034 Notes (each, an "Interest Period") will begin on (and include) an Interest Payment Date (or, in the case of the first Interest Period, September 9, 2024) and end on (but exclude) the following Interest Payment Date (or, in the case of the final Interest Period, the 2029 Notes Maturity Date or the 2034 Notes Maturity Date, as applicable).

Each interest period of the 2054 Notes (each, a "2054 Interest Period") will begin on (and include) a 2054 Interest Payment Date (or, in the case of the first 2054 Interest Period, September 9, 2024) and end on (but exclude) the following 2054 Interest Payment Date (or, in the case of the final 2054 Interest Period, the 2054 Notes Maturity Date).

Payments

So long as any of the Notes of any series remains outstanding, the Company will maintain an agency in New York City where (1) such Notes may be presented for payment (when presentation is required), (2) such Notes may be presented for registration of transfer and for exchange and (3) notices and demands to or upon the Company in respect of such Notes, or the relevant fiscal and paying agency agreement may be served. The Company will initially designate Citibank, N.A., 480 Washington Boulevard, 30th Floor, Jersey City, NJ 07310 for such purposes.

The Company may also from time to time designate one or more other offices or agencies where the Notes of any series may be presented or surrendered for any or all purposes or where such notices or demands may be served and

may from time to time rescind such designations; provided, however, that no such designation or rescission will in any manner relieve the Company of any obligation to maintain an agency in New York City.

A noteholder of any series may transfer or exchange Notes in accordance with their terms. The registrar and transfer agent for the Notes will not be required to accept for registration of transfer any Notes, except upon presentation of satisfactory evidence (which may include legal opinions) that the restrictions on transfer have been complied with, all in accordance with such reasonable regulations as the Company may from time to time agree with such registrar and transfer agent. See "*Transfer Restrictions.*"

Notwithstanding any statement herein, the Company reserves the right to impose or remove such transfer, certification, substitution or other requirements, and to require such restrictive legends on the Notes, as the Company may determine are necessary to ensure compliance with the securities laws of the United States and the states therein and any other applicable laws or as may be required by any stock exchange on which the Notes are listed.

The Company may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any exchange or registration of transfer of Notes of any series and any other expenses (including the fees and expenses of the agents). No service charge will be made for any such transaction.

The registrar and transfer agent will not be required to exchange or register a transfer of (1) Notes of any series during the 15 calendar days immediately preceding the stated maturity date of such Notes or the first mailing of any notice of redemption of such Notes to be redeemed or (2) Notes of any series selected, called or being called for redemption.

If the Company at any time defaults in the payment of any principal of or premium, if any, or interest or additional amounts, if any, on Notes of any series, the Company will, to the extent permitted by applicable law, pay interest on the amount in default at the rate of interest borne by such Notes.

If and to the extent the Company defaults in the payment of the interest due on an Interest Payment Date and the applicable grace period has expired, such defaulted interest may, at the option of the Company, be paid to the persons in whose names the relevant Notes are registered at the close of business on a subsequent record date (which will be not less than five Business Days prior to the date of payment of such defaulted interest) established by notice given as provided in the relevant Notes by or on behalf of the Company to the registered holders of the relevant Notes not less than 15 days preceding such subsequent record date.

Further issuances

The Company may from time to time, without the consent of the holders of a series of Notes, create and issue additional notes of the same series having the same terms and conditions in all respects as the Notes of that series being offered hereby, except for the issue date, the issue price and the first payment of interest thereon so that any further issue may be consolidated with and form a single series of securities with such Notes; provided that if such additional notes are not fungible with the previously issued Notes of the relevant series for U.S. federal income tax purposes, such additional notes will be issued with different CUSIP, ISIN and Common Codes than the CUSIP, ISIN and Common Codes of such previously issued Notes.

Payment of additional amounts

All payments of principal, premium, if any, and interest in respect of the Notes will be made without withholding or deduction for or on account of any present or future tax, levy, impost or other governmental charge whatsoever imposed, assessed, levied or collected by or for the account of the United States or any political subdivision thereof or any authority thereof having the power to tax, or Switzerland or any political subdivision thereof or any authority thereof having the power to tax (any such taxes, levies, imposts or other governmental charges are collectively referred to as "Taxes"), unless such withholding or deduction is required by law. If the Company or the Guarantor is required to withhold or deduct any amount for or on account of Taxes from any payment of principal, premium, if any, or interest in respect of a series of Notes, the Company or the Guarantor, as the case may be, will pay such additional amounts ("additional amounts") as may be necessary so that the net amount received by each registered holder, after such withholding or deduction (including any such withholding or deduction from such additional amounts) will be equal to the amount such registered holder would have received if such Taxes had not been

withheld or deducted; *provided*, *however*, that neither the Company nor the Guarantor will be required to pay any additional amounts for or on account of:

- any Tax that would not have been so imposed, assessed, levied or collected but for the fact that the holder or beneficial owner of a Note of such series (or a fiduciary, settlor, beneficiary, member or shareholder of, or possessor of a power over, such holder, if such holder is an estate, trust, partnership or corporation) is or has been a domiciliary, national or resident of, or engaging or having been engaged in a trade or business or maintaining or having maintained a permanent establishment or fixed place of business or being or having been physically present in the United States or Switzerland or otherwise having or having had some connection with the United States or Switzerland other than the mere holding or ownership of a Note or guarantee, or the receipt of payments, or enforcement of rights, in respect thereof;

- any Tax imposed by reason of the holder's or beneficial owner's past or present status (i) as a personal holding company with respect to the United States, (ii) as a corporation which accumulates earnings to avoid United States federal income tax, (iii) as a controlled foreign corporation with respect to the United States, (iv) as the owner, actually or constructively, of 10 percent or more of the total combined voting power of all classes of stock of the Company entitled to vote, (v) as a private foundation or other exempt organization or (vi) as a bank receiving interest described in Section 881(c)(3)(A) of the United States Internal Revenue Code of 1986, as amended;

- any Tax that would not have been so imposed, assessed, levied or collected but for the fact that, where presentation is required in order to receive payment, a Note of such series was presented more than 30 days after the date on which such payment became due and payable or was provided for, whichever is later (except to the extent that the holder would have been entitled to additional amounts on presenting such holder's Note for payment on or before the thirtieth day);

- any estate, inheritance, gift, transfer, personal property or similar Tax;

- any Tax that is payable otherwise than by deduction or withholding from payments on or in respect of a Note of such series;

- any Tax that would not have been so imposed, assessed, levied or collected but for the failure by the holder or the beneficial owner of a Note of such series to comply with any certification, identification, information or other reporting requirements concerning the nationality, residence or identity of such holder (or beneficial owner) or its connection (or lack of connection) with the United States or Switzerland if compliance is required by statute, regulation, double taxation agreement or administrative practice of the United States or Switzerland or of any political subdivision or taxing authority of either country, as a precondition to relief or exemption from such Tax;

- any tax, assessment, withholding or deduction required by Sections 1471 through 1474 of the United States Internal Revenue Code of 1986, as amended ("FATCA"), any current or future U.S. Treasury regulations or rulings promulgated thereunder, any intergovernmental agreement between the United States and any other jurisdiction to implement FATCA, any law, regulation or other official guidance enacted or published in any jurisdiction implementing FATCA or an intergovernmental agreement with respect thereto, or any agreement with the U.S. Internal Revenue Service under FATCA;

- any withholding or deduction imposed on a payment in respect of a Note of such series where such withholding or deduction is required to be made pursuant to laws enacted by Switzerland changing the Swiss withholding tax system from an issuer-based system to a paying agent-based system pursuant to which a person in Switzerland other than the issuer or guarantor of debt securities is required to withhold tax on any interest payments; or

- any combination of the Taxes described in the foregoing bullet points in this sub-section,

nor will additional amounts be paid in respect of any payment in respect of a Note of such series to any holder that is a fiduciary or partnership, limited liability company or any person other than the sole beneficial owner of such payment to the extent such payment would be required by the laws of the United States or Switzerland or any political subdivision of either country to be included in the income for tax purposes of a beneficiary or settlor with respect to such fiduciary or a member of such partnership or limited liability company or a beneficial owner that would not have been entitled to such amounts had such beneficiary, settlor, member or beneficial owner been the holder of such Note.

The Company or the Guarantor, as the case may be, will provide the fiscal agent with the official acknowledgment of the relevant taxing authority (or, if such acknowledgment is not available, other reasonable documentation) evidencing any payment of any Taxes in respect of which the Company or the Guarantor, as the case may be, has paid any additional amounts. Copies of such documentation will be made available to the registered holders of the Notes of the relevant series upon written request therefor.

References in this offering memorandum to principal, premium, if any, or interest will be deemed to include references to additional amounts payable with respect thereto. References in this offering memorandum to the Company or the Guarantor, as the case may be, will be deemed to include references to any person into or with which the Company or the Guarantor merges or consolidates or to which the Company or the Guarantor transfers or leases its assets substantially as an entirety. References to the Notes in this "—*Payment of additional amounts*" sub-section also include the related guarantees, to the fullest extent applicable.

Redemption

Optional redemption

Prior to the Par Call Date (as defined herein) applicable to any series of the Notes, the Notes of such series may be redeemed, in whole or in part, at any time and from time to time, at the option of the Company, at a redemption price (expressed as a percentage of principal amount and rounded to three decimal places) equal to the greater of:

(1) (a) the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the relevant redemption date (assuming the applicable series of Notes matured on the applicable Par Call Date) on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 10 basis points with respect to the 2029 Notes, 12.5 basis points with respect to the 2034 Notes and 15 basis points with respect to the 2054 Notes, as applicable, less (b) interest accrued to the relevant date of redemption, and

(2) 100% of the principal amount of the relevant Notes of the relevant series to be redeemed,

plus, in either case, accrued and unpaid interest to (but excluding) the redemption date and any additional amounts payable with respect thereto.

On or after the applicable Par Call Date, the relevant Notes of the relevant series will be redeemable, in whole or in part, at any time and from time to time, at the option of the Company, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to (but excluding) the redemption date and any additional amounts payable with respect thereto.

For the purpose of the provisions above, the following terms will apply:

"Par Call Date" means August 9, 2029 with respect to the 2029 Notes (the date that is one month prior to the maturity date of such Notes), June 9, 2034 with respect to the 2039 Notes (the date that is three months prior to the maturity date of such Notes) and September 8, 2053 with respect to the 2054 Notes (the date that is six months prior to the maturity date of such Notes).

"Treasury Rate" means, with respect to any redemption date, the yield determined by the Company in accordance with the following two paragraphs.

The Treasury Rate shall be determined by the Company after 4:15 p.m., New York City time (or after such time as yields on U.S. government securities are posted daily by the Board of Governors of the Federal Reserve System), on the third business day preceding the redemption date based upon the yield or yields for the most recent day that appear after such time on such day in the most recent statistical release published by the Board of Governors of the Federal Reserve System designated as "Selected Interest Rates (Daily) - H.15" (or any successor designation or publication) ("H.15") under the caption "U.S. government securities–Treasury constant maturities–Nominal" (or any successor caption or heading) ("H.15 TCM"). In determining the Treasury Rate, the Company shall select, as applicable: (1) the yield for the Treasury constant maturity on H.15 exactly equal to the period from the relevant redemption date to the applicable Par Call Date (the "Remaining Life"); or (2) if there is no such Treasury constant maturity on H.15 exactly equal to the Remaining Life, the two yields – one yield corresponding to the Treasury constant maturity on H.15 immediately shorter than and one yield corresponding to the Treasury constant maturity on H.15 immediately longer than the Remaining Life – and shall interpolate to the applicable Par Call Date on a straight-line basis (using the actual number of days) using such yields and rounding the result to three decimal places; or (3) if there is no such Treasury constant maturity on H.15 shorter than or longer than the Remaining Life, the yield for the single Treasury constant maturity on H.15 closest to the Remaining Life. For purposes of this paragraph, the applicable Treasury constant maturity or maturities on H.15 shall be deemed to have a maturity date equal to the relevant number of months or years, as applicable, of such Treasury constant maturity from the relevant redemption date.

If on the third business day preceding the redemption date H.15 TCM is no longer published, the Company shall calculate the Treasury Rate based on the rate per annum equal to the semi-annual equivalent yield to maturity at 11:00 a.m., New York City time, on the second business day preceding such redemption date of the United States Treasury security maturing on, or with a maturity that is closest to, the applicable Par Call Date, as applicable. If there is no United States Treasury security maturing on the applicable Par Call Date but there are two or more United States Treasury securities with a maturity date equally distant from the applicable Par Call Date, one with a maturity date preceding the applicable Par Call Date and one with a maturity date following the applicable Par Call Date, the Company shall select the United States Treasury security with a maturity date preceding the applicable Par Call Date. If there are two or more United States Treasury securities maturing on the applicable Par Call Date or two or more United States Treasury securities meeting the criteria of the preceding sentence, the Company shall select from among these two or more United States Treasury securities the United States Treasury security that is trading closest to par based upon the average of the bid and asked prices for such United States Treasury securities at 11:00 a.m., New York City time. In determining the Treasury Rate in accordance with the terms of this paragraph, the semi-annual yield to maturity of the applicable United States Treasury security shall be based upon the average of the bid and asked prices (expressed as a percentage of principal amount) at 11:00 a.m., New York City time, of such United States Treasury security, and rounded to three decimal places.

The Company will be responsible for calculating the redemption price. The Company's actions and determinations in determining the redemption price shall be conclusive and binding for all purposes, absent manifest error. No agent shall have any duty to calculate the redemption price or any duty to review or verify the Company's calculations of the redemption price.

Notice of any redemption will be mailed or electronically delivered (or otherwise transmitted in accordance with the depositary's procedures) at least 10 days but not more than 60 days before the relevant redemption date to each holder of the relevant series of Notes to be redeemed in accordance with "—*Notices*" below.

Any redemption notice may, at the Company's discretion, be subject to one or more conditions precedent, including but not limited to, completion of a debt or equity financing, acquisition, divestment or other corporate transaction or event. In addition, the Company in any related notice of redemption shall describe each such condition and, if applicable, shall state that, at the Company's discretion, the date of redemption may be delayed until such time (including more than 60 days after the date the notice of redemption was mailed or delivered) as any or all such conditions shall be satisfied (or waived by the Company in its sole discretion), or that such redemption may not occur and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied or waived by the date of redemption, or by the date of redemption as so delayed.

In the case of a partial redemption of a series of Notes, selection of the Notes of that series for redemption will be made pro rata, by lot or by such other method as the Company in its sole discretion deems appropriate and fair. No Notes of a principal amount of U.S.$200,000 or less will be redeemed in part. If any Note is to be redeemed in part

only, the notice of redemption that relates to the Note will state the portion of the principal amount of the Note to be redeemed. A new Note in a principal amount equal to the unredeemed portion of the Note will be issued in the name of the holder of the Note upon surrender for cancellation of the original Note. For so long as the relevant Notes are held by DTC (or another depositary), the redemption of the relevant Notes shall be done in accordance with the policies and procedures of the depositary.

Unless the Company defaults in payment of the redemption price, on and after the relevant redemption date interest will cease to accrue on the relevant series of Notes or portions thereof called for redemption.

On or before the relevant redemption date, the Company will deposit with the fiscal agent funds sufficient to pay the redemption price on the Notes of such series subject to redemption. If the relevant redemption date falls after a regular record date but on or prior to the corresponding Interest Payment Date, the Company will pay accrued interest to the noteholder of record on the corresponding regular record date, which may or may not be the person who will receive payment of the redemption price.

Redemption for tax reasons

The Notes of any series may be redeemed by the Company, in whole but not in part, at a redemption price in an amount equal to 100% of their respective principal amounts, together with, in each case, accrued and unpaid interest to the applicable redemption date and any additional amounts, at the option of the Company at any time prior to their maturity if the Company or the Guarantor determines, based upon an opinion of independent legal counsel, that:

- due to any change in, or amendment to, any law or treaty of the United States or Switzerland or any political subdivision of either country (including any regulations or rulings promulgated thereunder) or any amendment to or change in the application or official interpretation (including judicial or administrative interpretation) of such law or any change in the application of or official interpretation of, or any execution of or amendment to, any treaty, which change or amendment becomes effective on or after March 8, 2024 in the case of the 2054 Notes or September 9, 2024 in the case of the 2029 Notes and the 2034 Notes (each an "applicable date"), the Company or (if a demand were to be made under the guarantees related to such Notes) the Guarantor, as the case may be, in accordance with the terms of the Notes and guarantees related thereto, has or would become obligated to pay to any holder of such Notes any additional amounts as provided in "—*Payment of additional amounts*" above; and

- the payment of such additional amounts cannot be avoided by the Company or the Guarantor, as the case may be, by the use of reasonable measures available to it;

provided, however, that no notice of redemption will be given earlier than 90 days prior to the earliest date on which the Company or (if a demand were to be made under the guarantees related to such Notes) the Guarantor, as the case may be, would be obligated to pay any such additional amounts were a payment in respect of such Notes then due.

In such case, the Company may redeem the Notes of the relevant series, upon not less than 10 nor more than 60 days' notice as provided in "—*Notice*" below; *provided* that at the time such notice is given, such obligation to pay such additional amounts remains in effect.

The Company's right to redeem the Notes of a series will continue as long as the Company or (if a demand were to be made under the guarantees related to such Notes) the Guarantor, as the case may be, is obligated to pay such additional amounts, notwithstanding that the Company or the Guarantor, as the case may be, will have made payments of additional amounts.

Prior to the giving of any such notice of redemption, the Company must deliver to the fiscal agent a certificate stating that the Company is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Company to so redeem have occurred.

If the Company or the Guarantor consolidates or merges with, or transfers or leases its assets substantially as an entirety to, any person that is incorporated or tax resident under the laws of any jurisdiction other than the United States or Switzerland and as a consequence thereof such person becomes the successor obligor to the Company or the Guarantor in respect of additional amounts that may become payable, then the foregoing provisions that applied

to the predecessor person will apply to the successor person, except that the law of the jurisdiction of incorporation or tax residence of such successor person will be applicable for the foregoing purposes rather than the law of the jurisdiction of incorporation or tax residence of such predecessor person, and the applicable date for such successor person for the foregoing purposes will be the date on which such person became the successor person.

Covenants

Limitation on liens

So long as any Notes of a series are outstanding, neither the Company nor the Guarantor will create, renew or assume any Lien, except for a Permitted Lien, upon the whole or any part of its present or future undertaking, assets or revenues (including uncalled capital) to secure any Relevant Indebtedness or guarantee of Relevant Indebtedness without:

- at the same time (or prior thereto) securing such Notes equally and ratably therewith; or
- providing such other security for such Notes as may be approved by a majority in aggregate principal amount of holders of Notes of such series.

Limitation on mergers, consolidations and transfers of assets

So long as any Notes of a series are outstanding, neither the Company nor the Guarantor may consolidate with or merge into any other person (except for a consolidation or merger between the Company and the Guarantor) or sell, convey, transfer or lease its properties and assets as an entirety or substantially as an entirety to any person unless:

- any successor person (if not the Company or the Guarantor) assumes the obligations of the Company or the Guarantor, as the case may be, with respect to such Notes, the related guarantees and the relevant fiscal and paying agency agreement;
- immediately after giving effect to such transaction, no event of default, and no event which, after notice or lapse of time or both, would become an event of default, has occurred and be continuing with respect to such Notes;
- in the case of the Guarantor (but not the Company), such successor person is organized under the laws of Switzerland, the United States (including any state thereof and the District of Columbia) or any other country that is a member of the Organization for Economic Co-operation and Development as of the date of such succession; and
- such successor person agrees to pay any additional amounts imposed by the jurisdiction in which such successor person is incorporated or resident for tax purposes (a "successor tax jurisdiction") on payments of principal, premium, if any, and interest in respect of such Notes, subject to exceptions equivalent to those set forth above under "—*Payment of additional amounts*."

The Notes will not contain covenants or other provisions to afford protection to holders of the Notes in the event of a change of control or a highly leveraged transaction of the Company or the Guarantor except as provided above.

Upon certain mergers or consolidations involving the Company or the Guarantor, or upon certain sales or conveyances of their respective properties as an entirety or substantially as an entirety, the obligations of the Company or the Guarantor under the Notes or the guarantees, as the case may be, may be assumed by the person formed by such merger or consolidation or which has acquired such property and upon such assumptions such person will succeed to and be substituted for the Company or the Guarantor and then the Company or the Guarantor, as the case may be, will be relieved from all obligations under the Notes or the guarantees, respectively.

Reporting requirements

The Guarantor will provide the fiscal agent with the following reports for distribution, at the Company's expense, to all holders of Notes:

(1) to the extent not available on the Guarantor's website, an English language version of its annual audited consolidated financial statements prepared in accordance with IFRS promptly upon such financial statements becoming available but not later than 120 days after the close of its fiscal year;

(2) to the extent not available on the Guarantor's website, an English language version of its unaudited interim consolidated financial statements prepared in accordance with IFRS, promptly upon such consolidated financial statements becoming available but not later than 60 days after the close of such interim period;

(3) to the extent not available on the Guarantor's website, English language versions or summaries of any other material reports or notices as may be filed or submitted by (and promptly after filing or submission by) the Guarantor with (a) the SIX Swiss Exchange or any stock exchange on which the Notes may be listed or (b) the SEC (in each case, to the extent that any such report or notice is generally available to its security holders or the public in Switzerland or elsewhere and, in the case of clause (b), is filed pursuant to Section 13 or 15(d) of, the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act")); and

(4) upon any director or executive officer of the Company or Guarantor becoming aware of the existence of a default or event of default, an officers' certificate setting forth the details thereof and the action which the Company or the Guarantor is taking or proposes to take with respect thereto.

In addition, for so long as any Notes remain outstanding and are "restricted securities" within the meaning of Rule 144(a)(3) under Securities Act, the Guarantor will, during any period in which the Guarantor is not subject to Section 13 or 15(d) of the Exchange Act nor exempt from reporting pursuant to Rule 12g3-2(b) under the Exchange Act, make available to any registered noteholder (or any beneficial owner of a book-entry interest in such Notes designated by the registered holder thereof) and to any prospective purchaser of Notes or a book-entry interest in Notes designated by such registered holder, in each case upon request of such registered holder, beneficial owner or prospective purchaser, the information specified in, and meeting the requirements of, Rule 144A(d)(4) under the Securities Act. As of the date of this offering memorandum, the Guarantor is exempt from reporting pursuant to Rule 12g3-2(b) under the Exchange Act.

Substitution of Issuer

The Company may at its option at any time, without the consent of any holders of any series of Notes, substitute for itself the Guarantor or any subsidiary of the Guarantor as principal debtor under any series of Notes (the "Substitute Issuer"), *provided* that:

- the Substitute Issuer executes a supplemental fiscal and paying agency agreement in which it assumes the obligations of the Company under, and agrees to be bound by the terms of, the relevant series of Notes and the relevant fiscal and paying agency agreement;

- the Substitute Issuer agrees in the supplemental fiscal and paying agency agreement to pay additional amounts in respect of any taxes, levies, imposts or other governmental charges imposed on payment of principal, premium, if any, and interest in respect of the relevant series of Notes by the jurisdiction in which such Substitute Issuer is incorporated or resident for tax purposes or any political subdivision thereof or any authority thereof having the power to tax, subject to exceptions equivalent to those set forth above under "—*Payment of additional amounts*" (in which case the Substitute Issuer will benefit from the redemption option described above under "—*Redemption—Redemption for tax reasons*" in the event of certain changes in law or treaty in that jurisdiction after the date of the substitution);

- the Company is not in default of any payments due under the relevant series of Notes and immediately before and after giving effect to such substitution, no event of default shall be continuing;

- if the Substitute Issuer is not the Guarantor, the obligations of the Substitute Issuer are fully, irrevocably and unconditionally guaranteed by the Guarantor on the same terms as the guarantees related to the relevant series of Notes; and

- the Substitute Issuer is organized under the laws of Switzerland, the United States (including any state thereof and the District of Columbia) or any other country that is a member of the Organization for Economic Co-operation and Development (or any successor thereof) as of the date of the substitution.

In the case of such a substitution, the Company will be relieved of any further obligation under the series of Notes assumed by the Substitute Issuer, and the Substitute Issuer shall succeed to, and be substituted for, and may exercise every right and power, of the Company under the relevant series of Notes. The Company will provide written notice of the occurrence of a substitution to the holders of the relevant series of Notes.

For the avoidance of doubt, after a substitution pursuant to the above, the Substitute Issuer may, without the consent of any holders of any series of Notes, effect a further substitution or reverse the substitution.

For U.S. federal income tax purposes, a substitution of the issuer as described above could, depending on the circumstances of the substitution, give rise to a deemed exchange of the Notes for new debt securities issued by the new obligor. In that case, a U.S. person who owns a beneficial interest in the Notes may be required to recognize gain or loss in an amount equal to the difference between the issue price of the new debt securities (as determined for U.S. federal income tax purposes) and such person's adjusted tax basis in the Notes. In addition, depending on the circumstances at the time of substitution, the new debt securities could be treated as issued with original issue discount. U.S. investors should consult their own tax advisors regarding the tax consequences of a deemed exchange in the event of a substitution of the issuer.

Events of default

The following will be events of default (each, an "event of default") with respect to each series of Notes:

(1) default in the payment of any installment of interest on such Notes when due and payable, and continuance of such default for 30 days;

(2) default in the payment of all or any part of the principal of or premium, if any, on such Notes when due and payable either at maturity, upon any redemption, by declaration or otherwise and, solely in the case of technical or administrative difficulties, continuance of such default for more than two Business Days;

(3) default in the performance or breach of any covenant or warranty by the Company or the Guarantor in respect of such Notes, the related guarantees or the relevant fiscal and paying agency agreement (other than those described in paragraphs (1) and (2) above), and continuance of such default or breach for a period of 90 days after delivery to the Company and the fiscal agent by the holders of at least 25% in aggregate principal amount of the outstanding Notes of such series, of a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a "Notice of default" under the Notes of such series;

(4) the Company or the Guarantor admits in writing that such person is unable to pay its debts generally; or a resolution is passed by the board of directors of the Company or the Guarantor for the Company or the Guarantor, as the case may be, to be wound up or dissolved; or

(5) certain events in bankruptcy, insolvency or reorganization involving the Company or the Guarantor.

If an event of default occurs and is continuing, then and in each and every such case (other than an event of default specified in clause (5) above with respect to the Company or the Guarantor), unless the principal of all Notes of such series has already become due and payable, the holders of not less than 25% in aggregate principal amount of such Notes then outstanding, by notice in writing to the Company and the fiscal agent, may declare the aggregate principal amount of such Notes and premium, if any, and interest accrued and unpaid thereon, if any, to be due and payable immediately, and upon any such declaration they will become immediately due and payable. If an event of default described in clause (5) above occurs with respect to the Company or the Guarantor and is continuing, the principal amount of and premium, if any, and accrued and unpaid interest on all such Notes will become immediately due and payable, without any declaration or other act on the part of any holder.

Under certain circumstances, the holders of a majority in aggregate principal amount of a series of Notes then outstanding by written notice to the Company, the Guarantor and the fiscal agent, may waive defaults and rescind and annul declarations of acceleration and its consequences with respect to such series, except that (1) a default or event of default in the payment of the principal of or premium, if any, or interest on such Notes or (2) a default or event of default in respect of a provision described under "*—Modification and waiver—With consent of noteholders*" may not be amended without the consent of each holder affected. When a default or event of default is waived, it is deemed cured, but no such waiver will extend to any subsequent or other default or event of default or impair any consequent right.

An event of default with respect to a particular series of Notes will not necessarily constitute an event of default with respect to any other series of Notes.

No right or remedy conferred upon or reserved to the holders in the Notes is intended to be exclusive of any other right or remedy, and every right and remedy will, to the extent permitted by law, be cumulative and in addition to every other right and remedy given in the Notes or now or hereafter existing at law or in equity or otherwise. The assertion or exercise of any right or remedy hereunder, or otherwise, will not prevent the concurrent assertion or exercise of any other appropriate right or remedy.

Notwithstanding any other provision of this "*Description of the Notes*" section, the right of any holder to receive payment of principal of or premium, if any, and interest on the Notes held by such holder, on or after the respective Interest Payment Date, redemption date or maturity date of such series of Notes, or to institute suit for the enforcement of any such payment on or after such respective dates, will not be impaired or affected without the consent of such holder.

No delay or omission of any holder of any Note to exercise any right or remedy accruing upon any event of default will impair any such right or remedy or constitute a waiver of any such event of default or an acquiescence therein. Every right and remedy given in the Notes or by law to the holders may be exercised from time to time, and as often as may be deemed expedient, by holders, as the case may be.

Definitions

The following is a summary of certain defined terms used in the Notes, the guarantees and the relevant fiscal and paying agency agreement. Prospective investors should refer to the Notes, the guarantees and the relevant fiscal and paying agency agreement for the full definition of all defined terms.

"Business Day" means any weekday that is not a legal holiday in New York, New York or Basel, Switzerland and is not a date on which banking institutions in those cities are authorized or required by law or regulation to be closed.

"IFRS" means International Financial Reporting Standards (IFRS Accounting Standards), as issued by the International Accounting Standards Board.

"Indebtedness" means, with respect to any person, obligations of such person for borrowed money (including without limitation, obligations for borrowed money evidenced by notes, bonds, debentures or similar instruments).

"Lien" means any mortgage or deed of trust, pledge, lien, charge, encumbrance or other security interest.

"Permitted Lien" means:

- any Lien existing at the date of the relevant fiscal and paying agency agreement; *provided*, that such Lien is disclosed in the notes to the Guarantor's financial statements or otherwise in this offering memorandum;

- any Lien on property or shares of capital stock existing at the time of acquisition of that property or those shares of capital stock, or to secure the payment of all or any part of the purchase price of that property or those shares of capital stock, or to secure any Indebtedness incurred before, at the time of, or within 12 months after, in the case of shares of capital stock, the acquisition of shares of capital stock and, in the case of property, the later of the acquisition, completion of construction (including any improvements on an

existing property) or commencement of the commercial operation of the property, where the Indebtedness is incurred to finance all or any part of the purchase price;

- any Lien securing Indebtedness owed to the Company or the Guarantor by the Guarantor or the Company, respectively;

- any Lien on property owned or held by any corporation or on shares of capital stock or Indebtedness of any corporation, where the Lien existed either at the time the corporation is merged, consolidated or amalgamated with either the Company or the Guarantor or at the time of a sale, lease or other disposition of all or substantially all of the property of a corporation to the Company or the Guarantor; *provided*, *however*, that such Lien was not incurred in anticipation of such merger, consolidation, amalgamation, sale, lease or other disposition;

- any rights of financial institutions to offset credit balances in connection with the operation of cash management programs established for the benefit of the Company or the Guarantor;

- any Lien incurred or deposits made in the ordinary course of business, including without limitation the following:

  - any mechanics', materialmen's, carriers', workmen's, vendors' or other similar Liens, in each case for sums not yet due or being contested in good faith;

  - any Liens securing amounts in connection with workers' compensation, unemployment insurance and other types of social security; and

  - any easements, rights-of-way, restrictions and other similar charges;

- any Liens incurred or deposits made securing the performance of tenders, bids, leases, statutory obligations, surety and appeal bonds, government contracts, performance and return of money bonds and other obligations of a similar nature incurred in the ordinary course of business; and

- any extension, renewal or replacement or successive extensions, renewals or replacements, in whole or in part, of any Lien included in the foregoing or of any of the Indebtedness secured under the foregoing, so long as the principal amount of Indebtedness secured does not exceed the principal amount of Indebtedness secured at the time of the extension, renewal or replacement, and that the extension, renewal or replacement Lien is limited to all or any part of the same property or shares of capital stock that secured the Lien extended, renewed or replaced (including improvements on that property), or property received or shares of capital stock issued in substitution or exchange.

"person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization or government or political subdivision thereof.

"Relevant Indebtedness" means any Indebtedness, which is in the form of or represented by (1) any loan, credit or similar agreement or facility or (2) any bond, note, debenture, debenture stock, loan stock or other instrument that is, or capable of being, listed, quoted or traded on any stock exchange or in any regulated securities market (including, without limitation, any over-the-counter market).

Satisfaction and discharge

The Company may terminate its repayment and obligations on any series of Notes under the relevant fiscal and paying agency agreement:

- if the Company has paid or caused to be paid the principal, premium, if any, and interest then due and payable on all outstanding Notes of such series;

- if the Company has delivered to the registrar for cancellation all outstanding Notes of such series; or

- if all the outstanding Notes of such series that have not been delivered to the registrar for cancellation have become or will become due and payable within one year, the Company has made arrangements satisfactory to the fiscal agent for the giving of notice of redemption by the fiscal agent in the Company's name, and the Company has deposited with the paying agent sufficient funds to pay and discharge the entire Indebtedness of such series of Notes to pay principal, premium, if any, and interest.

Defeasance and covenant defeasance

The relevant fiscal and paying agency agreement and the Notes provide or will provide that the Company may elect either:

- to defease and be discharged from any and all obligations with respect to a series of Notes except for, among other things, certain obligations to register the transfer or exchange of such Notes, to replace temporary or mutilated, destroyed, lost or stolen Notes, and to maintain a paying agent ("legal defeasance"); or

- to be released from its obligations to comply with the covenants described above under "*—Covenants—Limitation on liens*," "*—Covenants—Limitation on mergers, consolidations and transfers of assets*" and "*—Covenants—Reporting requirements*" and any omission to comply with such obligations will not constitute a default or an event of default with respect to a series of Notes and clause (3) under "*—Events of default*" will no longer be applied ("covenant defeasance").

The Company may exercise its right to legal defeasance or covenant defeasance with respect to a series of Notes under the relevant fiscal and paying agency agreement if the Company:

- deposits with the defeasance agent, irrevocably in trust, money or U.S. government securities, or a combination thereof, for the payment of principal of and premium, if any, and interest on the outstanding Notes of such series to but excluding the redemption date or maturity date irrevocably designated by the Company on or prior to the date of deposit of such money or government securities; and

- complies with certain other conditions, including delivering the following documents to the defeasance agent:

  - an officer's certificate with respect to certain matters, including that (1) no default or event of default has occurred and is continuing on the date of such deposit and after giving effect thereto and (2) the deposit does not constitute a default or event of default under any other agreement binding on the Company or Guarantor;

  - an opinion of U.S. tax counsel to the effect that the deposit and related defeasance would not cause the beneficial owners of such Notes to recognize income, gain or loss for U.S. federal income tax purposes. In the case of legal defeasance, such opinion must be based on a change in applicable U.S. federal income tax law after March 4, 2024, in the case of the 2054 Notes, or the date of this offering memorandum, in the case of the 2029 Notes and the 2034 Notes, or a ruling to such effect received from or published by the U.S. Internal Revenue Service;

- an opinion of U.S. counsel to the effect that the trust resulting from the deposit does not constitute, or is not qualified as, a registered investment company under the U.S. Investment Company Act of 1940, as amended;

- opinions of U.S. and Swiss counsel to the effect that, following the deposit, the trust funds will not be subject to any applicable bankruptcy, insolvency, reorganization or similar law affecting the rights of creditors of the Company or the Guarantor generally;

- a certificate from an internationally recognized public accounting firm expressing its opinion that the payments of principal of and premium, if any, and interest on the Notes when due and without reinvestment on the deposited U.S. government securities plus any deposited money without investment and after payment of all foreign, federal, state and local taxes or other charges or assessments in respect thereof

payable by the paying agent will provide cash at such times and in such amounts as will be sufficient to pay principal of and premium, if any, and interest on all Notes of such series when due on the maturity date;

- an opinion of Swiss tax counsel to the effect that, under Swiss law, non-Swiss holders (*i.e.*, holders who are not resident in Switzerland, who, during the tax period have not engaged in a trade or business through a permanent establishment in Switzerland and who are not subject to income taxation in Switzerland for any other reason) will not recognize gain for Swiss income tax purposes and payments from the defeasance trust to any such non-Swiss holder will not be subject to withholding payments under Swiss law; and

- delivers to the fiscal agent an opinion of counsel, stating that all conditions precedent to the defeasance have been complied with.

The Company's election for legal defeasance or covenant defeasance will take effect on the 91st day after the applicable conditions described above have been satisfied.

If the Company effects covenant defeasance with respect to any series of Notes and such Notes are declared due and payable because of the occurrence of any event of default other than under clause (3) of "— *Events of default*," the amount in U.S. dollars, or U.S. government securities, or both, on deposit with the fiscal agent will be sufficient, in the opinion of a nationally recognized public accounting firm, to pay amounts due on such Notes at the time of the maturity date but may not be sufficient to pay amounts due on the Notes at the time of the acceleration resulting from such event of default. However, the Company and the Guarantor would remain liable to make payment of such amounts due at the time of acceleration.

If the Company effects legal defeasance with respect to a series of Notes, the Guarantor will automatically be released from its guarantee of such Notes. Instead, the holders will only be able to rely on the deposited funds or U.S. government securities for payment.

The Company may exercise its legal defeasance option notwithstanding any prior exercise of its covenant defeasance option.

Modification and waiver

Without consent of noteholders

The relevant fiscal and paying agency agreement contains provisions for convening meetings of holders to consider any matters affecting their interests.

The Company, the Guarantor and the fiscal agent may, without the consent or vote of the holders of Notes of any series at any time outstanding, at any time, amend or modify the relevant fiscal and paying agency agreement, such Notes or the related guarantees:

- to convey, transfer, assign, mortgage or pledge to the fiscal agent as security for such Notes any property or assets;

- to evidence the succession of another person to the Company or the Guarantor, as the case may be, in accordance with the covenants described under "*—Covenants—Limitation on mergers, consolidations and transfers of assets*," including, in the case of a consolidation or merger between the Company and the Guarantor, to reflect the fact that the related guarantees cease to exist and "*—Substitution of Issuer*";

- to evidence and provide for the acceptance of appointment of a successor fiscal agent or a successor or additional paying agent, registrar or transfer agent;

- to add to the Company's covenants or to add additional events of default for the benefit of such Notes;

- to add additional guarantees with respect to such Notes;

- to add any subsidiary of the Guarantor as a co-Issuer with respect to the Notes of such series or to convert the Guarantor into a co-Issuer with respect to the Notes of such series, provided in each case that the obligations of any co-Issuer will be joint and several with the Company;

- to issue further Notes of such series as provided for under "*—Further issuances*";

- to modify the restrictions on, and procedures for, resale and other transfers of such Notes pursuant to law, regulation or practice relating to the resale or transfer of restricted securities generally; and

- to cure any ambiguity or to correct or supplement any provision contained in such Notes which may be defective or inconsistent with any other provision contained therein or to make such other provision in regard to matters or questions arising under such Notes as the Company may deem necessary or desirable and which will not materially adversely affect the interests of the holders of such Notes.

With consent of noteholders

The Company, the Guarantor and the fiscal agent may, with the consent or vote of the holders of not less than a majority in aggregate principal amount of the Notes of the relevant series at the time outstanding (including consents obtained in connection with a tender offer, consent solicitation or exchange offer for such Notes), at any time, enter into an agreement to add any provisions to or change in any manner or eliminate any of the provisions of the Notes of that series, the related guarantees or the relevant fiscal and paying agency agreement or to modify in any manner the rights of the holders of the Notes of that series, the related guarantees or the relevant fiscal and paying agency agreement; *provided* that no such amendment of such Notes, the related guarantees or the relevant fiscal and paying agency agreement may, without the consent or vote of the holder of each Note of such series so affected thereby:

- change the maturity date of the principal of or any date for payment of any installment of interest on such Note;

- reduce the principal of or interest or additional amounts, if any, on such Note or reduce the premium, if any, or other amount payable thereon upon redemption or in an event of default, or change the method for determining the interest rate thereon;

- change the currency of payment of principal of or premium, if any, or interest or additional amounts, if any, on such Note;

- change the obligation of the Company or the Guarantor to pay additional amounts in a manner that adversely affects holders of such Notes;

- release the Guarantor from its guarantee with respect to such Note (except in the case of a consolidation or merger between the Company and the Guarantor, in which case such guarantee will cease to exist), or make any changes to such guarantee in a manner adverse to the holder of such Note (except that the Guarantor may consolidate with or merge into any other person or sell, convey, transfer or lease its properties and assets as an entirety or substantially as an entirety without the consent of any holders as described under "*—Covenants— Limitation on mergers, consolidations and transfers of assets*" above);

- waive any default or event of default with respect to the payment of principal of, and premium, if any, and interest on such Note or waive any default or event of default with respect to the compliance by the Company or the Guarantor with this "*Modification and Waiver—With consent of noteholders*" provision;

- impair the right to sue for payment on such Note;

- reduce the quorum requirements or the percentage of aggregate principal amount of outstanding Notes of such series required for the adoption of any action at a meeting of holders of such Notes; or

- reduce the above-stated aggregate principal amount of the outstanding Notes necessary to modify or amend the Notes of such series, the related guarantees or the relevant fiscal and paying agency agreement.

Any modifications, amendments or waivers to Notes of any series, the related guarantees or the relevant fiscal and paying agency agreement will be conclusive and binding on all holders of the Notes of that series, whether or not they have consented to such action or were present at the meeting at which such action was taken, and on all future holders of the Notes of that series, whether or not notation of such modifications, amendments or waivers is made upon such Notes. Any instrument given by or on behalf of any holder of such a Note in connection with any consent to any such modification, amendment or waiver will be irrevocable once given and will be conclusive and binding on all subsequent registered holders of such Note.

Notice

Notices to holders of Notes will be in English and will be given by first-class (or equivalent) mail, postage prepaid, to the last addresses of such holders as they appear in the Notes register. Notices will be deemed to have been given on the date of mailing.

So long as DTC, or its nominee, is the registered holder of a global note, notices may also be sent to DTC, and DTC will communicate such notices to its participants in accordance with its standard procedures. Neither the failure to give notice nor any defect in any notice given to any particular holder of a Note will affect the sufficiency of any notice with respect to any other Note.

Listing

The Company will not list the Notes on any securities exchange.

Governing law

The Notes, the guarantees and the fiscal and paying agency agreement will be governed by, and construed in accordance with, the law of the State of New York.

The 2054 Notes and the guarantees for the 2054 Notes will be, and the 2054 Notes fiscal and paying agency agreement dated March 8, 2024 is, governed by, and are to be construed in accordance with, the law of the State of New York.

Consent to service

The Guarantor will initially designate Roche Holdings, Inc., with offices currently at 1 DNA Way, Building 20 – MS24, South San Francisco, California 94080, United States as its authorized agent for service of process in any legal suit, action or proceeding arising out of or relating to the performance of its obligations under the Notes, the guarantees and the relevant fiscal and paying agency agreement brought in any state or federal court located in the Borough of Manhattan, New York City, and will irrevocably submit for such purposes to the non-exclusive jurisdiction of any such court in any such suit, action or proceeding.

Regarding the agents

In acting under the relevant fiscal and paying agency agreement and in connection with the Notes, the fiscal agent, registrar, transfer agent and paying agent are acting solely as agents of the Company and do not assume any obligation towards or relationship of agency or trust for or with the owners or holders of the Notes, except that any funds held by any paying agent or registrar for payment of principal of or premium, if any, or interest on the Notes or additional amounts, if any, with respect thereto will be held in trust by it for such owners and such holders and applied as set forth in the Notes but need not be segregated from other funds held by it except as required by law. For a description of the duties and immunities and rights of the fiscal agent, registrar, transfer agent and paying agent under the relevant fiscal and paying agency agreement, reference is made to the relevant fiscal and paying agency agreement, and the obligations of the fiscal agent, registrar, transfer agent and paying agent to the holder of any Note are subject to such immunities and rights.

BOOK-ENTRY, DELIVERY AND FORM

The Notes that are initially offered and sold in the United States to qualified institutional buyers ("QIBs") will be represented by beneficial interests in one or more Rule 144A global notes in registered form without interest coupons, which will be deposited on or about the issue date with a custodian and registered in the name of Cede & Co. as nominee of DTC.

The Notes that are offered and sold in reliance on Regulation S will be represented by beneficial interests in one or more Regulation S global notes in registered form without interest coupons, which will be deposited on or about the issue date with a custodian, and registered in the name of Cede & Co., as nominee of DTC. Investors may hold their interests in the global notes directly through DTC if they are participants in, or indirectly through organizations which are participants in, such systems. Euroclear and Clearstream will hold interests in the Regulation S global notes on behalf of their participants through customers' securities accounts in their respective names on the books of their respective depositaries, which are participants in DTC.

So long as DTC or its nominee is the registered holder of a global note, DTC or such nominee, as the case may be, will be considered the sole owner or holder of the series of Notes represented by the global note for all purposes with respect to such Notes and under the relevant fiscal and paying agency agreement (except as the context otherwise requires in respect of additional amounts). The Notes of a series (including beneficial interests in the global notes) will be subject to certain restrictions on transfer set forth therein and in the relevant fiscal and paying agency agreement and will bear a legend regarding such restrictions as set forth under "*Transfer Restrictions*." Under certain circumstances, transfers may be made only upon receipt by the transfer agent of a written certification (in the form set out in the relevant fiscal and paying agency agreement).

Transfers within the global notes

Subject to the procedures and limitations described herein, transfers of beneficial interests within a global note representing any series of Notes may be made without delivery to the Issuer or the fiscal agent of any written certifications or other documentation by the transferor or transferee.

Transfers between the global notes

A beneficial interest in a Rule 144A global note representing any series of Notes may be transferred to a person who wishes to take delivery of such beneficial interest through the applicable Regulation S global note for such Notes only upon receipt by the transfer agent of a written certification (in the form set out in the relevant fiscal and paying agency agreement) from the transferor to the effect that such transfer is being made in accordance with Rule 903 or 904 of Regulation S or, in the case of an exchange occurring following the expiration of the distribution compliance period, Rule 144 under the Securities Act.

Prior to the expiration of the distribution compliance period, a beneficial interest in a Regulation S global note representing any series of Notes may be transferred to a person who wishes to take delivery of such beneficial interest through the Rule 144A global note representing such Notes only upon receipt by the transfer agent of a written certification (in the form set out in the relevant fiscal and paying agency agreement) from the transferor to the effect that such transfer is being made to a person whom the transferor reasonably believes is a QIB within the meaning of Rule 144A, in a transaction meeting the requirements of Rule 144A and in accordance with any applicable securities laws of any state of the United States and any other jurisdiction. After the expiration of the distribution compliance period, such certification requirements will no longer apply to such transfers, but such transfers will continue to be subject to applicable transfer restrictions under the Securities Act and the laws of any state of the United States and other jurisdictions.

Any beneficial interest in a Rule 144A global note representing any series of Notes or a Regulation S global note representing any series of Notes that is transferred to a person who takes delivery in the form of a beneficial interest in the other global note will, upon transfer, cease to have a beneficial interest in such global note and have a beneficial interest in the other global note and, accordingly, will thereafter be subject to all transfer restrictions and other procedures applicable to a beneficial interest in such other global note for so long as such person retains such an interest.

Certificated Notes

No global note representing Notes of any series may be exchanged in whole or in part for certificated, registered notes of such series ("Certificated Notes") unless:

- DTC notifies the Issuer that it is unwilling or unable to hold the global note representing such Notes or DTC ceases to be a clearing agency registered under the Exchange Act, and in each case the Issuer does not appoint a successor depositary that is registered under the Exchange Act within 90 days;
- an event of default with respect to such Notes has occurred and is continuing; or
- the Issuer determines in its sole discretion that such Notes will no longer be represented by such global note.

The holder of a Certificated Note may transfer such Certificated Note by surrendering it at the specified office of the registrar or any transfer agent and having the transfer agent register such Certificated Note in the name of the new holder. Upon the transfer, exchange or replacement of Certificated Notes bearing the applicable legend set forth under "*Transfer Restrictions*," or upon specific request for removal of such legend on a Certificated Note, the Issuer will deliver only Certificated Notes that bear such legend, or will refuse to remove such legend, as the case may be, unless there is delivered to the Issuer and the registrar such satisfactory evidence, which may include an opinion of counsel as may reasonably be required by the Issuer, that neither the legend nor the restrictions on transfer set forth therein are required to ensure compliance with the provisions of the Securities Act.

Except as set forth in the paragraph above, no global note representing any series of Notes may be exchanged in whole or in part for Certificated Notes of such series.

The laws of some jurisdictions require that certain persons take physical delivery in definitive form of securities which they own. Consequently, the ability to transfer beneficial interests in the global notes is limited to such extent.

Clearing and settlement

The information set out below in connection with DTC is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC currently in effect. The information about DTC set forth below has been obtained from sources that the Issuer believes to be reliable, but neither the Issuer nor any of the initial purchasers takes any responsibility for the accuracy of the information. Neither the Issuer nor any of the initial purchasers will have any responsibility or liability for any aspect of the records relating to, or payments made on account of interests in Notes held through the facilities of any clearing system or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

DTC has advised the Issuer as follows: DTC is a limited purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act. DTC was created to hold securities for DTC participants and to facilitate the clearance and settlement of transactions between DTC participants through electronic book entry changes in accounts of DTC participants, thereby eliminating the need for physical movement of certificates. DTC participants include certain of the initial purchasers, securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations ("DTC participants"). Indirect access to the DTC system is also available to others such as banks, brokers, dealers, trust companies and clearing corporations that clear through or maintain a custodial relationship with a DTC participant, either directly or indirectly ("indirect DTC participants").

Under the rules, regulations, and procedures creating and affecting DTC and its operations (the "DTC rules"), DTC is required to make book-entry transfers of Notes among DTC participants on whose behalf it acts with respect to Notes accepted into DTC's book-entry settlement system as described below and to receive and transmit distributions of the nominal amount and interest on such global notes. DTC participants and indirect DTC participants with which beneficial owners of global notes for any series of Notes ("owners") have accounts with respect to such Notes similarly are required to make book-entry transfers and receive and transmit such payments on

behalf of their respective owners. Accordingly, although owners who hold any Notes of any series through DTC participants or indirect DTC participants will not possess Certificated Notes, the DTC rules by virtue of the requirements described above, provide a mechanism by which such owners will receive payments and will be able to transfer their interests with respect to such Notes.

Transfers of ownership or other interests in the Notes in DTC may be made only through DTC participants. Indirect DTC participants are required to effect transfers through a DTC participant. DTC has no knowledge of the actual beneficial owners of the Notes. DTC's records reflect only the identity of the DTC participants to whose accounts the Notes of a series are credited, which may not be the beneficial owners. DTC participants will remain responsible for keeping account of their holdings on behalf of their customers and for forwarding all notices concerning the Notes of a series to their customers.

So long as DTC, or its nominee, is the registered holder of a global note, payments on the applicable Notes will be made in immediately available funds to DTC. DTC's practice is to credit DTC participants' accounts on the applicable payment date in accordance with their respective holdings shown on its records, unless DTC has reason to believe that it will not receive payment on that date. Payments by DTC participants to beneficial owners will be governed by standing instructions and customary practices, and will be the responsibility of the DTC participants and not of DTC, or any other party, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment to DTC is the responsibility of the fiscal agent. Disbursement of payments for DTC participants will be DTC's responsibility, and disbursement of payments to the beneficial owners will be the responsibility of DTC participants and indirect DTC participants.

Because DTC can only act on behalf of DTC participants, who in turn act on behalf of indirect DTC participants, and because owners of beneficial interests in the Notes holding through DTC will hold interests in the Notes through DTC participants or indirect DTC participants, the ability of the owners of the beneficial interests to pledge Notes to persons or entities that do not participate in DTC, or otherwise take actions with respect to the Notes, may be limited.

DTC will take any action permitted to be taken by an owner only at the direction of one or more DTC participants to whose account with DTC such owner's Notes are credited. Additionally, DTC has advised the Issuer that it will take such actions with respect to any percentage of the beneficial interest of owners who hold Notes through DTC participants or Indirect Participants only at the direction of and on behalf of DTC participants whose account holders include undivided interests that satisfy any such percentage.

To the extent permitted under applicable law and regulations, DTC may take conflicting actions with respect to other undivided interests to the extent that such actions are taken on behalf of DTC participants whose account holders include such undivided interests.

Ownership of interests in the Rule 144A global notes and the Regulation S global notes will be shown on, and the transfer of that ownership will be effected only through records maintained by, DTC, the DTC participants and the indirect DTC participants, including Euroclear and Clearstream. Transfers between participants in DTC, as well as transfers between participants in Euroclear and Clearstream will be effected in the ordinary way in accordance with DTC rules.

Subject to compliance with the transfer restrictions applicable to the Notes, cross-market transfers between DTC, on the one hand, and participants in Euroclear or Clearstream on the other hand, will be effected in DTC in accordance with DTC rules on behalf of Euroclear or Clearstream as the case may be. Such cross-market transactions, however, will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with its rules and procedures and within its established deadlines. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to DTC to take action to effect final settlement on its behalf by delivering or receiving payment in accordance with DTC's Same-Day Funds Settlement System.

According to DTC, the foregoing information with respect to DTC has been provided to the industry for informational purposes only and is not intended to serve as a representation, warranty or contract modification of any kind. Although DTC, Euroclear and Clearstream have agreed to the foregoing procedures in order to facilitate transfers of interests in the global notes among participants of DTC, Euroclear and Clearstream they are under no

obligation to perform or continue to perform such procedures, and such procedures may be discontinued at any time. Neither the Issuer nor the fiscal agent will have any responsibility for the performance by DTC, Euroclear or Clearstream or their respective participants or indirect participants, of their respective obligations under the rules and procedures governing their operations.

The 2029 Notes offered and sold in reliance on Regulation S will be issued bearing the CUSIP U75000CP9 and the ISIN USU75000CP95. The 2029 Notes offered and sold in reliance on Rule 144A will be issued bearing the CUSIP 771196CP5 and the ISIN US771196CP58.

The 2034 Notes offered and sold in reliance on Regulation S will be issued bearing the CUSIP U75000CQ7 and the ISIN USU75000CQ78 . The 2034 Notes offered and sold in reliance on Rule 144A will be issued bearing the CUSIP 771196CQ3 and the ISIN US771196CQ32.

The 2054 Notes offered and sold in reliance on Regulation S will be issued bearing the temporary CUSIP U75000CR5 and the temporary ISIN USU75000CR51. After the expiration of the 40-day distribution compliance period commencing on the issue date, the 2054 Notes will have the same CUSIP and ISIN as the Original 2054 Notes issued pursuant to Regulation S (the CUSIP U75000CM6 and the ISIN USU75000CM64). The 2054 Notes offered and sold in reliance on Rule 144A will be issued bearing the CUSIP 771196CM2 and the ISIN US771196CM28.

Initial settlement in relation to global notes

Upon the issue of a Regulation S global note and/or a restricted global note deposited with DTC or a custodian therefor, DTC or its custodian, as the case may be, will credit, on its internal system, the respective nominal amount of the individual beneficial interest represented by such global note to the accounts of persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the relevant dealers. Ownership of beneficial interest in a global note representing a series of Notes will be limited to DTC participants or indirect DTC participants, including Euroclear and Clearstream. Ownership of beneficial interests in global notes for a series of Notes will be shown on, and the transfer of that ownership will be effected only through, records maintained by DTC or its nominee (with respect to interests of DTC participants) and the records of DTC Participants (with respect to interests of indirect DTC participants).

Investors that hold their interests in a global note representing a series of Notes will follow the settlement procedures applicable to global bond issues. Investors' securities custody accounts will be credited with their holdings against payment in same-day funds on the settlement date.

Secondary market trading in relation to global notes

Since the purchaser determines the place of delivery, it is important to establish at the time of the trade where both the purchaser's and seller's accounts are located to ensure that settlement can be made on the desired value date. Although DTC has agreed to the following procedures in order to facilitate transfers of interests in global notes deposited with DTC or a custodian therefor among participants of DTC, DTC is under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued at any time. Neither the Issuer nor any agent of the Issuer will have any responsibility for the performance by DTC or its participants or indirect participants of their respective obligations under the rules and procedures governing their operations.

Secondary market trading between DTC participants will be settled using the procedures applicable to global bond issues in same-day funds.

CERTAIN BENEFIT PLAN INVESTOR CONSIDERATIONS

The U.S. Employee Retirement Income Security Act of 1974, as amended ("ERISA"), and Section 4975 of the U.S. Internal Revenue Code of 1986, (the "Code"), impose certain requirements on (a) employee benefit plans subject to Title I of ERISA, (b) individual retirement accounts, Keogh plans or other arrangements subject to Section 4975 of the Code, (c) entities whose underlying assets include "plan assets" by reason of any such plan's, account's or arrangement's investment therein (the foregoing referred to collectively as "Plans") and (d) persons who are fiduciaries with respect to Plans. In addition, governmental plans, non-U.S. plans and certain church plans (collectively, "Non-ERISA Arrangements") are not subject to the fiduciary responsibility provisions of Title I of ERISA or the prohibited transaction provisions of Section 406 of ERISA or Section 4975 of the Code, but may be subject to other laws or regulations that are similar to such provisions of ERISA or the Code (each, a "Similar Law").

General fiduciary matters

ERISA and the Code impose certain duties on persons who are fiduciaries of a Plan and prohibit certain transactions involving the assets of a Plan and its fiduciaries or other interested parties. Under ERISA and the Code, any person who exercises any discretionary authority or control over the administration of a Plan or the management or disposition of the assets of such Plan, or who renders investment advice for a fee or other compensation to such a Plan, is generally considered to be a fiduciary of the Plan.

In considering an investment in the Notes of a portion of the assets of any Plan, a fiduciary should determine whether the investment is in accordance with the documents and instruments governing the Plan or Non-ERISA Arrangement and the applicable provisions of ERISA, the Code or any Similar Laws relating to a fiduciary's duties to the Plan or Non-ERISA Arrangement including, without limitation, the prudence, diversification, delegation of control and prohibited transaction provisions of ERISA, the Code and any other applicable Similar Laws. A fiduciary of a Plan or Non-ERISA Arrangement should consider the Plan or Non-ERISA Arrangement's particular circumstances and all of the facts and circumstances of the investment, including, but not limited to, the matters discussed above under "Risk Factors," in determining whether an investment in the Notes satisfies these requirements.

Prohibited transaction issues

In addition to ERISA's general fiduciary standards, Section 406 of ERISA and Section 4975 of the Code prohibit certain transactions involving the assets of a Plan and persons who have specified relationships to the Plan, *i.e.*, "parties in interest" as defined in ERISA or "disqualified persons" as defined in Section 4975 of the Code (the foregoing referred to collectively as "parties in interest") unless statutory or administrative exemptive relief is available. Parties in interest that engaged in a non-exempt prohibited transaction may be subject to excise taxes and other penalties and liabilities under ERISA and Section 4975 of the Code. The Company, the Guarantor and the initial purchasers, together with their respective affiliates, may be parties in interest with respect to many Plans. Thus, a Plan fiduciary considering an investment in the Notes should also consider whether such an investment might constitute or give rise to a non-exempt prohibited transaction under ERISA or Section 4975 of the Code. For example, the Notes may be deemed to represent a direct or indirect sale of property or extension of credit between the Company and an investing Plan which would be prohibited if the Company is a party in interest with respect to the Plan unless exemptive relief were available.

In this regard, each prospective purchaser that is, or is purchasing the Notes with the assets of, a Plan, should consider the exemptive relief available under the following prohibited transaction class exemptions, or PTCEs: (A) the in-house asset manager exemption (PTCE 96-23), (B) the insurance company general account exemption (PTCE 95-60), (C) the bank collective investment fund exemption (PTCE 91-38), (D) the insurance company pooled separate account exemption (PTCE 90-1) and (E) the qualified professional asset manager exemption (PTCE 84-14). In addition, ERISA Section 408(b)(17) and Section 4975(d)(20) of the Code may provide a limited exemption for the purchase and holding of the Notes and related lending transactions, *provided* that neither the issuer of the Notes nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of the Plan involved in the transaction and *provided further* that the Plan pays no more, and receives no less, than adequate consideration in connection with the transaction. Each of the above-noted exemptions contains conditions and limitations on its application. Fiduciaries of Plans considering acquiring and/or

holding the Notes in reliance on these or any other exemption should carefully review the exemption to assure it is applicable. There can be no assurance that any of these statutory or class exemptions will be available, or that the conditions of any such exemptions will be satisfied, with respect to transactions involving the Notes.

Representations

Each purchaser or holder of the Notes, and each fiduciary who causes any Plan or Non-ERISA Arrangement to purchase or hold the Notes, shall be deemed to have represented and warranted, on each day such purchaser or holder holds such Notes, that either (i) it is not purchasing or holding the Notes with the assets of any Plan or Non-ERISA Arrangement; or (ii) its purchase, holding and subsequent disposition of such Notes will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code, or a violation under any applicable Similar Law.

Fiduciaries of any Plans and Non-ERISA Arrangements should consult their own legal counsel before purchasing the Notes.

Each purchaser of a Note will have exclusive responsibility for ensuring that its purchase, holding and subsequent disposition of the Notes do not violate the fiduciary or prohibited transaction rules of ERISA or the Code or provisions of any Similar Law. Nothing herein shall be construed as a representation that an investment in the Notes would meet any or all of the relevant legal requirements with respect to investments by, or is appropriate for, Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement.

The foregoing discussion is general in nature and is not intended to be all inclusive. Due to the complexity of these rules and the penalties that may be imposed upon persons involved in non-exempt prohibited transactions, it is particularly important that fiduciaries, or other persons considering purchasing the Notes on behalf of, or with the assets of, any Plan or Non-ERISA Arrangement, consult with their counsel regarding the potential applicability of ERISA, Section 4975 of the Code and any Similar Laws to such investment and whether an exemption would be applicable to the purchase and holding of the Notes. Additionally, neither this discussion nor anything in this offering memorandum is or is intended to be investment advice directed at any purchaser or holder that is using plan assets of a Plan or Non-ERISA Arrangement, or at such purchasers or holders generally.

TRANSFER RESTRICTIONS

The following transfer restrictions will apply to the Notes. Prospective investors are advised to consult counsel prior to making any purchase, offer, sale, resale, pledge or transfer of the Notes.

The Notes have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons, except pursuant to an effective registration statement or an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. Accordingly, the Notes are being offered and sold only to QIBs in accordance with Rule 144A, and to persons other than U.S. persons (as defined in Regulations S) ("non-U.S. persons") in compliance with Regulation S.

In addition, until 40 days after the later of the commencement of the offering and the closing date an offer or sale of the Notes within the United States by a dealer (whether or not participating in the offering) may violate the registration requirements of the Securities Act if such offer or sale is made otherwise than pursuant to Rule 144A.

Each purchaser of the Notes offered hereunder (other than each of the initial purchasers) will be deemed to have represented and agreed as follows (terms used in this section that are defined in Rule 144A or Regulation S are used herein as defined therein):

(a) it is purchasing the Notes for its own account or an account with respect to which it exercises sole investment discretion, and it and any such account is a QIB, and is aware that the sale to it is being made in reliance on Rule 144A or is a non-U.S. person and is aware that the sale is being made in accordance with Regulation S;

(b) it acknowledges that the Notes have not been and will not be registered under the Securities Act or with any securities regulatory authority of any jurisdiction and may not be offered or sold except as set forth below;

(c) it understands and agrees that if it decides to offer, sell, resell, pledge or otherwise transfer any Notes or any beneficial interests in any Notes, it will do so only (A)(i) to the Issuer, the Guarantor or any subsidiary thereof, (ii) to a person whom the seller, and any person acting on its behalf, reasonably believes is a QIB that is purchasing for its own account or for the account of a QIB or QIBs, in a transaction complying with Rule 144A, (iii) in an offshore transaction in compliance with Regulation S, (iv) pursuant to an exemption from registration in accordance with Rule 144 under the Securities Act (if applicable) or (v) pursuant to any other available exemption from registration under the Securities Act, or (B) pursuant to an effective registration statement under the Securities Act, and in each of such cases in accordance with any applicable securities law of any state of the United States;

(d) it agrees to, and each subsequent holder is required to, notify any purchaser of the Notes from it of the resale restrictions referred to in clause (c) above, if then applicable;

(e) it understands that the Notes being sold pursuant to Rule 144A will bear a legend to the following effect:

THIS NOTE (INCLUDING THE RELATED GUARANTEE) HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). THE HOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES FOR THE BENEFIT OF ROCHE HOLDINGS, INC. (THE "ISSUER") AND ROCHE HOLDING LTD, AS GUARANTOR (THE "GUARANTOR"), AND ANY OF THEIR SUCCESSORS IN INTEREST, THAT THIS NOTE MAY BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED ONLY (1) TO THE ISSUER, THE GUARANTOR OR ANY SUBSIDIARY THEREOF, (2) SO LONG AS THIS NOTE IS ELIGIBLE FOR RESALE PURSUANT TO RULE 144A UNDER THE SECURITIES ACT ("RULE 144A"), TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A) PURCHASING FOR ITS OWN ACCOUNT OR THE ACCOUNT OF ONE OR MORE OTHER QUALIFIED INSTITUTIONAL BUYERS IN ACCORDANCE WITH RULE 144A, (3) IN RELIANCE ON REGULATION S UNDER THE SECURITIES ACT, (4) PURSUANT TO AN EXEMPTION FROM REGISTRATION IN ACCORDANCE WITH RULE 144 UNDER THE SECURITIES ACT (IF APPLICABLE), OR (5) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH SUCH CASE IN ACCORDANCE WITH

ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER JURISDICTIONS. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, REPRESENTS AND AGREES FOR THE BENEFIT OF THE ISSUER AND ANY OF ITS SUCCESSORS IN INTEREST, THAT IT WILL NOTIFY ANY PURCHASER OF THIS NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO ABOVE.

(f) it understands that the Notes being sold in reliance on Regulation S will bear a legend to the following effect:

THIS NOTE (INCLUDING THE RELATED GUARANTEE) HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE OFFERED, SOLD OR DELIVERED IN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY U.S. PERSON, UNLESS SUCH NOTES ARE REGISTERED UNDER THE SECURITIES ACT OR AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS THEREOF IS AVAILABLE.

(g) it acknowledges that prior to any proposed transfer of Notes or beneficial interests in global notes (in each case other than pursuant to an effective registration statement) the holder of such Notes or beneficial interests in global notes may be required to provide certifications and other documentation relating to the manner of such transfer and submit such certifications and other documentation as provided in the Notes;

(h) it acknowledges that the Issuer, the initial purchasers, the agents and others will rely upon the truth and accuracy of the foregoing acknowledgments, representations and agreements and agrees that if any of the acknowledgments, representations or agreements deemed to have been made by it by virtue of its purchase of Notes is no longer accurate, it shall promptly notify the Issuer, the initial purchasers and the agents. If it is acquiring any Notes as a fiduciary or agent for one or more investor accounts, it represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgments, representations and agreements on behalf of each such account; and

(i) either (i) it is not, and no portion of the assets used to purchase or hold the Notes constitute the assets of, (a) an employee benefit plan subject to Title I of the U.S. Employee Retirement Income Security Act of 1974, as amended ("ERISA"), (b) an individual retirement account, "Keogh" plan or other arrangement subject to Section 4975 of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), (c) an entity whose underlying assets include "plan assets" by reason of any such employee benefit plan's, accountant's, plan's or arrangement's investment therein or (d) a governmental, church or non-U.S. plan (or an entity whose underlying assets include the assets of such plan) which is subject to laws and regulations that are similar to the fiduciary responsibility provisions of Title I of ERISA or the prohibited transaction provisions of Section 406 of ERISA or Section 4975 of the Code (each, a "Similar Law") or (ii) its purchase, holding and subsequent disposition of such Notes will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code, or a violation under any applicable Similar Law.

For further discussion of the requirements (including the presentation of transfer certificates) under the Notes and the relevant fiscal and paying agency agreements to effect exchanges or transfer of interests in global notes, see "*Book-entry, Delivery and Form.*"

None of the Issuer, the Guarantor and the initial purchasers makes any representation as to the availability of the exemption provided by Rule 144 under the Securities Act for resale of the Notes.

References to the "Notes" in this "*Transfer Restrictions*" section include the guarantees, to the fullest extent applicable.

CERTAIN TAX CONSIDERATIONS

U.S. federal income taxation

The following is a discussion of certain U.S. federal income tax consequences of purchasing, owning and disposing of Notes, but it does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a particular person's decision to acquire such Notes. This discussion applies only to investors that are beneficial owners of Notes, hold such Notes as capital assets for U.S. federal income tax purposes and acquire such Notes in this offering at the price which, for the Notes of each series, will equal the first price to the public, not including bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers, at which a substantial amount of the Notes is sold for money. This discussion does not describe all of the U.S. federal income tax consequences that may be relevant to an investor in light of the investor's particular circumstances, including alternative minimum tax or Medicare contribution tax consequences, or the effect of any special tax accounting rules under Section 451 of the Internal Revenue Code of 1986, as amended (the "Code"). In addition, this discussion does not describe all of the U.S. federal income tax consequences that may be relevant to investors subject to special rules, such as:

- banks and certain other financial institutions;
- insurance companies;
- dealers and certain traders in securities;
- persons holding Notes as part of a straddle or integrated transaction;
- U.S. Holders (as defined below) whose functional currency for U.S. federal income tax purposes is not the U.S. dollar;
- persons holding Notes in connection with a trade or business conducted outside the United States;
- partnerships or other entities classified as partnerships for U.S. federal income tax purposes; or
- tax-exempt organizations.

If an entity that is classified as a partnership for U.S. federal income tax purposes owns Notes, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships owning Notes and their partners should consult their tax advisers as to the particular U.S. federal income tax consequences to them of purchasing, owning and disposing of the Notes.

This discussion is based on the Code, administrative pronouncements, judicial decisions, and final, temporary and proposed Treasury regulations, all as of the date hereof, and all of which are subject to change, possibly on a retroactive basis. This discussion does not address any estate and gift tax considerations, or the effects of any state, local or non-U.S. tax laws. Prospective purchasers should consult their own tax advisers concerning the U.S. federal, state, local and non-U.S. tax consequences of purchasing, owning and disposing of Notes in their particular circumstances.

Tax consequences to U.S. Holders

As used herein, the term "U.S. Holder" means a person that is, for U.S. federal income tax purposes, a beneficial owner of a Note and: (i) a citizen or individual resident of the United States; (ii) a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States or any state therein or the District of Columbia; or (iii) an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

Qualified Reopening of the Original 2054 Notes

The Issuer expects and the remainder of this discussion assumes that the issuance of the 2054 Notes will be treated as a "qualified reopening" of the Original 2054 Notes. Accordingly, the 2054 Notes will be considered to have the same issue date and issue price as the Original 2054 Notes, and will not have original issue discount, for U.S. federal income tax purposes.

Pre-acquisition Accrued Interest

A portion of the price paid for the 2054 Notes offered hereby will be attributable to interest that accrued from September 8, 2024 to the date the 2054 Notes are acquired (the "pre-acquisition accrued interest"). On the first Interest Payment Date, a portion of the interest received in an amount equal to the pre-acquisition accrued interest may be treated as a return of capital and not as a payment of taxable interest on the 2054 Notes. Any amount treated as a return of capital should not be taxable when received. U.S. Holders should consult their own tax advisers regarding the tax treatment of pre-acquisition accrued interest.

Amortizable Bond Premium

If a U.S. Holder purchases a Note for an amount that is greater than its principal amount (disregarding any amount paid in respect of pre-acquisition accrued interest that is treated as a return of capital), the U.S. Holder will be considered to have purchased the Note with amortizable bond premium. In general, the amortizable bond premium with respect to any Note is the excess of the U.S. Holder's initial tax basis over the principal amount, and the U.S. Holder may elect to amortize this bond premium, using a constant yield method, over the remaining term of the Note. However, because we have an unconditional right to redeem the Notes prior to their maturity date, the amounts that can be amortized for each accrual period may be subject to limitations. U.S. Holders should consult their tax advisers regarding the amount that can be amortized for any accrual period. A U.S. Holder generally may use the amortizable bond premium allocable to an accrual period to offset stated interest otherwise required to be included in income with respect to the relevant Note in that accrual period. An election to amortize bond premium applies to all taxable debt obligations then owned or thereafter acquired and may be revoked only with the consent of the Internal Revenue Service.

Payments of interest

It is expected and the following discussion assumes that the Notes of each series will be issued with no more than *de minimis* original issue discount for U.S. federal income tax purposes. Interest (including any withholding tax and additional amounts paid with respect thereto, if any) paid on a Note will be taxable to a U.S. Holder as ordinary interest income at the time it accrues or is received in accordance with the U.S. Holder's method of accounting for U.S. federal income tax purposes. Interest income earned by a U.S. Holder with respect to a Note will constitute U.S. source income for U.S. federal income tax purposes.

Sale, exchange, retirement or other disposition of the Notes

Upon the sale, exchange, retirement or other disposition of a Note, a U.S. Holder will recognize taxable gain or loss equal to the difference between the amount realized on the sale, exchange, retirement or other disposition and the U.S. Holder's tax basis in the Note. A U.S. Holder's tax basis will generally be its cost for the Note, reduced by any bond premium amortized with respect to the Note. Any pre-acquisition accrued interest treated as a return of capital will not form part of a U.S. Holder's tax basis in the 2054 Notes. For these purposes, the amount realized does not include any amount attributable to accrued interest, which will be treated as interest as described under "*—Payments of interest*" above. Gain or loss realized on the sale, exchange, retirement or other disposition of a Note will generally be capital gain or loss and will be long-term capital gain or loss if at the time of sale, exchange, retirement or other disposition the Note has been held for more than one year. Long-term capital gains of individual U.S. Holders are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Substitution of Issuer

As described under "*Description of the Notes—Substitution of Issuer*," the Company may substitute for itself the Guarantor or any subsidiary of the Guarantor as principal debtor under any series of Notes. For U.S. federal income tax purposes, a substitution of the issuer could, depending on the circumstances of the substitution, give rise to a deemed exchange of the Notes for new debt securities issued by the new obligor. In that case, a U.S. Holder may be required to recognize capital gain or loss in an amount equal to the difference between the issue price of the new debt securities (as determined for U.S. federal income tax purposes) and its adjusted tax basis in the Notes. In addition, depending on the circumstances at the time of substitution, the new debt securities could be treated as issued with original issue discount. U.S. Holders should consult their own tax advisers regarding the tax consequences of a deemed exchange in the event of a substitution of the issuer.

Backup withholding and information reporting

Information returns generally are required to be filed with the Internal Revenue Service in connection with interest payments on the Notes and proceeds from the sale, exchange, retirement or other disposition of the Notes unless the U.S. Holder is an exempt recipient. A U.S. Holder may also be subject to backup withholding unless such U.S. Holder provides proof that it is a corporation or other exempt recipient, or such U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding. Amounts withheld under the backup withholding rules are not additional taxes and may be refunded or allowed as a credit against such U.S. Holder's U.S. federal income tax liability, provided that the required information is timely furnished to the Internal Revenue Service.

Tax consequences to Non-U.S. Holders

As used herein, the term "Non-U.S. Holder" means a person that is, for U.S. federal income tax purposes, a beneficial owner of a Note and:

- an individual who is not a citizen or resident of the United States;
- a foreign corporation; or
- a foreign estate or trust.

However, "Non-U.S. Holder" does not include a person who is an individual present in the United States for 183 days or more in the taxable year of disposition of a Note and who is not otherwise a resident of the United States for U.S. federal income tax purposes, or a former citizen or former resident of the United States. In either case, such a person is urged to consult his or her own tax adviser regarding the U.S. federal income tax consequences of purchasing, owning and disposing of a Note.

Payments on the Notes

Subject to the discussions below under "*—Backup withholding and information reporting*" and "*—FATCA*," payments of principal and interest on the Notes by the Company or the Guarantor to a Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax, *provided* that, in the case of interest:

- the Non-U.S. Holder does not own, actually or constructively, 10% or more of the total combined voting power of all classes of stock of the Company entitled to vote and is not a controlled foreign corporation related, directly or indirectly, to the Company through stock ownership;
- the Non-U.S. Holder certifies on a properly executed Internal Revenue Service Form W-8BEN or Form W-8BEN-E (or other applicable form or successor form), under penalty of perjury, that it is not a U.S. person; and
- the interest payments are not effectively connected with the conduct by the Non-U.S. Holder of a trade or business in the United States (or, if required by an applicable income tax treaty, are not attributable to a United States permanent establishment or fixed base) (as described below).

If a Non-U.S. Holder cannot satisfy any of the requirements described in the first two bullet points above and interest on the Notes is not effectively connected with its conduct of a trade or business in the United States (or, if required by an applicable income tax treaty, is not attributable to a United States permanent establishment or fixed base) (as described below), payments of interest on the Notes will be subject to withholding tax at a rate of 30% unless an income tax treaty applies to reduce or eliminate the withholding tax and the Non-U.S. Holder properly certifies as to its entitlement to the treaty benefits under penalty of perjury (generally through the provision of a properly executed Internal Revenue Service Form W-8BEN or W-8BEN-E (or other applicable form or successor form)).

Sale, exchange, retirement or other disposition of the Notes

Subject to the discussions below under "*—Backup withholding and information reporting*" and "*—FATCA*," a Non-U.S. Holder of a Note will not be subject to U.S. federal income or withholding tax on any gain realized on the sale, exchange, retirement or other disposition of a Note, unless the gain is effectively connected with the conduct by the Non-U.S. Holder of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a United States permanent establishment or fixed base), although any amounts attributable to accrued interest will be treated as described above under "*—Payments on the Notes*."

Effectively connected income

If a Non-U.S. Holder of a Note is engaged in a trade or business in the United States, and if interest or gain on the Note is effectively connected with the conduct of this trade or business (and, if required by an applicable income tax treaty, is attributable to a United States permanent establishment or fixed base), the Non-U.S. Holder, although exempt from the withholding tax on interest discussed above, will generally be taxed in the same manner as a U.S. Holder (see "*—Tax consequences to U.S. Holders*" above), except that the Non-U.S. Holder will be required to provide a properly executed Internal Revenue Service Form W-8ECI (or other applicable form or successor form) in order to claim an exemption from withholding tax on interest. A Non-U.S. Holder described in the preceding sentence should consult its own tax adviser with respect to the U.S. tax consequences of the purchase, ownership and disposition of Notes, including the possible imposition of a 30% (or lower applicable income tax treaty rate) branch profits tax in the case of a corporate Non-U.S. Holder.

Backup withholding and information reporting

Information returns are required to be filed with the Internal Revenue Service in connection with interest payments on the Notes. Unless the Non-U.S. Holder complies with certification procedures to establish that it is not a U.S. person, information returns may also be filed with the Internal Revenue Service in connection with the proceeds from a sale, exchange, retirement or other disposition of the Notes and the Non-U.S. Holder may be subject to U.S. backup withholding tax on interest payments on the Notes or on the proceeds from a sale, exchange, retirement or other disposition of the Notes. The certification procedures required to claim the exemption from withholding tax on interest described above will satisfy the certification requirements necessary to avoid the backup withholding tax as well. Amounts withheld under the backup withholding rules are not additional taxes and may be refunded or allowed as a credit against the Non-U.S. Holder's U.S. federal income tax liability, *provided* that the required information is timely furnished to the Internal Revenue Service.

FATCA

Provisions commonly referred to as "FATCA" impose withholding of 30% on payments of U.S. source interest and on gross proceeds from the sale or other disposition of the Notes, in each case if paid to "foreign financial institutions" (which is broadly defined for this purpose and in general includes investment vehicles and financial intermediaries) and certain other non-U.S. entities unless various information reporting and due diligence requirements (generally relating to ownership by U.S. persons of interests in or accounts with those entities) are satisfied or an exemption applies. However, under proposed Treasury regulations (the preamble to which specifies that taxpayers can rely on them pending finalization), no withholding under FATCA would apply to payments of gross proceeds. As described in "*Description of the Notes—Payment of additional amounts*," if FATCA withholding is required, no additional amounts will be paid with respect to any amounts so withheld. If FATCA withholding is imposed, a beneficial owner that is not a foreign financial institution generally will be entitled to a refund of any amounts so withheld by filing a U.S. federal income tax return (which may entail significant administrative burden).

Prospective investors should consult their tax advisers regarding the effects of FATCA on their investment in the Notes (including the terms of any applicable intergovernmental agreement which may modify the requirements described above) and their ability to obtain a refund of any FATCA withholding.

Swiss taxation

The following is a summary of certain Swiss tax consequences of the purchase, beneficial ownership and disposition of Notes. The summary does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a decision to purchase, own or dispose of the Notes. The summary relates only to the position of persons who are the beneficial owners of the Notes and may not apply to certain other classes of persons. The summary is based upon Swiss tax laws and tax practice as in effect on the date of this offering memorandum, which are subject to prospective or retroactive change. The summary does not constitute tax or legal advice and the comments below are of a general nature only. Prospective investors in the Notes should consult their own advisors as to the Swiss or other tax consequences of the purchase, beneficial ownership and disposition of the Notes.

Swiss withholding tax

Payments of interest on, and repayment of principal of, the Notes by the Issuer (or any payment by the Guarantor in respect thereof under the related guarantees), will not be subject to Swiss withholding tax, provided that the Issuer uses the proceeds from the offering and sale of the Notes outside Switzerland except to the extent use in Switzerland is permitted under the Swiss taxation laws in force from time to time without payments in respect of the Notes becoming subject to withholding or deduction for Swiss withholding tax as a consequence of such use of proceeds in Switzerland.

On April 3, 2020, the Swiss Federal Council published draft legislation on the reform of the Swiss withholding tax system applicable to interest payments on bonds. This draft legislation provided for, among other things, the replacement of the current debtor-based regime applicable to interest payments on bonds with a paying agent-based regime for Swiss withholding tax. Under such proposed paying agent-based regime, subject to certain exceptions, all interest payments on bonds made by paying agents acting out of Switzerland to individuals resident in Switzerland would have been subject to Swiss withholding tax, including any such interest payments made on bonds issued by entities organized in a jurisdiction outside Switzerland (such as interest payments on the Notes). Due to the controversial outcome of the consultation on the draft legislation, the Swiss Federal Council submitted new draft legislation to the Swiss Parliament, which provided for the abolition of Swiss withholding tax on interest payments on bonds. This legislation was accepted by the Swiss Parliament, but was rejected in a referendum held on September 25, 2022. In view of the rejection of this legislation, the Swiss Federal Council could again propose a paying agent-based regime such as the one contemplated by the draft legislation published on April 3, 2020. If such a proposal were to be accepted and enacted and were to result in the deduction or withholding of Swiss withholding tax on any interest payments in respect of a Note (including any payment by the Guarantor in respect thereof under the related guarantee) by any person in Switzerland other than the Issuer or the Guarantor, the holder of such Note would not be entitled to receive any additional amounts with respect to such Note as a result of such deduction or withholding under the terms of the Notes of the applicable series.

Swiss securities turnover tax

Neither the issuance, sale and delivery of the Notes on the issue date to the initial holders of the Notes, nor the issuance of the guarantees by the Guarantor on such date, is subject to Swiss securities turnover tax (primary market).

The trading of the Notes in the secondary market is subject to Swiss securities turnover tax at a rate of 0.30 percent of the consideration paid for the Notes traded, if a Swiss domestic (or Principality of Liechtenstein) securities dealer (as defined in the Swiss Federal Act on Stamp Duties of June 27, 1973, as amended) is a party to, or acts as an intermediary for, the transaction and no statutory exemption applies in respect of one or both of the parties to the transaction. In such case and subject to applicable statutory exemptions, typically half of the Swiss securities turnover tax is charged to one party to the transaction and the other half to the other party. Under one of the statutory exemptions, the purchase or sale of a Note will be exempt from the Swiss securities turnover tax to the extent the purchaser or seller is resident outside of Switzerland (or the Principality of Liechtenstein).

Swiss income taxation on principal or interest

Notes held by non-Swiss holders

Any payment of interest (including relating to a discount or premium, if any) on, or repayment of principal of, a Note by the Issuer (or any payment by the Guarantor in respect thereof under the related guarantee) made to, or gain realized on the sale or redemption of a Note by, a holder of a Note who (i) is not a resident of Switzerland, and (ii) during the taxation year in which such payment is made or gain is realized, has not engaged in trade or business through a permanent establishment in Switzerland to which such Note is attributable, will in respect of such Note not be subject to any Swiss federal, cantonal or communal income tax.

For a discussion of Swiss withholding tax, see above under "—*Swiss withholding tax*," for a discussion of the automatic exchange of information in tax matters, see below under "—*International automatic exchange of information in tax matters*," and for a discussion of the Swiss facilitation of the implementation of FATCA, see below under "—*Swiss facilitation of the implementation of FATCA*."

Notes held by Swiss resident holders as private assets

A holder of a Note who (i) is an individual resident in Switzerland and who holds such Note as a private asset, and (ii) receives a payment of interest (including relating to a discount or premium, if any) on such Note by the Issuer (or any payment in respect thereof by the Guarantor under the related guarantee), is required to include such payment (converted into Swiss franc at the exchange rate prevailing at the time such payment was made) in their personal income tax return for the relevant tax period in which such payment is made, and will be taxed on any net taxable income (including such payment) for the relevant tax period. A gain realized by such holder on the sale of such Note (which gain may include interest accrued on such Note or gain in respect of foreign exchange rate appreciation or interest rate level depreciation) is a tax-free private capital gain, and a loss (which may include a foreign exchange rate loss or a loss from interest rate level appreciation) realized by such person on the sale of such Note is a non-tax deductible private capital loss.

See "—*Notes held as Swiss business assets*" below for a summary on the tax treatment of individuals classified as "professional securities dealers."

Notes held as Swiss business assets

A holder of a Note who is (i) a Swiss-resident individual taxpayer that holds such Note as part of Swiss business assets or (ii) a Swiss-resident corporate taxpayer or corporate or individual taxpayer resident outside of Switzerland that holds such Note as part of a trade or business carried on through a permanent establishment within Switzerland, is required to recognize (A) any payment of interest (including relating to a discount or premium, if any) on such Note by the Issuer (or any payment in respect thereof by the Guarantor under the related guarantee) made to such holder, and (B) any capital gain or loss (including relating to a discount or premium, interest accrued or gain or loss relating to a foreign currency exchange rate change or change in the levels of interest rates) realized by such holder on the sale of such Note, in its income statement for the respective tax period in which the relevant payment or sale is made, and such holder will be taxed on any net taxable earnings for such period (which tax will, if such holder is a corporate or individual taxpayer resident outside of Switzerland as described in clause (ii) above, be limited to the extent such net earnings are allocable to Switzerland).

Swiss-resident individuals who hold Notes and who, for income tax purposes, are classified as "professional securities dealers" for reasons of, among other things, frequent dealings and leveraged transactions in securities will be treated as though they hold Notes as part of Swiss business assets and be taxed as described in the paragraph immediately above.

International automatic exchange of information in tax matters

Switzerland has concluded a multilateral agreement with the EU on the international automatic exchange of information ("AEOI") in tax matters, which applies to all EU member states. In addition, Switzerland signed the multilateral competent authority agreement on the automatic exchange of financial account information (the "MCAA"), and a number of bilateral AEOI agreements with other countries, most of them on the basis of the MCAA. Based on these agreements and the implementing laws of Switzerland, Switzerland collects and exchanges

data in respect of financial assets held in, and income derived thereon and credited to, accounts or deposits (including Notes held in any such account or deposit) with a paying agent in Switzerland for the benefit of individuals resident in an EU member state or in another treaty state. An up-to-date list of the AEOI agreements to which Switzerland is a party that are in effect, or that have been entered into but are not yet in effect, can be found on the website of the State Secretariat for International Financial Matters SIF.

Swiss facilitation of the implementation of FATCA

The United States and Switzerland entered into an intergovernmental agreement (the "U.S.-Switzerland IGA") to facilitate the implementation of FATCA. Under the U.S.-Switzerland IGA, financial institutions acting out of Switzerland generally are directed to become participating foreign financial institutions. The U.S.-Switzerland IGA ensures that accounts held by U.S. persons with Swiss financial institutions (including any such account in which a Note is held) are disclosed to the U.S. tax authorities either with the consent of the account holder or by means of group requests within the scope of administrative assistance, on the basis of the Convention between the United States of America and the Swiss Confederation for the Avoidance of Double Taxation (the "Double Taxation Treaty"). Since it was amended in 2019, the Double Taxation Treaty includes a mechanism for the exchange of information in tax matters upon request between Switzerland and the United States, which is in line with international standards, and allows the United States to make group requests under FATCA concerning non-consenting non-participating foreign financial institutions for periods from June 30, 2014.

On June 27, 2024, Switzerland and the United States signed a new intergovernmental agreement to facilitate the implementation of FATCA (the "new U.S.-Switzerland IGA") that will change the current direct notification-based regime that is in place under the current U.S.-Switzerland IGA to a regime where the relevant information is sent to the Swiss Federal Tax Administration, which in turn provides the information to the U.S. tax authorities. In Switzerland, the implementation of the new U.S.-Switzerland IGA requires an amendment to national law, which will be decided by the Swiss Federal Assembly. According to communication from the State Secretariat for International Finance SIF, such amendment is currently expected to enter into force in Switzerland on January 1, 2027. However, it is not possible to predict whether and when such amendment will be enacted. For further information on FATCA, see above under "*U.S. federal income taxation—FATCA*."

ENFORCEABILITY OF CIVIL LIABILITIES UNDER U.S. FEDERAL SECURITIES LAWS

Roche is a Swiss joint stock company with limited liability. Most of Roche's directors and officers and some of the Company's directors and officers are not residents of the United States, and a substantial portion of the assets of such persons and of Roche are located outside the United States. As a result, it may not be possible for investors to effect service of process within the United States upon Roche or such persons with respect to matters arising under the federal securities laws of the United States, or to enforce against them judgments of courts of the United States predicated upon the civil liability provisions of such securities laws. In particular, there is doubt as to the enforceability in Switzerland of civil liabilities based solely on the federal or state securities laws of the United States, either in an original action or in an action to enforce a judgment obtained in U.S. courts.

The United States and Switzerland currently do not have a treaty providing for the reciprocal recognition and enforcement of judgments, other than arbitration awards, in civil and commercial matters. Consequently, a final judgment for payment rendered against Roche by a court in the United States, whether or not predicated solely upon U.S. securities laws, would not automatically be enforceable in Switzerland. Enforcement and recognition of judgments of U.S. courts in Switzerland are solely governed by the provisions of the Swiss Federal Act on Private International Law of December 18, 1987, as amended (the "Private International Law Act"), the Swiss Civil Procedure Code of December 19, 2008, as amended and the Swiss Federal Act on Debt Enforcement and Bankruptcy of April 11, 1889, as amended.

However, if a person has obtained a final and conclusive judgment against Roche in a pecuniary dispute rendered by a U.S. court which is enforceable in the United States and files a claim with the competent Swiss court, the Swiss court is expected to recognize and enforce such judgment rendered by the U.S. court, *provided* that such judgment has not been rendered in violation of elementary principles of fair trial and is not manifestly incompatible with Swiss public policy and has been rendered by a court which has established its jurisdiction vis-à-vis the relevant party on the basis of a valid submission by such party to the jurisdiction of such U.S. court in accordance with the Private International Law Act, as further detailed below. In particular, a Swiss court or authority will refuse recognition and enforcement for the following reasons only and may not otherwise review the non-Swiss final and conclusive judgment, including such a judgment of a U.S. court, as to its merits: (i) if recognition and enforcement would be manifestly incompatible with Swiss public policy; or (ii) if a party proves that it was not duly summoned pursuant to the law of its domicile or ordinary residence unless such party proceeded to the merits without any objections; or (iii) if the decision was rendered in violation of fundamental principles of Swiss procedural law, in particular the right to be heard; or (iv) if a proceeding between the same parties in the same subject matter was first brought or adjudicated in Switzerland; or (v) if a proceeding between the same parties in the same subject matter was earlier adjudicated in a third country and such decision is recognizable in Switzerland.

Valid submission to the jurisdiction of the U.S. court or authority is established (i) if a provision of the Private International Law Act so provides or, in the absence of such provision, the defendant had its legal domicile in the country in which the decision was rendered; or (ii) in the case of a pecuniary dispute, if the parties entered into an agreement valid under the Private International Law Act submitting their dispute to the jurisdiction of the court or authority which rendered the judgment; or (iii) in the case of a pecuniary dispute, if the defendant proceeded to the merits without any objections; or (iv) if, in the event of a counterclaim, the court or authority which rendered the decision had jurisdiction over the principal claim and if there is a factual connection between the principal claim and the counterclaim. It is uncertain whether this practice would also extend to default judgments. In addition, Swiss courts may deny the recognition and enforcement of punitive damages or other awards.

A Swiss court may also reduce the amount of damages granted by a U.S. court and recognize damages only to the extent that they are necessary to compensate actual losses or damages.

PLAN OF DISTRIBUTION

Pursuant to a purchase agreement dated September 3, 2024, the Company has agreed to sell to the several initial purchasers named below, and each initial purchaser has severally agreed to purchase, the following respective aggregate principal amounts of the Notes:

Initial Purchaser	Aggregate Principal Amount of 2029 Notes	Aggregate Principal Amount of 2034 Notes	Aggregate Principal Amount of 2054 Notes
Barclays Capital Inc.	U.S.$225,000,000	U.S.$250,000,000	U.S.$150,000,000
J.P.Morgan Securities LLC	U.S.$225,000,000	U.S.$250,000,000	U.S.$150,000,000
MUFG Securities Americas Inc.	U.S.$225,000,000	U.S.$250,000,000	U.S.$150,000,000
Santander US Capital Markets LLC	U.S.$225,000,000	U.S.$250,000,000	U.S.$150,000,000
Total	**U.S.$900,000,000**	**U.S.$1,000,000,000**	**U.S.$600,000,000**

The purchase agreement provides that the obligations of the initial purchasers to purchase the Notes from the Company are several and not joint, and are subject to certain conditions precedent. The initial purchasers will purchase all of the Notes, if any of these Notes are purchased. The offering of the Notes by the initial purchasers is subject to receipt and acceptance and subject to the initial purchasers' right to reject any order in whole or in part.

The initial purchasers will receive customary commissions and discounts under the purchase agreement upon the consummation of the offering of the Notes pursuant to this offering memorandum.

The initial purchasers initially propose to offer the Notes for resale at the issue prices that appear on the cover of this offering memorandum. After the initial offering, the initial purchasers may change the issue prices and any other selling terms. The initial purchasers may offer and sell Notes through certain of their affiliates.

To the extent any initial purchaser that is not a U.S. registered broker-dealer intends to effect sales of Notes in the United States, it will do so through one or more U.S. registered broker-dealers in accordance with the applicable U.S. securities laws and regulations.

In the purchase agreement, the Company and Roche have agreed to indemnify the initial purchasers against certain liabilities, including liabilities under the Securities Act, or contribute to payments that the initial purchasers may be required to make in respect of those liabilities.

There is currently no established trading market for the Notes. In addition, the Notes will be subject to certain restrictions on resale and transfer as described under "*Transfer Restrictions*." The Company does not intend to apply for the Notes to be listed on any securities exchange. Each initial purchaser has advised the Company that such initial purchaser intends to make a market in the Notes, but none of the initial purchasers is obligated to do so. Each initial purchaser may discontinue any market making in the Notes at any time in its sole discretion. Accordingly, the Company cannot assure investors that a liquid trading market will develop for the Notes, that investors will be able to sell their Notes at a particular time or that the prices that investors receive when they sell will be favorable. In addition, any such market-making activity will be subject to the limits imposed by the Securities Act and the Exchange Act.

The Company will deliver the Notes against payment therefor on or about the date specified on the front cover of this offering memorandum, which will be, the fourth business day following the date of pricing of the Notes (such settlement cycle being referred to herein as "T+4"). Under Rule 15(c)6-1 under the Exchange Act trades in the secondary market generally are required to settle in one business day unless the parties to such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the Notes on the date of pricing or the next business day are required, by virtue of the fact that the Notes initially settle four business days following the date of pricing of the Notes, to specify an alternative settlement cycle at the time of such trade to prevent a failed settlement. Purchasers of the Notes who wished to trade the Notes on the date of pricing or the next succeeding business day should consult their own advisors.

In connection with the offering of the Notes, the initial purchasers may engage in overallotment, stabilizing transactions and syndicate covering transactions. Overallotment involves sales in excess of the offering size, which creates a short position for the initial purchasers. Stabilizing transactions involve bids to purchase the Notes in the

open market for the purpose of pegging, fixing or maintaining the price of the Notes. Syndicate covering transactions involve purchases of the Notes in the open market after the distribution has been completed in order to cover short positions. Stabilizing transactions and syndicate covering transactions may cause the price of the Notes to be higher than it would otherwise be in the absence of those transactions. If the initial purchasers engage in stabilizing or syndicate covering transactions, they may discontinue them at any time.

Certain of the initial purchasers and their affiliates perform various financial advisory, investment banking and commercial banking services from time to time for Roche and its affiliates. They have received, or will receive, customary fees and commissions for services rendered in connection with these transactions.

In addition, in the ordinary course of their various business activities, the initial purchasers and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively traded securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers and such investment and trading activities may involve or relate to assets, securities and instruments of Roche Group (directly, as collateral securing other obligations or otherwise) and persons and entities with relationships with Roche Group. From time to time, certain of the initial purchasers and their respective affiliates may hold on behalf of themselves, or their customers, long and short positions in such assets, securities and instruments. The initial purchasers and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and publish or express independent research views in respect of such assets, securities or financial instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such assets, securities and instruments.

If any of the initial purchasers or their respective affiliates has a lending relationship with the Company and/or the Guarantor, certain of those initial purchasers or their respective affiliates routinely hedge, and certain other of those initial purchasers may hedge, their credit exposure to the Company and/or the Guarantor consistent with their customary risk management policies. Typically, these initial purchasers and their respective affiliates would hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in the Company's and/or the Guarantor's securities, including potentially the Notes offered hereby. Any such credit default swaps or short positions could adversely affect future trading prices of the Notes offered hereby.

United States

The Notes have not been registered under the Securities Act or the securities laws of any other place. Accordingly, the Notes will be subject to transfer restrictions as described under "*Transfer Restrictions*." In the purchase agreement, each initial purchaser has agreed that:

- the Notes may not be offered or sold within the United States or to U.S. persons except pursuant to an exemption from the registration requirements of the Securities Act or in transactions not subject to those registration requirements; and

- during the initial distribution of the Notes, it will offer or sell Notes only to persons whom it reasonably believes to be qualified institutional buyers in compliance with Rule 144A and outside the United States to persons other than U.S. persons in compliance with Regulation S.

In addition, until 40 days following the commencement of this offering, an offer or sale of Notes within the United States by a dealer (whether or not participating in the offering) may violate the registration requirements of the Securities Act unless the dealer makes the offer or sale in compliance with Rule 144A or another exemption from registration under the Securities Act.

Canada

The Notes may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions* and *Ongoing Registrant Obligations*. Any resale of the Notes must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this offering memorandum (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* ("NI 33-105"), the initial purchasers are not required to comply with the disclosure requirements of NI 33-105 regarding conflicts of interest in connection with this offering.

European Economic Area retail investors

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the EEA. For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or (ii) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II or (iii) not a qualified investor as defined in the Prospectus Regulation. Consequently, no key information document required by the PRIIPs Regulation for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.
This offering memorandum has been prepared on the basis that any offer of notes in any member state of the EEA will be made pursuant to an exemption under the Prospectus Regulation from the requirement to publish a prospectus for offers of notes. This offering memorandum is not a prospectus for the purposes of the Prospectus Regulation.

United Kingdom

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any "retail investor" in the UK. For these purposes, a retail investor means a person who is one (or more) of the following: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of UK domestic law by virtue of the EUWA; (ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of UK domestic law by virtue of the EUWA or (iii) not a qualified investor as defined in Article 2 of the UK Prospectus Regulation. Consequently, no key information document required by the UK PRIIPs Regulation for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.
This offering memorandum has been prepared on the basis that any offer of Notes in the UK will be made pursuant to an exemption from the obligation to publish a prospectus under Section 86 of the FSMA. This offering memorandum is not a prospectus for the purposes of Section 85 of the FSMA.

Each initial purchaser has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the Notes in circumstances in which Section 21(1) of the FSMA does not apply to the Company or the Guarantor; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the UK.

Switzerland

The Notes may not be publicly offered, directly or indirectly, in Switzerland within the meaning of the FinSA and no application has or will be made to admit the Notes to trading on any trading venue (exchange or multilateral trading facility) in Switzerland. Neither this offering memorandum nor any other offering or marketing material relating to the Notes constitutes a prospectus as such term is understood pursuant to the FinSA and neither this offering memorandum nor any other offering or marketing material relating to the Notes may be publicly distributed or otherwise made publicly available in Switzerland.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Law and each initial purchaser has agreed that it will not offer or sell any Notes, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Law and any other applicable laws, regulations and ministerial guidelines of Japan.

Hong Kong

The Notes may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap.32) of Hong Kong, or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap.571) of Hong Kong and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap.32) of Hong Kong, and no advertisement, invitation or document relating to the Notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the laws of Hong Kong) other than with respect to Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made thereunder.

Singapore

This offering memorandum has not been registered as a prospectus with the MAS. Accordingly, this offering memorandum and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes may not be circulated or distributed, nor may the Notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under the SFA, (ii) to a relevant person, or any person pursuant to Section 275(1A) and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired the Notes under Section 275, except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A) and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Solely for the purposes of its obligations pursuant to Sections 309(B)(1)(a) and 309(B)(1)(c) of the SFA, the Company has determined, and hereby notifies all relevant persons (as defined in Section 309A of the SFA) that the Notes are "prescribed capital markets products" (as defined in the Securities and Futures (Capital Markets Products)

Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Taiwan

The Notes have not been, and will not be, registered with the Financial Supervisory Commission of Taiwan pursuant to applicable securities laws and regulations. No person or entity in Taiwan is authorized to distribute or otherwise intermediate the offering of the Notes or the provision of information relating to the offering of the Notes, including, but not limited to, this offering memorandum. The Notes may be made available for purchase outside Taiwan by investors residing in Taiwan (either directly or through properly licensed Taiwan intermediaries acting on behalf of such investors), but may not be issued, offered or sold in Taiwan.

LEGAL MATTERS

The validity of the Notes and the guarantees under U.S. federal and New York state law will be passed upon for the Company and Roche by Davis Polk & Wardwell London LLP. Certain legal matters with respect to the offering will be passed upon for the initial purchasers by Simpson Thacher & Bartlett LLP. Certain legal matters of Swiss law will be passed upon for the Company and Roche by Homburger AG.

INDEPENDENT AUDITOR

The consolidated financial statements of the Roche Group as of December 31, 2023 and for the year then ended and the consolidated financial statements of the Roche Group as of December 31, 2022 and for the year then ended, which are included in this offering memorandum, have been audited by KPMG AG, independent auditor, as stated in its reports appearing herein.

With respect to the unaudited interim consolidated financial statements as of and for the six months ended June 30, 2024 included herein, KPMG AG, the independent auditor, has reported that it applied limited procedures in accordance with professional standards for a review of such information. Its separate report included herein states that it did not audit and it does not express an opinion on the interim consolidated financial statements. Accordingly, the degree of reliance on its report on such information should be limited in light of the limited nature of the review procedures applied.

AVAILABLE INFORMATION

Roche has agreed to furnish the fiscal agent referred to under "*Description of the Notes*" with copies of the Group's annual reports in English containing a description of operations and annual audited consolidated financial statements prepared in accordance with IFRS Accounting Standards, as issued by the IASB.

To preserve the exemption for re-sales and transfers pursuant to Rule 144A, Roche will furnish, upon the request of any holder or beneficial owner of Notes, such information as is specified in paragraph (d)(4) of Rule 144A to such holder or beneficial owner or to a prospective purchaser of such Notes who is a "qualified institutional buyer" within the meaning of Rule 144A in connection with the resale of such Notes, unless, at the time of such request, Roche is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act or exempt from reporting pursuant to Rule 12g3-2(b) under the Exchange Act.

Holders may request copies of the Notes, the guarantees and the relevant fiscal and paying agency agreement by contacting the fiscal agent at the address set forth on the back cover of this offering memorandum.

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Roche Group Interim Consolidated Financial Statements

The Interim Consolidated Financial Statements have been reviewed by the Group's auditor and their review report is presented on page 76.

Roche Group consolidated income statement for the six months ended 30 June 2024 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	22,637	7,211	–	29,848
Other revenue [2, 3]	886	22	–	908
Revenue [2, 3]	**23,523**	**7,233**	**–**	**30,756**
Cost of sales	(4,536)	(3,334)	–	(7,870)
Research and development [2]	(6,408)	(980)	–	(7,388)
Selling, general and administration	(3,400)	(1,510)	(1,942)	(6,852)
Other operating income (expense)	414	16	(5)	425
Operating profit [2]	**9,593**	**1,425**	**(1,947)**	**9,071**
Financing costs [4]				(708)
Other financial income (expense) [4]				(140)
Profit before taxes				**8,223**
Income taxes [5]				(1,526)
Net income				**6,697**
Attributable to				
– Roche shareholders				6,258
– Non-controlling interests				439
Earnings per share and non-voting equity security [14]				
Basic (CHF)				7.85
Diluted (CHF)				7.80

Roche Group consolidated income statement for the six months ended 30 June 2023 (restated)[a] in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales[2, 3]	22,511	7,268	–	29,779
Other revenue[2, 3]	798	39	–	837
Revenue[2, 3]	**23,309**	**7,307**	**–**	**30,616**
Cost of sales	(4,384)	(3,547)	–	(7,931)
Research and development[2]	(5,947)	(971)	–	(6,918)
Selling, general and administration	(3,448)	(1,521)	(1,881)	(6,850)
Other operating income (expense)	710	144	(7)	847
Operating profit[2]	**10,240**	**1,412**	**(1,888)**	**9,764**
Financing costs[4]				(490)
Other financial income (expense)[4]				(100)
Profit before taxes				**9,174**
Income taxes[5]				(1,611)
Net income				**7,563**
Attributable to				
– Roche shareholders				7,137
– Non-controlling interests				426
Earnings per share and non-voting equity security[14]				
Basic (CHF)				8.93
Diluted (CHF)				8.87

a) Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Consolidated Financial Statements. Details and a reconciliation to the previously published income statement are disclosed in Note 1.

Roche Group consolidated statement of comprehensive income in millions of CHF

	Six months ended 30 June	
	2024	2023
Net income recognised in income statement	**6,697**	**7,563**
Other comprehensive income (OCI)		
Remeasurements of defined benefit plans	339	131
Fair value changes on equity investments at fair value through OCI	136	(25)
Items that will never be reclassified to the income statement	**475**	**106**
Fair value changes on debt securities at fair value through OCI	0	3
Cash flow hedges	(20)	(65)
Currency translation of foreign operations	430	(1,242)
Items that are or may be reclassified to the income statement	**410**	**(1,304)**
Other comprehensive income, net of tax	**885**	**(1,198)**
Total comprehensive income	**7,582**	**6,365**
Attributable to		
– Roche shareholders	7,388	6,387
– Non-controlling interests	194	(22)
Total	**7,582**	**6,365**

Roche Group consolidated balance sheet in millions of CHF

	30 June 2024	31 December 2023
Non-current assets		
Property, plant and equipment	22,526	21,724
Right-of-use assets	1,336	1,215
Goodwill [8]	10,995	9,390
Intangible assets [9]	16,309	14,828
Deferred tax assets	7,632	6,882
Defined benefit plan assets	1,222	1,019
Other non-current assets	2,137	1,964
Total non-current assets	**62,157**	**57,022**
Current assets		
Inventories	7,945	7,749
Accounts receivable	12,173	11,021
Current income tax assets	306	344
Other current assets	3,643	3,130
Marketable securities	3,990	5,134
Cash and cash equivalents	4,824	5,376
Assets held for sale [6]	748	692
Total current assets	**33,629**	**33,446**
Total assets	**95,786**	**90,468**
Non-current liabilities		
Long-term debt [11]	(28,420)	(24,809)
Deferred tax liabilities	(635)	(593)
Defined benefit plan liabilities	(4,348)	(4,379)
Provisions [10]	(1,169)	(1,059)
Other non-current liabilities	(1,739)	(1,541)
Total non-current liabilities	**(36,311)**	**(32,381)**
Current liabilities		
Short-term debt [11]	(6,021)	(4,400)
Current income tax liabilities	(2,596)	(2,257)
Provisions [10]	(1,774)	(1,684)
Accounts payable	(3,994)	(4,325)
Other current liabilities	(12,206)	(12,150)
Liabilities directly associated with assets held for sale [6]	(8)	(8)
Total current liabilities	**(26,599)**	**(24,824)**
Total liabilities	**(62,910)**	**(57,205)**
Total net assets	**32,876**	**33,263**
Equity		
Capital and reserves attributable to Roche shareholders	28,942	29,315
Equity attributable to non-controlling interests	3,934	3,948
Total equity	**32,876**	**33,263**

Roche Group consolidated statement of cash flows in millions of CHF

	Six months ended 30 June 2024	2023
Cash flows from operating activities		
Cash generated from operations [15]	12,772	12,091
(Increase) decrease in net working capital	(2,100)	(1,804)
Payments made for defined benefit plans	(313)	(314)
Utilisation of provisions	(469)	(505)
Other operating cash flows	0	0
Income taxes paid	(1,976)	(1,570)
Total cash flows from operating activities	**7,914**	**7,898**
Cash flows from investing activities		
Purchase of property, plant and equipment	(1,724)	(1,740)
Purchase of intangible assets	(368)	(234)
Disposal of property, plant and equipment	19	33
Disposal of products	353	585
Business combinations [6]	(2,456)	0
Asset acquisitions [6]	0	0
Interest received (paid) and dividends received on marketable securities and other investments	106	57
Sales of equity securities and debt securities	130	65
Purchases of equity securities and debt securities	(78)	(82)
Sales (purchases) of money market instruments and time accounts over three months, net	1,168	782
Other investing cash flows	(15)	52
Total cash flows from investing activities	**(2,865)**	**(482)**
Cash flows from financing activities		
Proceeds from issue of bonds and notes [11]	4,852	1,238
Redemption and repurchase of bonds and notes [11]	(1,849)	(645)
Increase (decrease) in commercial paper [11]	713	(41)
Increase (decrease) in other debt [11]	40	(19)
Hedging and collateral arrangements	(108)	139
Interest paid	(521)	(368)
Principal portion of lease liabilities paid	(172)	(174)
Dividends paid [15]	(7,889)	(7,789)
Equity-settled equity compensation plans, net of transactions in own equity	(514)	(633)
Other financing cash flows	(1)	(1)
Total cash flows from financing activities	**(5,449)**	**(8,293)**
Net effect of currency translation on cash and cash equivalents	(152)	(394)
Increase (decrease) in cash and cash equivalents	**(552)**	**(1,271)**
Cash and cash equivalents at beginning of period	5,376	4,991
Cash and cash equivalents at end of period	**4,824**	**3,720**

Roche Group consolidated statement of changes in equity in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total	Non-controlling interests	Total equity
Six months ended 30 June 2023								
At 1 January 2023	107	38,937	(59)	(92)	(10,901)	27,992	4,023	32,015
Net income recognised in income statement	–	7,137	–	–	–	7,137	426	7,563
Net change in fair value – financial assets at fair value through OCI	–	(8)	(14)	–	–	(22)	0	(22)
Cash flow hedges	–	–	–	(40)	–	(40)	(25)	(65)
Currency translation of foreign operations	–	–	1	10	(830)	(819)	(423)	(1,242)
Remeasurements of defined benefit plans	–	131	–	–	–	131	0	131
Total comprehensive income	**–**	**7,260**	**(13)**	**(30)**	**(830)**	**6,387**	**(22)**	**6,365**
Dividends	–	(7,590)	–	–	–	(7,590)	(173)	(7,763)
Equity compensation plans, net of transactions in own equity	–	(274)	–	–	–	(274)	1	(273)
Changes in non-controlling interests	–	0	–	–	–	0	0	–
At 30 June 2023	**107**	**38,333**	**(72)**	**(122)**	**(11,731)**	**26,515**	**3,829**	**30,344**
Six months ended 30 June 2024								
At 1 January 2024	107	42,347	(97)	(90)	(12,952)	29,315	3,948	33,263
Net income recognised in income statement	–	6,258	–	–	–	6,258	439	6,697
Net change in fair value – financial assets at fair value through OCI	–	7	129	–	–	136	0	136
Cash flow hedges	–	–	–	(12)	–	(12)	(8)	(20)
Currency translation of foreign operations	–	–	1	4	662	667	(237)	430
Remeasurements of defined benefit plans	–	339	–	–	–	339	0	339
Total comprehensive income	**–**	**6,604**	**130**	**(8)**	**662**	**7,388**	**194**	**7,582**
Dividends	–	(7,650)	–	–	–	(7,650)	(208)	(7,858)
Equity compensation plans, net of transactions in own equity	–	(111)	–	–	–	(111)	0	(111)
Changes in non-controlling interests	–	0	–	–	–	0	0	–
At 30 June 2024	**107**	**41,190**	**33**	**(98)**	**(12,290)**	**28,942**	**3,934**	**32,876**

Notes to the Roche Group Interim Consolidated Financial Statements

1. General accounting principles

Basis of preparation

These financial statements are the unaudited condensed interim consolidated financial statements (hereafter 'the Interim Financial Statements') of Roche Holding Ltd, a company registered in Switzerland, and its subsidiaries (hereafter 'the Group') for the six months ended 30 June 2024 (hereafter 'the interim period'). These Interim Financial Statements should be read in conjunction with the consolidated financial statements for the year ended 31 December 2023 (hereafter 'the Annual Financial Statements'), as they provide an update of previously reported information. They were approved for issue by the Board of Directors on 23 July 2024.

Statement of compliance

The Interim Financial Statements have been prepared in accordance with IAS 34 'Interim Financial Reporting'. They do not include all of the information required for a complete set of financial statements prepared in accordance with IFRS Accounting Standards. However, selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in the Group since the Annual Financial Statements.

Management judgements and estimates

The preparation of the Interim Financial Statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of revenues, expenses, assets, liabilities and related disclosures. If in the future such estimates and assumptions, which are based on management's best judgement at the date of the Interim Financial Statements, deviate from the actual circumstances, the original estimates and assumptions will be modified as appropriate in the period in which the circumstances change. The significant judgements made by management in applying the Group's accounting policies and the key sources of estimation uncertainty are the same as those applied in the Annual Financial Statements.

Seasonality

The Group operates in industries where significant seasonal or cyclical variations in total sales are not experienced during the financial year.

Accounting policies

Except as described below, the accounting policies applied in these Interim Financial Statements are the same as those applied in the Annual Financial Statements. Changes in accounting policies will also be reflected in the Group's Consolidated Financial Statements for the year ending 31 December 2024.

Changes in accounting policies

In 2024 the Group has implemented various minor amendments to existing accounting standards and interpretations, which have no material impact on the Group's overall results and financial position.

Change in operating segments

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division, while retaining Foundation Medicine's independence in this new reporting set-up. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division. This represents a change in the Group's operating segments in its financial reporting, and consequently the comparative 2023 results have been restated in these Interim Financial Statements.

These changes have no impact on sales, operating profit, net income and earnings per share and non-voting equity security of the Group as a whole. The operating results of the two divisions, Pharmaceuticals and Diagnostics, have changed, while there has been no change to Corporate.

Comparative 2023 information has been restated, and a reconciliation to the previously published interim results is provided below.

Restated Roche Group consolidated income statement (selected items) in millions of CHF

	Six months ended 30 June 2023		
	As originally published	Change in operating segments	Restated
Pharmaceuticals			
Sales	22,681	(170)	22,511
Other revenue	806	(8)	798
Cost of sales	(4,457)	73	(4,384)
Research and development	(6,065)	118	(5,947)
Selling, general and administration	(3,588)	140	(3,448)
Other operating income (expense)	708	2	710
Operating profit	**10,085**	**155**	**10,240**
Diagnostics			
Sales	7,098	170	7,268
Other revenue	31	8	39
Cost of sales	(3,474)	(73)	(3,547)
Research and development	(853)	(118)	(971)
Selling, general and administration	(1,381)	(140)	(1,521)
Other operating income (expense)	146	(2)	144
Operating profit	**1,567**	**(155)**	**1,412**

Restated operating segment information on capital expenditure (selected items) in millions of CHF

	Six months ended 30 June 2023		
	As originally published	Change in operating segments	Restated
Pharmaceuticals – capital expenditure			
Business combinations	0	0	0
Asset acquisitions	0	0	0
Additions to property, plant and equipment	922	(80)	842
Additions to right-of-use assets	103	(1)	102
Additions to intangible assets	222	0	222
Total	**1,247**	**(81)**	**1,166**
Diagnostics – capital expenditure			
Business combinations	0	0	0
Asset acquisitions	0	0	0
Additions to property, plant and equipment	701	80	781
Additions to right-of-use assets	97	1	98
Additions to intangible assets	16	0	16
Total	**814**	**81**	**895**

Restated operating segment information on other segment information (selected items) in millions of CHF

	Six months ended 30 June 2023		
	As originally published	Change in operating segments	Restated
Pharmaceuticals – other segment information			
Depreciation of property, plant and equipment	654	(19)	635
Depreciation of right-of-use assets	95	(8)	87
Amortisation of intangible assets	280	(1)	279
Impairment (reversal) of property, plant and equipment	31	0	31
Impairment (reversal) of right-of-use assets	2	0	2
Impairment of goodwill	0	0	0
Impairment of intangible assets	260	0	260
Equity compensation plan expenses	294	(24)	270
Diagnostics – other segment information			
Depreciation of property, plant and equipment	540	19	559
Depreciation of right-of-use assets	60	8	68
Amortisation of intangible assets	81	1	82
Impairment (reversal) of property, plant and equipment	9	0	9
Impairment (reversal) of right-of-use assets	0	0	0
Impairment of goodwill	0	0	0
Impairment of intangible assets	0	0	0
Equity compensation plan expenses	51	24	75

Restated operating segment information on net operating assets (selected items) in millions of CHF

	31 December 2023		
	As originally published	Change in operating segments	Restated
Pharmaceuticals Division – net operating assets			
Assets	49,640	(444)	49,196
Liabilities	(13,134)	165	(12,969)
Net operating assets	**36,506**	**(279)**	**36,227**
Roche Pharmaceuticals – net operating assets			
Assets	46,077	(444)	45,633
Liabilities	(13,269)	165	(13,104)
Net operating assets	**32,808**	**(279)**	**32,529**
Diagnostics – net operating assets			
Assets	20,484	444	20,928
Liabilities	(4,546)	(165)	(4,711)
Net operating assets	**15,938**	**279**	**16,217**

Future new and revised accounting standards

The Group is currently assessing the potential impacts of the various new and revised accounting standards and interpretations that will be mandatory from 1 January 2025 which the Group has not yet applied. Based on the analysis to date, the Group does not anticipate that these will have a material impact on the Group's overall results and financial position. The Group is also assessing other new and revised accounting standards which are not mandatory until after 2025, including IFRS 18 'Presentation and Disclosure in Financial Statements'.

2. Operating segment information

The Group has two divisions, Pharmaceuticals and Diagnostics. Revenues are primarily generated from the sale of prescription pharmaceutical products and diagnostic instruments, reagents and consumables, respectively. Both divisions also derive revenues from the sale or licensing of products or technology to third parties. Residual operating activities from divested businesses and certain global activities are reported as 'Corporate'. These include the Corporate Executive Committee and global Group functions for informatics, communications, human resources, finance (including treasury and taxation), legal, safety and environmental services. Subdivisional information is also presented for the Roche Pharmaceuticals and Chugai operating segments within the Pharmaceuticals Division.

Divisional information in millions of CHF

Six months ended 30 June	Pharmaceuticals 2024	Pharmaceuticals 2023	Diagnostics 2024	Diagnostics 2023	Corporate 2024	Corporate 2023	Group 2024	Group 2023
Revenue from external customers								
Sales	22,637	22,511	7,211	7,268	–	–	29,848	29,779
Other revenue	886	798	22	39	–	–	908	837
Total	**23,523**	**23,309**	**7,233**	**7,307**	**–**	**–**	**30,756**	**30,616**
Revenue from other operating segments								
Sales	–	–	57	55	–	–	57	55
Other revenue	–	–	1	2	–	–	1	2
Elimination of interdivisional revenue							(58)	(57)
Total	**–**	**–**	**58**	**57**	**–**	**–**	**–**	**–**
Segment results								
Operating profit	9,593	10,240	1,425	1,412	(1,947)	(1,888)	9,071	9,764
Capital expenditure								
Business combinations	2,808	0	0	0	–	–	2,808	0
Asset acquisitions	0	0	0	0	–	–	0	0
Additions to property, plant and equipment	800	842	765	781	35	49	1,600	1,672
Additions to right-of-use assets	211	102	64	98	7	3	282	203
Additions to intangible assets	243	222	37	16	–	–	280	238
Total	**4,062**	**1,166**	**866**	**895**	**42**	**52**	**4,970**	**2,113**
Research and development								
Research and development costs	6,408	5,947	980	971	–	–	7,388	6,918
Other segment information								
Depreciation of property, plant and equipment	546	635	557	559	31	34	1,134	1,228
Depreciation of right-of-use assets	88	87	69	68	5	6	162	161
Amortisation of intangible assets	279	279	79	82	–	–	358	361
Impairment (reversal) of property, plant and equipment	38	31	13	9	3	0	54	40
Impairment (reversal) of right-of-use assets	26	2	0	0	0	0	26	2
Impairment of goodwill	0	0	0	0	–	–	0	0
Impairment of intangible assets	1,051	260	0	0	–	–	1,051	260
Equity compensation plan expenses	291	270	75	75	41	38	407	383

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements. Details and a reconciliation to the previously published income statement (including research and development costs), capital expenditure and other segment information are disclosed in Note 1.

Pharmaceuticals subdivisional information in millions of CHF

Six months ended 30 June	Roche Pharmaceuticals 2024	Roche Pharmaceuticals 2023	Chugai 2024	Chugai 2023	Pharmaceuticals Division 2024	Pharmaceuticals Division 2023
Revenue from external customers						
Sales	21,271	20,301	1,366	2,210	22,637	22,511
Other revenue	827	745	59	53	886	798
Total	**22,098**	**21,046**	**1,425**	**2,263**	**23,523**	**23,309**
Revenue from other operating segments						
Sales	652	1,174	1,472	1,330	2,124	2,504
Other revenue	10	22	372	355	382	377
Elimination of income within division					(2,506)	(2,881)
Total	**662**	**1,196**	**1,844**	**1,685**	**–**	**–**
Segment results						
Operating profit	8,173	8,497	1,536	1,461	9,709	9,958
Elimination of results within division					(116)	282
Operating profit	**8,173**	**8,497**	**1,536**	**1,461**	**9,593**	**10,240**
Capital expenditure						
Business combinations	2,808	0	0	0	2,808	0
Asset acquisitions	0	0	0	0	0	0
Additions to property, plant and equipment	653	588	147	254	800	842
Additions to right-of-use assets	193	81	18	21	211	102
Additions to intangible assets	238	221	5	1	243	222
Total	**3,892**	**890**	**170**	**276**	**4,062**	**1,166**
Research and development						
Research and development costs	5,937	5,371	496	589	6,433	5,960
Elimination of costs within division					(25)	(13)
Total	**5,937**	**5,371**	**496**	**589**	**6,408**	**5,947**
Other segment information						
Depreciation of property, plant and equipment	476	550	70	85	546	635
Depreciation of right-of-use assets	73	71	15	16	88	87
Amortisation of intangible assets	276	273	3	6	279	279
Impairment (reversal) of property, plant and equipment	38	23	0	8	38	31
Impairment (reversal) of right-of-use assets	26	2	0	0	26	2
Impairment of goodwill	0	0	0	0	0	0
Impairment of intangible assets	1,051	239	0	21	1,051	260
Equity compensation plan expenses	290	269	1	1	291	270

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements. Details and a reconciliation to the previously published income statement (including research and development costs), capital expenditure and other segment information are disclosed in Note 1.

Net assets in millions of CHF

	Assets 30 June 2024	Assets 31 December 2023	Liabilities 30 June 2024	Liabilities 31 December 2023	Net assets 30 June 2024	Net assets 31 December 2023
Net operating assets						
Pharmaceuticals	53,704	49,196	(13,266)	(12,969)	40,438	36,227
Diagnostics	22,187	20,928	(4,314)	(4,711)	17,873	16,217
Corporate	635	555	(781)	(884)	(146)	(329)
Total	**76,526**	**70,679**	**(18,361)**	**(18,564)**	**58,165**	**52,115**
Current income tax net assets (liabilities)					(2,290)	(1,913)
Deferred tax net assets (liabilities)					6,997	6,289
Defined benefit plan net assets (liabilities)					(3,126)	(3,360)
Lease liabilities					(1,734)	(1,573)
Marketable securities					3,990	5,134
Cash and cash equivalents					4,824	5,376
Debt					(34,441)	(29,209)
Other net assets (liabilities)					491	404
Total net assets					**32,876**	**33,263**

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements. Details and a reconciliation to the previously published net assets are disclosed in Note 1.

Net operating assets – Pharmaceuticals subdivisional information in millions of CHF

	Assets 30 June 2024	Assets 31 December 2023	Liabilities 30 June 2024	Liabilities 31 December 2023	Net assets 30 June 2024	Net assets 31 December 2023
Roche Pharmaceuticals	50,586	45,633	(13,904)	(13,104)	36,682	32,529
Chugai	6,396	6,589	(824)	(1,157)	5,572	5,432
Elimination within division	(3,278)	(3,026)	1,462	1,292	(1,816)	(1,734)
Pharmaceuticals Division	**53,704**	**49,196**	**(13,266)**	**(12,969)**	**40,438**	**36,227**

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements. Details and a reconciliation to the previously published net operating assets are disclosed in Note 1.

3. Revenue

Disaggregated revenue information

Disaggregation of revenue in millions of CHF

	Six months ended 30 June 2024			Six months ended 30 June 2023		
	Revenue from contracts with customers	Revenue from other sources	Total	Revenue from contracts with customers	Revenue from other sources	Total
Pharmaceuticals Division						
Sales by therapeutic area						
Oncology	9,619	–	9,619	9,775	–	9,775
Neuroscience	4,586	–	4,586	4,229	–	4,229
Immunology	3,015	–	3,015	3,095	–	3,095
Haemophilia A	2,143	–	2,143	2,087	–	2,087
Ophthalmology	1,891	–	1,891	1,265	–	1,265
Infectious diseases	255	–	255	819	–	819
Other therapeutic areas[a)]	1,128	–	1,128	1,241	–	1,241
Sales[a)]	**22,637**	**–**	**22,637**	**22,511**	**–**	**22,511**
Royalty income	229	157	386	266	129	395
Profit-share income[a)]	0	380	380	0	328	328
Other income from collaboration and out-licensing agreements	114	0	114	71	0	71
Other	6	0	6	4	0	4
Other revenue[a)]	**349**	**537**	**886**	**341**	**457**	**798**
Diagnostics Division						
Sales by customer area						
Core Lab	3,779	290	4,069	3,669	266	3,935
Molecular Lab[a)]	1,224	51	1,275	1,238	50	1,288
Near Patient Care[b)]	1,085	12	1,097	1,342	16	1,358
Pathology Lab	723	47	770	649	38	687
Sales[a)]	**6,811**	**400**	**7,211**	**6,898**	**370**	**7,268**
Royalty income	19	0	19	21	0	21
Profit-share income[a)]	0	0	0	8	0	8
Other income from collaboration and out-licensing agreements	0	0	0	0	0	0
Other	0	3	3	7	3	10
Other revenue[a)]	**19**	**3**	**22**	**36**	**3**	**39**
Total[a)]	**29,816**	**940**	**30,756**	**29,786**	**830**	**30,616**

a) Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements. Details and a reconciliation to the previously published income statement are disclosed in Note 1.

b) Additionally effective 1 January 2024, the Diagnostics Division has changed its internal customer areas. Consequently the comparative 2023 sales by customer areas information has also been restated in these Interim Financial Statements. Near Patient Care provides diagnostics solutions in decentralised settings such as in emergency rooms, general practitioners' practices and directly with patients, and includes integrated personalised diabetes management solutions.

Revenue from other sources primarily relates to lease revenue in the Diagnostics Division and collaboration revenue for which the counterparty is not considered a customer, such as income from profit-sharing agreements with collaboration partners in the Pharmaceuticals Division.

Gross-to-net sales reconciliation for the Pharmaceuticals Division

The gross-to-net sales reconciliation for the Pharmaceuticals Division is shown in the table below. The companies in the Diagnostics Division have similar reconciling items, but at much lower amounts.

Pharmaceuticals Division sales gross-to-net reconciliation in millions of CHF

	Six months ended 30 June	
	2024	2023
Gross sales	29,546	28,908
Government and regulatory mandatory price reductions	(3,507)	(3,357)
Contractual price reductions	(2,666)	(2,358)
Cash discounts	(170)	(159)
Customer returns reserves	(171)	(143)
Others	(395)	(380)
Net sales	**22,637**	**22,511**

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements.

Government and regulatory mandatory price reductions. These consist of mandatory price reductions. The major elements are the 340B Drug Discount Program, Medicaid and other plans in the US, which totalled USD 3.0 billion equivalent to CHF 2.7 billion (six months ended 30 June 2023: USD 2.8 billion equivalent to CHF 2.5 billion).

Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume based and performance based.

Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.

Customer returns reserves. These are allowances established for expected product returns.

Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables. Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities. Provisions for sales returns are recorded in the balance sheet as other provisions.

4. Net financial expense

Financing costs in millions of CHF

	Six months ended 30 June 2024	2023
Interest expense	(601)	(393)
Amortisation of debt discount [11]	(5)	(4)
Fair value loss on treasury locks designated as cash flow hedges – transferred from OCI	(1)	(1)
Net gains (losses) on debt derivatives	(1)	0
Net gains (losses) on redemption and repurchase of bonds and notes [11]	0	0
Discount unwind	(12)	(8)
Net interest cost of defined benefit plans	(69)	(76)
Interest expense on lease liabilities	(19)	(8)
Total financing costs	**(708)**	**(490)**

Other financial income (expense) in millions of CHF

	Six months ended 30 June 2024	2023
Net gains (losses) on equity investments/securities at fair value through profit or loss	9	34
Net income (expense) from equity investments/securities	**9**	**34**
Interest income (expense) from debt securities at fair value through OCI and at amortised cost	112	66
Net gains (losses) on sale of debt securities at fair value through OCI	0	0
Net gains (losses) on debt investments/securities at fair value through profit or loss	0	3
Net gains (losses) on fund investments at fair value through profit or loss	2	0
Net interest income (expense) and income from debt investments/securities and fund investments	**114**	**69**
Net foreign exchange gains (losses)	(20)	(273)
Net gains (losses) on foreign currency derivatives	(124)	134
Foreign exchange gains (losses)	**(144)**	**(139)**
Gains (losses) on net monetary position in hyperinflationary economies	(89)	(48)
Net other financial income (expense)	(2)	(2)
Associates	(28)	(14)
Total other financial income (expense)	**(140)**	**(100)**

Net financial expense in millions of CHF

	Six months ended 30 June 2024	2023
Financing costs	(708)	(490)
Other financial income (expense)	(140)	(100)
Net financial expense	**(848)**	**(590)**
Financial result from treasury management	(751)	(500)
Financial result from pension management	(69)	(76)
Associates	(28)	(14)
Net financial expense	**(848)**	**(590)**

5. Income taxes

Income tax expense is recognised based upon management's best estimate of the weighted average annual income tax rate expected for the full financial year multiplied by the pre-tax income for the six months ended 30 June 2024.

Income tax expense in millions of CHF

	Six months ended 30 June	
	2024	2023
Current income taxes	(2,160)	(2,112)
Pillar Two income taxes	(186)	–
Deferred taxes	820	501
Total income tax (expense)	**(1,526)**	**(1,611)**

The Group's effective tax rate for the six months ended 30 June 2024 increased to 18.6% (six months ended 30 June 2023: 17.6%). The increase was mainly due to the impact from Pillar Two top-up taxes, which have been effective from 1 January 2024 in various countries where the Group operates. The impairments of certain intangible assets that are not tax deductible further increased the Group's effective tax rate. This was in part offset by a higher percentage of profit contribution in the six months ended 30 June 2024 coming from tax jurisdictions with tax rates lower than the Group's average tax rate.

6. Mergers and acquisitions

Business combinations – 2024

Carmot Therapeutics, Inc. On 26 January 2024 the Group acquired a 100% controlling interest in Carmot Therapeutics, Inc. ('Carmot'), a privately owned US company based in Berkeley, California. With the acquisition, the Group obtained access to Carmot's current research and development portfolio, which includes three clinical-stage product candidates to treat obesity and diabetes, as well as a number of preclinical programmes. Carmot's lead product candidate, CT-388, is a phase II-ready dual GLP-1/GIP receptor agonist for the treatment of overweight and obese patients with comorbidities. Carmot is reported in the Pharmaceuticals Division. The total consideration was USD 3,094 million, of which USD 2,913 million was paid in cash and USD 181 million arose from a contingent consideration arrangement. The contingent payments are based on the achievement of predetermined performance-related milestones, and the range of undiscounted outcomes is between zero and USD 400 million.

The identifiable assets acquired and liabilities assumed are set out in the table below. The amounts are provisional based on preliminary information and valuations of the assets and liabilities and are subject to adjustment during the second half of 2024.

Business combinations – 2024: net assets acquired in millions of CHF

	Carmot
Property, plant and equipment	2
Right-of-use assets	5
Intangible assets	
– Product intangibles: in use[9]	23
– Product intangibles: not available for use[9]	1,757
Deferred tax assets	89
Cash and cash equivalents	70
Marketable securities	114
Lease liabilities	(5)
Deferred tax liabilities	(392)
Other net assets (liabilities)	(1)
Net identifiable assets	**1,662**
Goodwill[8]	1,021
Total consideration	**2,683**
Cash	2,526
Contingent consideration[16]	157
Total consideration	**2,683**

The intangible assets not available for use also include Carmot's CT-868, a dual GLP-1/GIP receptor agonist in phase II intended for the treatment of type 1 diabetes patients with overweight or obesity, and CT-996, a small-molecule GLP-1 receptor agonist currently in phase I intended to treat obesity in patients with and without type 2 diabetes. The fair value of Carmot's product intangible assets not available for use was determined using an excess earning method that is based on management forecasts and observable market data for discount rates, tax rates and foreign exchange rates. The present value was calculated using a risk-adjusted discount rate of 10.0%. The valuations were performed by an independent valuer.

Goodwill represents the synergistic opportunity for combinations of the acquired assets with the Group's existing research and development pipeline, including those focused on other benefits, such as preserving muscle mass. Carmot's incretin-based portfolio could also be expanded to other indications where incretins play a role including cardiovascular, retinal and neurodegenerative diseases. Goodwill also represents a control premium and a number of preclinical programmes that do not qualify for separate recognition of intangible assets. None of the goodwill is expected to be deductible for income tax purposes.

Directly attributable transaction costs of CHF 2 million were reported in the Pharmaceuticals operating segment within other operating income (expense).

In the five months to 30 June 2024 Carmot contributed no material revenue and a net loss (after tax) of CHF 27 million to the results reported for the Pharmaceuticals Division and the Group. If the acquisition had occurred on 1 January 2024, management estimates that it would have contributed no material revenue and a net loss (after tax) of CHF 34 million during the six months ended 30 June 2024. This information is provided for illustrative purposes only and is not necessarily indicative of the results of the Group that would have occurred had Carmot actually been acquired at the beginning of the year, or indicative of the future results of the Group.

Business combinations – 2023

The Group did not complete any business combinations during the six months ended 30 June 2023.

Cash flows from business combinations

Business combinations: net cash outflows in millions of CHF

	Six months ended 30 June 2024			Six months ended 30 June 2023		
	Pharmaceuticals	Diagnostics	Total	Pharmaceuticals	Diagnostics	Total
Cash consideration paid	(2,526)	0	(2,526)	0	0	0
Deferred consideration paid	0	0	0	0	0	0
Contingent consideration paid	0	0	0	0	0	0
Cash in acquired company	70	0	70	0	0	0
Total net cash outflows	**(2,456)**	**0**	**(2,456)**	**0**	**0**	**0**

Asset acquisitions – 2024

The Group did not complete any asset acquisitions during the six months ended 30 June 2024.

Asset acquisitions – 2023

The Group did not complete any asset acquisitions during the six months ended 30 June 2023.

Cash flows from asset acquisitions

Asset acquisitions: net cash outflows in millions of CHF

	Six months ended 30 June 2024			Six months ended 30 June 2023		
	Pharmaceuticals	Diagnostics	Total	Pharmaceuticals	Diagnostics	Total
Cash consideration paid	0	0	0	0	0	0
Cash in acquired company	0	0	0	0	0	0
Contingent payments related to previous acquisitions	0	0	0	0	0	0
Total net cash outflows	**0**	**0**	**0**	**0**	**0**	**0**

For asset acquisitions previously closed, during the six months ended 30 June 2024 the Group did not record any additions to product intangible assets related to contingent payments for the achievement of performance-related milestones (six months ended 30 June 2023: none).

Future business combinations

LumiraDx. On 29 December 2023 the Group announced the entry into a definitive agreement to acquire a 100% controlling interest in selected subsidiaries of LumiraDx Limited ('LumiraDx'), a company incorporated under the laws of the Cayman Islands, as part of a pre-packaged UK administration sale. With the acquisition, the Group will obtain access to LumiraDx's point-of-care technology which combines multiple diagnostic modalities on a single platform. The transaction is subject to certain conditions including antitrust and regulatory approvals. The closing of the transaction is currently expected to take place in the second half of 2024. LumiraDx will be reported in the Diagnostics Division. The cash consideration to be paid at the acquisition date will be USD 295 million (subject to customary closing adjustments) and an additional payment of up to USD 69 million for the reimbursement of amounts to fund the point-of-care technology platform business until the closing of the acquisition.

Future divestments

Divestment of Vacaville facility. In May 2023 the Group announced plans to exit its legacy Genentech manufacturing facility in Vacaville, California, as part of a broader strategy to evolve its manufacturing capabilities in line with future pipeline requirements. On 20 March 2024 the Group announced a definitive agreement with Lonza Group AG ('Lonza') under which Lonza will acquire this facility for USD 1.2 billion in conjunction with a manufacturing agreement and related quality services and warehousing. Subject to the completion of applicable regulatory approvals and transition preparations, the transaction is expected to close in the second half of 2024. As of 30 June 2024 and 31 December 2023 the assets and certain liabilities directly associated with the Vacaville manufacturing plant were classified as held for sale.

Assets held for sale and liabilities directly associated with assets held for sale in millions of CHF

	30 June 2024	31 December 2023
Property, plant and equipment	738	684
Right-of-use assets	8	8
Other assets	2	0
Assets held for sale	**748**	**692**
Lease liabilities	(8)	(8)
Liabilities directly associated with assets held for sale	**(8)**	**(8)**
Net assets held for sale	**740**	**684**

7. Global restructuring plans

During the six months ended 30 June 2024 the Group continued the implementation of various global restructuring plans initiated in 2024 and prior years.

Global restructuring plans: costs incurred in millions of CHF

	Six months ended 30 June	
	2024	2023
Global restructuring costs		
– Employee-related costs	269	236
– Site closure and other costs related to physical assets	142	279
– Divestment of products and businesses	0	0
– Other reorganisation expenses	351	163
Total global restructuring costs	**762**	**678**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	0	0
Total costs	**762**	**678**

The Pharmaceuticals Division incurred restructuring costs of CHF 454 million, primarily for research and development optimisation initiatives, manufacturing network strategy and a business process transformation programme to simplify the systems landscape. The Diagnostics Division incurred costs of CHF 60 million for research and development productivity initiatives, manufacturing and supply chain optimisations and business transformations to drive organisational and commercial effectiveness. This was partly offset by reversals of unused restructuring provisions following the completion of certain optimisation plans within the division. Corporate costs were CHF 248 million and included a business process transformation to simplify the systems landscape and reduce process complexity. This transformation is a multi-year cross-divisional programme to drive efficiency gains through system and process optimisation.

Global restructuring plans: summary of costs incurred in millions of CHF

	Six months ended 30 June 2024	2023
Termination costs	157	174
Defined benefit plans	0	0
Other employee-related costs	112	62
Total employee-related costs	**269**	**236**
Impairment of property, plant and equipment and right-of-use assets	45	18
Accelerated depreciation of property, plant and equipment and right-of-use assets	22	35
(Gains) losses on disposal of property, plant and equipment and right-of-use assets	4	9
Other site closure costs	71	217
Total site closure and other costs related to physical assets	**142**	**279**
Divestment of products and businesses		
– (Gains) losses on divestment of subsidiaries	0	0
– Other (gains) losses on divestment of products and businesses	0	0
Total costs on divestment of products and businesses	**0**	**0**
Other reorganisation expenses	351	163
Total global restructuring costs	**762**	**678**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	0	0
Total costs	**762**	**678**

Global restructuring plans: classification of costs in millions of CHF

	Six months ended 30 June 2024			Six months ended 30 June 2023		
	Depreciation, amortisation and impairment	Other costs	Total	Depreciation, amortisation and impairment	Other costs	Total
Cost of sales						
– Pharmaceuticals	2	80	82	26	201	227
– Diagnostics	7	(9)	(2)	8	52	60
Research and development						
– Pharmaceuticals	27	144	171	14	15	29
– Diagnostics	2	42	44	0	25	25
Selling, general and administration						
– Pharmaceuticals	19	181	200	5	130	135
– Diagnostics	7	10	17	0	33	33
– Corporate	3	245	248	0	162	162
Other operating income (expense)						
– Pharmaceuticals	0	1	1	0	1	1
– Diagnostics	0	1	1	0	6	6
– Corporate	0	0	0	0	0	0
Total costs	**67**	**695**	**762**	**53**	**625**	**678**
Total by operating segment						
– Roche Pharmaceuticals	48	384	432	40	248	288
– Chugai	0	22	22	5	99	104
– Diagnostics	16	44	60	8	116	124
– Corporate	3	245	248	0	162	162
Total costs	**67**	**695**	**762**	**53**	**625**	**678**

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements.

8. Goodwill

Goodwill: movements in carrying value of assets in millions of CHF

Six months ended 30 June 2024	
At 1 January 2024	9,390
Business combinations [6]	1,021
Currency translation effects	584
At 30 June 2024	**10,995**
Allocated by operating segment	
Roche Pharmaceuticals	6,051
Chugai	62
Diagnostics	4,882
Total Group	**10,995**

Impairment charges – 2024

There were no impairments of goodwill during the six months ended 30 June 2024.

Impairment charges – 2023

There were no impairments of goodwill during the six months ended 30 June 2023.

9. Intangible assets

Intangible assets: movements in carrying value of assets in millions of CHF

	Product intangibles: in use	Product intangibles: not available for use	Other intangibles	Total
Six months ended 30 June 2024				
At 1 January 2024	3,435	10,803	590	14,828
Business combinations [6]	23	1,757	0	1,780
Additions	67	187	26	280
Transfers	2	(2)	0	–
Amortisation charge	(311)	–	(47)	(358)
Impairment charge	(444)	(561)	(46)	(1,051)
Currency translation effects	162	638	30	830
At 30 June 2024	**2,934**	**12,822**	**553**	**16,309**
Allocated by operating segment				
Roche Pharmaceuticals	1,797	12,415	427	14,639
Chugai	7	16	3	26
Diagnostics	1,130	391	123	1,644
Total Group	**2,934**	**12,822**	**553**	**16,309**

Classification of intangible asset amortisation and impairment expenses in millions of CHF

Six months ended 30 June	Amortisation 2024	Amortisation 2023	Impairment 2024	Impairment 2023
Cost of sales				
– Pharmaceuticals	(107)	(123)	(318)	0
– Diagnostics	(68)	(68)	0	0
Research and development				
– Pharmaceuticals	(169)	(151)	(733)	(260)
– Diagnostics	(3)	(4)	0	0
Selling, general and administration				
– Pharmaceuticals	(3)	(5)	0	0
– Diagnostics	(8)	(10)	0	0
Total	**(358)**	**(361)**	**(1,051)**	**(260)**

Effective 1 January 2024, the operational responsibility for the Foundation Medicine business was moved to the Diagnostics Division from the Pharmaceuticals Division. Accordingly, from 1 January 2024 the results of the Foundation Medicine business are reported as part of the Diagnostics Division, and the comparative 2023 information has been restated in these Interim Financial Statements.

Impairment charges – 2024

Pharmaceuticals Division. Impairment charges totalling CHF 1,051 million were recorded. The major items related to:

- A charge of CHF 354 million for three separate assets following decisions to stop the development of these compounds with the respective alliance partners. The assets concerned, which were not yet being amortised, were fully written down.
- A charge of CHF 318 million for the partial impairment of the product intangible asset for Rozlytrek, acquired as part of the Ignyta acquisition, due to reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 222 million. The intangible asset in use continues to be amortised over its remaining estimated useful life of seven and a half years.
- A charge of CHF 152 million following the decision to terminate the development of a compound and the collaboration with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 120 million following the decision to terminate the development of a programme and the collaboration with an alliance partner. The asset concerned, which was being amortised, was fully written down.

Impairment charges – 2023

Pharmaceuticals Division. Impairment charges totalling CHF 260 million were recorded. The major items related to:

- A charge of CHF 87 million following a delay in clinical trials and revised sales expectations of a compound purchased separately. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 82 million following a clinical data assessment and the decision to stop part of the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 65 million following a clinical data assessment and the decision to stop part of the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 141 million.

10. Provisions and contingent liabilities

Provisions in millions of CHF

	30 June 2024	31 December 2023
Legal provisions	149	126
Environmental provisions	360	361
Restructuring provisions	818	851
Contingent consideration provisions [16]	281	95
Other provisions	1,335	1,310
Total provisions	**2,943**	**2,743**
Current	1,774	1,684
Non-current	1,169	1,059
Total provisions	**2,943**	**2,743**

During the six months ended 30 June 2024 CHF 469 million of provisions were utilised (six months ended 30 June 2023: CHF 505 million), which are included in the cash flow from operating activities and mainly related to the utilisation of restructuring and other provisions.

As part of the regular review of litigation matters, management has reassessed the provisions recorded for certain litigation matters. Based on the development of the various litigations, there was a net increase in legal provisions of CHF 22 million during the six months ended 30 June 2024.

Other than as described below, no significant changes in the Group's contingent liabilities for legal cases have occurred since the approval of the Annual Financial Statements by the Board of Directors.

Avastin/Lucentis investigations. The matters related to the Avastin/Lucentis investigations are described in Note 20 to the Annual Financial Statements. In September 2021 Roche received an administrative fine letter from the Turkish Competition Authority ('TCA'). In its investigation the TCA alleges that Roche and Novartis entered into a cartel aiming at preventing off-label applications of Avastin in order to foster on-label applications of Lucentis. In October 2021 the fine of TRY 85 million was paid under protest to avoid additional penalty fees. Roche filed an appeal against the decision. On 30 January 2023 the Ankara Administrative Court issued its ruling in the Group's favour. As a result, the TCA reimbursed the fine and an income of TRY 85 million was recorded in other operating income (expense) in 2023. In April 2023 the TCA appealed this decision. This appeal was partially granted by the Objection Court on 14 June 2024. On 18 July 2024 Roche received TCA's summary decision about the new fine to be imposed. Roche will appeal this decision. The Group is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Iraqi Ministry of Health. The litigation related to the Iraqi Ministry of Health is described in Note 20 to the Annual Financial Statements. On 30 June 2023 defendants filed a petition for certiorari to the US Supreme Court on the merits asking the US Supreme Court to grant, vacate and remand for further proceedings as a result of another of its recent decisions on the US Anti-Terrorism Act, which was granted on 24 June 2024. The judgment is vacated and the case is remanded to the US Court of Appeals for the District of Columbia Circuit for further consideration. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

University of Pennsylvania litigation. The litigation related to the patent litigation action filed by the University of Pennsylvania against Genentech, Inc. ('Genentech') is described in Note 20 to the Annual Financial Statements. A jury trial is scheduled for March 2025. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

There have been certain procedural developments in the significant litigation matters described in Note 20 to the Annual Financial Statements. These do not significantly affect the assessment of the Group's management concerning the adequacy of the total provisions recorded for legal matters.

11. Debt

Debt: movements in carrying value of recognised liabilities in millions of CHF

Six months ended 30 June 2024	
At 1 January 2024	29,209
Proceeds from issue of bonds and notes	4,852
Redemption and repurchase of bonds and notes	(1,849)
Increase (decrease) in commercial paper	713
Increase (decrease) in other debt	40
Changes from financing cash flows	**3,756**
Net (gains) losses on redemption and repurchase of bonds and notes [4]	0
Amortisation of debt discount [4]	5
Financing costs	**5**
Net foreign currency transaction (gains) losses	0
Currency translation effects	1,453
Changes in foreign exchange rates	**1,453**
Changes in fair values of hedging instruments	18
Other changes	0
At 30 June 2024	**34,441**
Bonds and notes	32,210
Commercial paper	1,624
Amounts due to banks and other financial institutions	606
Other borrowings	1
Total debt	**34,441**
Long-term debt	28,420
Short-term debt	6,021
Total debt	**34,441**

Unamortised discount included in the carrying value of bonds and notes at 30 June 2024 was CHF 78 million (30 June 2023: CHF 59 million).

Issuance of bonds and notes – 2024

On 8 March 2024 the Group completed an offering of USD 0.875 billion fixed rate notes with a coupon of 4.790%, USD 0.75 billion fixed rate notes with a coupon of 4.909%, USD 1.25 billion fixed rate notes with a coupon of 4.985% and USD 1.0 billion fixed rate notes with a coupon of 5.218%. The notes will mature on 8 March 2029, 8 March 2031, 8 March 2034 and 8 March 2054, respectively. The Group received CHF 3,392 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

On 3 May 2024 the Group completed an offering of EUR 0.65 billion fixed rate bonds with a coupon of 3.227% and EUR 0.85 billion fixed rate bonds with a coupon of 3.564%. The bonds will mature on 3 May 2030 and 3 May 2044, respectively. These bonds have a primary listing at the SIX Swiss Exchange. The Group received CHF 1,460 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Issuance of bonds and notes – 2023

On 27 February 2023 the Group completed an offering of EUR 0.75 billion fixed rate bonds with a coupon of 3.204% and EUR 0.5 billion fixed rate bonds with a coupon of 3.355%. The bonds will mature on 27 August 2029 and 27 February 2035, respectively. These bonds have a primary listing at the SIX Swiss Exchange. The Group received CHF 1,238 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Redemption and repurchase of bonds and notes – 2024

On the due date of 5 March 2024 the Group redeemed floating rate notes with a principal amount of USD 0.35 billion. The cash outflow was CHF 310 million, plus accrued interest. The effective interest rate of these notes was 2.85%.

Also on the due date of 5 March 2024 the Group redeemed the 0.45% fixed rate notes with a principal amount of USD 0.5 billion. The cash outflow was CHF 442 million, plus accrued interest. The effective interest rate of these notes was 0.49%.

On the due date of 8 March 2024 the Group redeemed the 1.882% fixed rate notes with a principal amount of USD 1.25 billion. The cash outflow was CHF 1,097 million, plus accrued interest. The effective interest rate of these notes was 1.95%.

Redemption and repurchase of bonds and notes – 2023

On the due date of 27 February 2023 the Group redeemed the 0.5% fixed rate notes with a principal amount of EUR 0.65 billion. The cash outflow was CHF 645 million, plus accrued interest. The effective interest rate of these notes was 0.63%.

Commercial paper

Roche Holdings, Inc. commercial paper program. Roche Holdings, Inc. has an established commercial paper program under which it can issue up to USD 7.5 billion of unsecured commercial paper notes guaranteed by Roche Holding Ltd. The committed credit line that is available as a back-stop supporting the commercial paper program is USD 7.5 billion at 30 June 2024. The maturity of the notes under the program cannot exceed 365 days from the date of issuance. At 30 June 2024 unsecured commercial paper notes with a principal amount of USD 1.8 billion and an average interest rate of 5.33% were outstanding.

Movements in commercial paper obligations in millions of CHF

Six months ended 30 June 2024	
At 1 January 2024	848
Net cash proceeds (payments)	713
Currency translation effects	63
At 30 June 2024	**1,624**

Amounts due to banks and other financial institutions

On 19 January 2024 the Group executed a short-term bridge facility agreement of USD 5.0 billion with banks for general corporate purposes including but not limited to mergers and acquisitions and repayments of maturing debts. The bridge facility had an initial maturity of six months and two extension options for three months each. On 26 January 2024 the Group utilised USD 2.85 billion of this bridge facility, of which USD 1.85 billion and USD 1.0 billion were repaid on 8 March 2024 and 3 May 2024, respectively.

12. Equity attributable to Roche shareholders

Share capital and non-voting equity securities (*Genussscheine*)

The authorised and issued share capital of the Group and the number of issued non-voting equity securities have not changed during the six months ended 30 June 2024. The weighted average number of shares and non-voting equity securities in issue during the six months ended 30 June 2024 was 797 million (six months ended 30 June 2023: 799 million).

Dividends

On 12 March 2024 the shareholders approved the distribution of a dividend of CHF 9.60 per share and non-voting equity security (2023: CHF 9.50) in respect of the 2023 business year. The distribution to holders of outstanding shares and non-voting equity securities totalled CHF 7,650 million (2023: CHF 7,590 million), which was recorded against retained earnings in the six months ended 30 June 2024.

Own equity instruments

Holdings of own equity instruments in number of shares and non-voting equity securities

	30 June 2024 (millions)	31 December 2023 (millions)
Shares	0.5	0.5
Non-voting equity securities	12.0	11.5
Total	**12.5**	**12.0**

Own equity instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (described in Note 27 to the Annual Financial Statements).

Retained earnings

In addition to net income attributable to Roche shareholders of CHF 6,258 million (six months ended 30 June 2023: CHF 7,137 million) and the dividend payments described above, retained earnings also include net gains on remeasurements of defined benefit plans of CHF 339 million, after tax (six months ended 30 June 2023: gains of CHF 131 million, after tax). These were based on updated actuarial calculations for major plans, and the net gains were mainly due to a positive performance of plan assets in Switzerland and higher discount rates for plans in the eurozone and the US compared to the start of the interim period. For the Swiss plans, the higher fair value of plan assets was partially offset by an increase of the defined benefit obligation due to lower discount rates compared to the end of 2023. The resulting increase in the limit on asset recognition on the surplus in certain defined benefit plans in Switzerland reduced the net gains on remeasurements of defined benefit plans recorded in the six months ended 30 June 2024.

13. Subsidiaries and associates

Chugai

Chugai is a fully consolidated subsidiary of the Group and at 30 June 2024 the Group's interest in Chugai was 61.1% (31 December 2023: 61.1%). The common stock of Chugai is publicly traded and is listed on the Tokyo Stock Exchange under the stock code 'TSE:4519'. Chugai prepares financial statements in accordance with IFRS Accounting Standards that are filed on a quarterly basis with the Tokyo Stock Exchange.

The dividends distributed to third parties holding Chugai shares during the six months ended 30 June 2024 totalled CHF 150 million (six months ended 30 June 2023: CHF 173 million) and were recorded against non-controlling interests. Dividends paid by Chugai to Roche are eliminated on consolidation as intercompany items.

14. Earnings per share and non-voting equity security

Basic earnings per share and non-voting equity security

	Six months ended 30 June	
	2024	2023
Net income attributable to Roche shareholders (CHF millions)	**6,258**	**7,137**
Number of outstanding shares (millions)	107	107
Number of outstanding non-voting equity securities (millions)	703	703
Weighted average number of own shares and non-voting equity securities held (millions)	(13)	(11)
Weighted average number of outstanding shares and non-voting equity securities used to calculate basic earnings per share (millions)	**797**	**799**
Basic earnings per share and non-voting equity security (CHF)	**7.85**	**8.93**

Diluted earnings per share and non-voting equity security

	Six months ended 30 June	
	2024	2023
Net income attributable to Roche shareholders (CHF millions)	6,258	7,137
Increase in non-controlling interests' share of Group net income, assuming all outstanding Chugai stock options exercised (CHF millions)	0	0
Net income used to calculate diluted earnings per share (CHF millions)	**6,258**	**7,137**
Weighted average number of outstanding shares and non-voting equity securities (millions)	797	799
Adjustment for assumed exercise of equity compensation plans, where dilutive (millions)	5	5
Weighted average number of outstanding shares and non-voting equity securities used to calculate diluted earnings per share (millions)	**802**	**804**
Diluted earnings per share and non-voting equity security (CHF)	**7.80**	**8.87**

15. Statement of cash flows

Cash generated from operations in millions of CHF

	Six months ended 30 June 2024	2023
Net income	6,697	7,563
Add back non-operating (income) expense		
– Financing costs [4]	708	490
– Other financial (income) expense [4]	140	100
– Income taxes [5]	1,526	1,611
Operating profit	**9,071**	**9,764**
Depreciation of property, plant and equipment [2]	1,134	1,228
Depreciation of right-of-use assets [2]	162	161
Amortisation of intangible assets [2]	358	361
Impairment of goodwill [2]	0	0
Impairment of intangible assets [2]	1,051	260
Impairment (reversal) of property, plant and equipment [2]	54	40
Impairment (reversal) of right-of-use assets [2]	26	2
Operating (income) expense for defined benefit plans	261	240
Operating expense for equity-settled equity compensation plans	407	383
Net (income) expense for provisions	397	(56)
Bad debt (reversal) expense	10	9
Inventory write-downs	194	283
Net (gain) loss on disposal of products	(353)	(585)
Other adjustments	0	1
Cash generated from operations	**12,772**	**12,091**

Dividends paid in millions of CHF

	Six months ended 30 June 2024	2023
Dividends to Roche shareholders	(7,650)	(7,590)
Dividends to non-controlling shareholders		
– Chugai	(150)	(173)
– Other non-controlling interests	(58)	0
Increase (decrease) in dividends payable	2	1
Dividend withholding tax	(33)	(27)
Total	**(7,889)**	**(7,789)**

16. Financial risk management

The Group's financial risk management objectives and policies are consistent with those disclosed in Note 31 to the Annual Financial Statements.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2 – observable inputs other than quoted prices in active markets for identical assets and liabilities.
- Level 3 – unobservable inputs.

Fair value hierarchy of financial instruments in millions of CHF

	Level 1	Level 2	Level 3	Total
At 30 June 2024				
Marketable securities:				
– Equity securities at fair value through profit or loss	1	–	–	1
– Debt securities at fair value through OCI	533	5	–	538
– Money market instruments at fair value through OCI	27	3,369	–	3,396
Derivative financial instruments	–	164	–	164
Equity investments at fair value through OCI	362	7	–	369
Equity, debt and fund investments at fair value through profit or loss	95	186	36	317
Financial assets recognised at fair value	**1,018**	**3,731**	**36**	**4,785**
Derivative financial instruments	–	(489)	–	(489)
Contingent consideration	–	–	(281)	(281)
Financial liabilities recognised at fair value	**–**	**(489)**	**(281)**	**(770)**

At 30 June 2024 Level 1 financial assets consisted of bonds, treasury bills and quoted shares. Level 2 financial assets consisted primarily of commercial paper, certificates of deposit and derivative financial instruments.

The Group determines Level 2 fair values using the following valuation techniques:

- Marketable securities and derivative financial instruments are based on valuation models that use observable market data for interest rates, yield curves, foreign exchange rates and implied volatilities for similar instruments at the measurement date.
- Equity and debt investments at fair value through OCI and at fair value through profit or loss are based on a valuation model that uses the most recently published observable market data.

The Group recognises transfers between levels of the fair value hierarchy as at the end of the reporting period during which the transfer occurred. There were no significant transfers between Level 1 and Level 2 during the six months ended 30 June 2024.

Level 3 fair values

Details of the determination of Level 3 fair value measurements are set out below.

Contingent consideration arrangements in millions of CHF

Six months ended 30 June 2024	
At 1 January 2024	(95)
Arising from business combinations [6]	(157)
Utilised for settlements [6]	0
Total gains and losses included in the income statement	
– Unused amounts reversed – recorded within other operating income (expense)	0
– Additional amounts created – recorded within other operating income (expense)	(15)
– Discount unwind included in financing costs	(5)
Total gains and losses included in other comprehensive income	
– Currency translation effects	(9)
At 30 June 2024	**(281)**

Contingent consideration arrangements

The Group is party to certain contingent consideration arrangements, including those from business combinations. The fair values of contingent consideration from business combinations are determined considering the expected payments and, where payments are expected to be made beyond the next 12 months, discounted to present value using a risk-adjusted average discount rate of 4.9% at 30 June 2024 (31 December 2023: 4.9%). The expected payments are determined by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario and the probability of each scenario. The significant unobservable inputs are the forecast sales, other performance criteria and the risk-adjusted discount rate. The estimated fair value would increase if the forecast sales or other performance criteria rates were higher or the risk-adjusted discount rate was lower. At 30 June 2024 the total potential payments under contingent consideration arrangements arising from business combinations could be up to CHF 0.7 billion (31 December 2023: CHF 0.3 billion).

Carrying value and fair value

At 30 June 2024 the carrying value of bonds and notes was CHF 32.2 billion compared to a fair value of CHF 30.9 billion and the carrying value of total debt was CHF 34.4 billion compared to a fair value of CHF 33.2 billion. The carrying values of financial assets are a reasonable approximation of the fair values at 30 June 2024.

Independent Auditor's Report on the Review of Interim Consolidated Financial Statements

to the Board of Directors of Roche Holding Ltd, Basel

Introduction

We have been engaged to review the accompanying consolidated income statement and consolidated statement of comprehensive income of Roche Holding Ltd for the six-month period ended 30 June 2024, the related consolidated balance sheet as at 30 June 2024, the consolidated statements of cash flows and changes in equity for the six-month period then ended, and selected explanatory notes (the interim consolidated financial statements) on pages 44 to 75. The Board of Directors is responsible for the preparation and presentation of these interim consolidated financial statements in accordance with International Accounting Standard 34 *Interim Financial Reporting*. Our responsibility is to express a conclusion on these interim consolidated financial statements based on our review.

Scope of Review

We conducted our review in accordance with the International Standard on Review Engagements 2410, *Review of Interim Financial Information Performed by the Independent Auditor of the Entity*. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the accompanying interim consolidated financial statements as at 30 June 2024 are not prepared, in all material respects, in accordance with International Accounting Standard 34 *Interim Financial Reporting*.

KPMG AG

François Rouiller
Licensed Audit Expert

Paul Nichols

Basel, 23 July 2024

KPMG AG, Grosspeteranlage 5, CH-4002 Basel

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Roche Group Consolidated Financial Statements

Roche Group consolidated income statement for the year ended 31 December 2023 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	44,612	14,104	–	58,716
Other revenue [2, 3]	1,667	58	–	1,725
Revenue [2, 3]	**46,279**	**14,162**	**–**	**60,441**
Cost of sales	(9,083)	(7,274)	–	(16,357)
Research and development [2]	(12,352)	(1,848)	–	(14,200)
Selling, general and administration	(7,945)	(3,042)	(3,894)	(14,881)
Other operating income (expense)	233	173	(14)	392
Operating profit [2]	**17,132**	**2,171**	**(3,908)**	**15,395**
Financing costs [4]				(996)
Other financial income (expense) [4]				(320)
Profit before taxes				**14,079**
Income taxes [5]				(1,721)
Net income				**12,358**
Attributable to				
– Roche shareholders [22]				11,498
– Non-controlling interests [24]				860
Earnings per share and non-voting equity security [29]				
Basic (CHF)				14.40
Diluted (CHF)				14.31

Roche Group consolidated income statement for the year ended 31 December 2022 (restated)[a] in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales[2, 3]	45,551	17,730	–	63,281
Other revenue[2, 3]	2,465	68	–	2,533
Revenue[2, 3]	**48,016**	**17,798**	**–**	**65,814**
Cost of sales	(11,040)	(8,697)	–	(19,737)
Research and development[2]	(13,384)	(1,841)	–	(15,225)
Selling, general and administration	(7,598)	(3,170)	(3,433)	(14,201)
Other operating income (expense)	772	59	(6)	825
Operating profit[2]	**16,766**	**4,149**	**(3,439)**	**17,476**
Financing costs[4]				(665)
Other financial income (expense)[4]				(484)
Profit before taxes				**16,327**
Income taxes[5]				(2,796)
Net income				**13,531**
Attributable to				
– Roche shareholders[22]				12,421
– Non-controlling interests[24]				1,110
Earnings per share and non-voting equity security[29]				
Basic (CHF)				15.52
Diluted (CHF)				15.37

a) Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. The information for 2022 has been restated accordingly. Details and a reconciliation to the previously published income statement are disclosed in Note 34.

Roche Group consolidated statement of comprehensive income in millions of CHF

	Year ended 31 December 2023	2022
Net income recognised in income statement	**12,358**	**13,531**
Other comprehensive income (OCI)		
Remeasurements of defined benefit plans [22]	(123)	546
Fair value changes on equity investments at fair value through OCI [22]	(64)	30
Items that will never be reclassified to the income statement	**(187)**	**576**
Fair value changes on debt securities at fair value through OCI [22]	13	(33)
Cash flow hedges [22]	(12)	(62)
Currency translation of foreign operations [22]	(2,644)	(1,703)
Items that are or may be reclassified to the income statement	**(2,643)**	**(1,798)**
Other comprehensive income, net of tax	**(2,830)**	**(1,222)**
Total comprehensive income	**9,528**	**12,309**
Attributable to		
– Roche shareholders [22]	9,272	11,738
– Non-controlling interests [24]	256	571
Total	**9,528**	**12,309**

Roche Group consolidated balance sheet in millions of CHF

	31 December 2023	31 December 2022	31 December 2021
Non-current assets			
Property, plant and equipment [8]	21,724	23,075	23,163
Right-of-use assets [28]	1,215	1,133	1,249
Goodwill [9]	9,390	10,820	10,809
Intangible assets [10]	14,828	9,685	12,117
Deferred tax assets [5]	6,882	6,427	5,583
Defined benefit plan assets [26]	1,019	957	1,498
Other non-current assets [15]	1,964	2,238	2,271
Total non-current assets	**57,022**	**54,335**	**56,690**
Current assets			
Inventories [11]	7,749	8,605	7,715
Accounts receivable [12]	11,021	11,606	10,806
Current income tax assets [5]	344	313	320
Other current assets [16]	3,130	3,525	3,755
Marketable securities [13]	5,134	4,776	6,181
Cash and cash equivalents [14]	5,376	4,991	6,850
Assets held for sale [6]	692	0	0
Total current assets	**33,446**	**33,816**	**35,627**
Total assets	**90,468**	**88,151**	**92,317**
Non-current liabilities			
Long-term debt [21]	(24,809)	(21,391)	(16,076)
Deferred tax liabilities [5]	(593)	(645)	(628)
Defined benefit plan liabilities [26]	(4,379)	(4,561)	(6,103)
Provisions [20]	(1,059)	(1,111)	(1,442)
Other non-current liabilities [18]	(1,541)	(1,189)	(1,307)
Total non-current liabilities	**(32,381)**	**(28,897)**	**(25,556)**
Current liabilities			
Short-term debt [21]	(4,400)	(3,960)	(15,122)
Current income tax liabilities [5]	(2,257)	(3,187)	(3,002)
Provisions [20]	(1,684)	(2,248)	(2,526)
Accounts payable [17]	(4,325)	(4,556)	(4,637)
Other current liabilities [19]	(12,150)	(13,288)	(13,129)
Liabilities directly associated with assets held for sale [6]	(8)	0	0
Total current liabilities	**(24,824)**	**(27,239)**	**(38,416)**
Total liabilities	**(57,205)**	**(56,136)**	**(63,972)**
Total net assets	**33,263**	**32,015**	**28,345**
Equity			
Capital and reserves attributable to Roche shareholders [22]	29,315	27,992	24,489
Equity attributable to non-controlling interests [24]	3,948	4,023	3,856
Total equity	**33,263**	**32,015**	**28,345**

Roche Group consolidated statement of cash flows in millions of CHF

	Year ended 31 December 2023	2022 (restated)[a]
Cash flows from operating activities		
Cash generated from operations [30]	22,617	26,030
(Increase) decrease in net working capital	(1,107)	(2,418)
Payments made for defined benefit plans [26]	(743)	(655)
Utilisation of provisions [20]	(1,052)	(1,052)
Other operating cash flows	0	0
Income taxes paid [5]	(3,620)	(4,102)
Total cash flows from operating activities	**16,095**	**17,803**
Cash flows from investing activities		
Purchase of property, plant and equipment	(3,742)	(3,449)
Purchase of intangible assets	(907)	(1,103)
Disposal of property, plant and equipment	173	82
Disposal of intangible assets	0	0
Disposal of products	558	612
Business combinations [6]	0	0
Asset acquisitions [6]	(6,220)	(245)
Divestment of subsidiaries	1	1
Interest received (paid) and dividends received on marketable securities and other investments [30]	168	32
Sales of equity securities and debt securities	125	148
Purchases of equity securities and debt securities	(87)	(271)
Sales (purchases) of money market instruments and time accounts over three months, net	(745)	1,250
Other investing cash flows	33	19
Total cash flows from investing activities	**(10,643)**	**(2,924)**
Cash flows from financing activities		
Proceeds from issue of bonds and notes [21]	8,167	8,442
Redemption and repurchase of bonds and notes [21]	(1,751)	(1,750)
Increase (decrease) in commercial paper [21]	(806)	1,293
Increase (decrease) in other debt [21]	175	(13,683)
Hedging and collateral arrangements	155	(526)
Interest paid	(770)	(557)
Principal portion of lease liabilities paid [30]	(339)	(405)
Dividends paid [30]	(7,926)	(7,832)
Equity-settled equity compensation plans, net of transactions in own equity [27]	(1,144)	(1,257)
Other financing cash flows	0	0
Total cash flows from financing activities	**(4,239)**	**(16,275)**
Net effect of currency translation on cash and cash equivalents	(828)	(463)
Increase (decrease) in cash and cash equivalents	**385**	**(1,859)**
Cash and cash equivalents at 1 January	4,991	6,850
Cash and cash equivalents at 31 December [14]	**5,376**	**4,991**

a) Effective 1 January 2023, certain line items in the statement of cash flows for 2022 have been reclassified following certain presentational changes the Group made. Details and a reconciliation to the previously published statement of cash flows are disclosed in Note 34.

Roche Group consolidated statement of changes in equity in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total	Non-controlling interests	Total equity
Year ended 31 December 2022								
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489	3,856	28,345
Net income recognised in income statement	–	12,421	–	–	–	12,421	1,110	13,531
Net change in fair value – financial assets at fair value through OCI	–	0	(2)	–	–	(2)	(1)	(3)
Cash flow hedges	–	–	–	(37)	–	(37)	(25)	(62)
Currency translation of foreign operations	–	–	3	5	(1,189)	(1,181)	(522)	(1,703)
Remeasurements of defined benefit plans	–	537	–	–	–	537	9	546
Total comprehensive income	**–**	**12,958**	**1**	**(32)**	**(1,189)**	**11,738**	**571**	**12,309**
Dividends	–	(7,446)	–	–	–	(7,446)	(406)	(7,852)
Share capital reduction [22]	(53)	53	–	–	–	–	–	–
Equity compensation plans, net of transactions in own equity	–	(786)	–	–	–	(786)	(1)	(787)
Changes in non-controlling interests [24]	–	(3)	–	–	–	(3)	3	–
At 31 December 2022	**107**	**38,937**	**(59)**	**(92)**	**(10,901)**	**27,992**	**4,023**	**32,015**
Year ended 31 December 2023								
At 1 January 2023	107	38,937	(59)	(92)	(10,901)	27,992	4,023	32,015
Net income recognised in income statement	–	11,498	–	–	–	11,498	860	12,358
Net change in fair value – financial assets at fair value through OCI	–	(11)	(40)	–	–	(51)	0	(51)
Cash flow hedges	–	–	–	(7)	–	(7)	(5)	(12)
Currency translation of foreign operations	–	–	2	9	(2,051)	(2,040)	(604)	(2,644)
Remeasurements of defined benefit plans	–	(128)	–	–	–	(128)	5	(123)
Total comprehensive income	**–**	**11,359**	**(38)**	**2**	**(2,051)**	**9,272**	**256**	**9,528**
Dividends	–	(7,590)	–	–	–	(7,590)	(334)	(7,924)
Equity compensation plans, net of transactions in own equity	–	(358)	–	–	–	(358)	2	(356)
Changes in non-controlling interests [24]	–	(1)	–	–	–	(1)	1	–
At 31 December 2023	**107**	**42,347**	**(97)**	**(90)**	**(12,952)**	**29,315**	**3,948**	**33,263**

Notes to the Roche Group Consolidated Financial Statements

1. General accounting principles

Basis of preparation

The consolidated financial statements (hereafter 'the Annual Financial Statements') of the Roche Group have been prepared in accordance with International Financial Reporting Standards (IFRS Accounting Standards) and comply with Swiss law. They have been prepared using the historical cost convention except for items that are required to be accounted for at fair value. They were approved for issue by the Board of Directors on 29 January 2024 and are subject to approval by the Annual General Meeting of shareholders on 12 March 2024.

These financial statements are the Annual Financial Statements of Roche Holding Ltd, a company registered in Switzerland, and its subsidiaries ('the Group').

A list of the accounting policies adopted by the Group in the preparation of the Annual Financial Statements and the changes in accounting policies in 2023 are provided in Note 34.

Key accounting judgements, estimates and assumptions

The preparation of the Annual Financial Statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities and contingent amounts. Actual outcomes could differ from those management estimates. The estimates and underlying assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors. Revisions to estimates are recognised in the period in which the estimate is revised. The following are considered to be the key accounting judgements, estimates and assumptions made and are believed to be appropriate based upon currently available information.

Revenue. The nature of the Group's business is such that many sales transactions do not have a simple structure and may consist of various performance obligations that are satisfied at different times. Contracts entered into in the Diagnostics Division typically include performance obligations for instruments (including those provided under leasing arrangements), reagents and other consumables, and services. Instruments may be sold in cash sales transactions at discounted prices. Where instruments are provided under operating lease arrangements, some or the entire lease revenue may be variable and subject to subsequent reagents sales. Major sources of estimation uncertainty are related to measurement of sales, net of discounts, for the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise. Out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. These may be settled by a combination of upfront payments, milestone payments, other licensing fees, and reimbursements for services provided. Whether to consider these commitments as a single performance obligation or separate ones, or even being in scope of IFRS 15 'Revenues from Contracts with Customers', is not straightforward and requires some judgement. Depending on the conclusion, this may result in all revenue being calculated at inception and either being recognised at once or spread over the term of a longer performance obligation.

Major sources of estimation uncertainty are related to the measurement of sales, which are recorded net of allowances for estimated rebates, chargebacks, cash discounts and estimates of product returns, all of which are established at the time of sale. All product sales allowances are based on estimates of the amounts earned or to be claimed on the related sales. At 31 December 2023 the Group had CHF 4,804 million in provisions and accruals for expected sales returns, chargebacks and other rebates, including Medicaid in the US and similar rebates in other countries (2022: CHF 4,767 million). The provisions and accruals relating to the US pharmaceuticals business amounted to CHF 2,044 million (2022: CHF 2,120 million), of which CHF 422 million (2022: CHF 510 million) were associated with expected sales returns. These estimates take into consideration historical experience, current contractual and statutory requirements, specific known market events and trends such as competitive pricing and new product introductions, estimated inventory levels, and the shelf life of products. If actual future results vary, these estimates need to be adjusted, with an effect on sales and earnings in the period of the adjustment.

Business combinations. The Group initially recognises the fair value of identifiable assets acquired, the liabilities assumed, any non-controlling interest and the consideration transferred in a business combination. Management judgement is particularly involved in the assessment of whether or not the net assets acquired constitute a business and in the recognition and fair value measurement of intellectual property, inventories, contingent liabilities and contingent consideration. In making this assessment, management applies judgement in considering the underlying economic substance of the items concerned in addition to the contractual terms. When considered appropriate as a result from its judgement, management also applies the optional 'concentration test' as set out in IFRS 3 'Business Combinations' to aid the assessment of whether a transaction represents a business combination or is simply in substance the purchase of a single asset or group of similar assets.

Impairment of property, plant and equipment, right-of-use assets, goodwill and intangible assets. At 31 December 2023 the Group had CHF 21,724 million in property, plant and equipment (see Note 8), CHF 1,215 million in right-of-use assets (see Note 28), CHF 9,390 million in goodwill (see Note 9) and CHF 14,828 million in intangible assets (see Note 10). Goodwill and intangible assets not yet available for use are reviewed annually for impairment. Property, plant and equipment, right-of-use assets and intangible assets in use are assessed for impairment when there is a triggering event that provides evidence that an asset may be impaired. To assess whether any impairment exists, estimates of expected future cash flows are used. Actual outcomes could vary significantly from such estimates. Other estimates relate to factors such as changes in discount rates, the planned use of buildings, machinery or equipment or closure of facilities, the presence of competition, technical obsolescence and lower-than-anticipated product sales, which could lead to shorter useful lives or impairment.

Impairment of financial assets. At 31 December 2023 the Group had CHF 440 million in allowance for doubtful accounts for trade and lease receivables (see Note 12). Key estimates for the allowance for doubtful accounts are mainly related to risk of default and expected loss rates. For making these estimates, inputs selected to calculate the allowance for doubtful accounts are based on the company's past experience, existing market conditions as well as forward-looking estimates at the end of each reporting period.

Pensions and other post-employment benefits. The Group operates a number of defined benefit plans, and the fair values of the recognised plan assets and liabilities are based upon statistical and actuarial calculations. Key estimates are required for the measurement of the net defined benefit obligation, which is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. At 31 December 2023 the present value of the Group's defined benefit obligation was CHF 19,460 million (see Note 26). The actuarial assumptions used for those estimates may differ materially from actual results due to changes in market and economic conditions, longer or shorter lifespans of participants, and other changes in the factors being assessed. These differences could impact the defined benefit plan assets and liabilities recognised in the balance sheet in future periods.

Legal provisions. The Group provides for anticipated legal settlement costs when there is a probable outflow of resources that can be reliably estimated. Where no reliable estimate can be made, no provision is recorded and contingent liabilities are disclosed where material. At 31 December 2023 the Group had CHF 126 million in legal provisions. The status of significant legal cases is disclosed in Note 20. These estimates consider the specific circumstances of each legal case, relevant legal advice and are inherently uncertain due to the highly complex nature of legal cases. The estimates could change substantially over time as new facts emerge and each legal case progresses.

Environmental provisions. The Group provides for anticipated environmental remediation costs when there is a probable outflow of resources that can be reasonably estimated. At 31 December 2023 the Group had CHF 361 million in environmental provisions (see Note 20). Environmental provisions consist primarily of costs to fully clean and refurbish contaminated sites, including landfills, and to treat and contain contamination at certain other sites. These estimates are inherently uncertain as assumptions are required related to the detection of previously unknown contamination, the method and extent of remediation, the percentage of the problematic materials attributable to the Group at the remediation sites, and the financial capabilities of other potentially responsible parties. The estimates could change substantially over time as new facts emerge and each environmental remediation progresses.

Contingent consideration provisions. The Group makes provision for the estimated fair value of contingent consideration arrangements arising from business combinations. At 31 December 2023 the Group had CHF 95 million in contingent consideration provisions (see Note 20) and the total potential payments under contingent consideration arrangements from business combinations could be up to CHF 323 million (see Note 31). Key estimates are required to determine the amounts of the expected payments to be provided for, by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario, and the probability of each scenario, which is then discounted to a net present value. These estimates could change substantially over time as new facts emerge and each scenario develops.

Income taxes. At 31 December 2023 the Group had a current income tax net liability of CHF 1,913 million and a deferred tax net asset of CHF 6,289 million (see Note 5). Major sources of estimation uncertainty are related to the calculation of current and deferred tax assets and liabilities. Some of these estimates are based on interpretations of existing tax laws or regulations. Where tax positions are uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience. Factors that may have an impact on the estimates of current and deferred tax balances include changes in tax laws, regulations or rates, changing interpretations of existing tax laws or regulations, future levels of research and development spending and changes in pre-tax earnings.

Leases. Where the Group is the lessee, key judgements include assessing whether arrangements contain a lease and determining the lease term. To assess whether a contract contains a lease requires judgement about whether it depends on a specified asset, whether the Group obtains substantially all the economic benefits from the use of that asset, and whether the Group has a right to direct the use of the asset. In order to determine the lease term, judgement is required as extension and termination options have to be assessed along with all facts and circumstances that may create an economic incentive to exercise an extension option, or not exercise a termination option. Estimates include calculating the discount rate which is based on the incremental borrowing rate. At 31 December 2023 the Group had CHF 1,215 million in right-of-use assets and CHF 1,573 million in lease liabilities (see Note 28).

Where the Group is the lessor, the treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

Consolidation. The Group periodically undertakes transactions that may involve obtaining control or significant influence over other companies. These transactions include equity acquisitions, asset purchases and alliance agreements. In all such cases it requires judgement for management to make an assessment as to whether the Group has control or significant influence over the other company, and whether it should be consolidated as a subsidiary or accounted for as an associated company. In making this judgemental assessment, management considers the underlying economic substance of the transaction in addition to the contractual terms.

2. Operating segment information

The Group has two divisions, Pharmaceuticals and Diagnostics. Revenues are primarily generated from the sale of prescription pharmaceutical products and diagnostic instruments, reagents and consumables, respectively. Both divisions also derive revenues from the sale or licensing of products or technology to third parties. Residual operating activities from divested businesses and certain global activities are reported as 'Corporate'. These include the Corporate Executive Committee and global Group functions for informatics, communications, human resources, finance (including treasury and taxation), legal, safety and environmental services. Subdivisional information is also presented for the Roche Pharmaceuticals and Chugai operating segments within the Pharmaceuticals Division.

Divisional information in millions of CHF

	Pharmaceuticals		Diagnostics		Corporate		Group	
	2023	2022	2023	2022	2023	2022	2023	2022
Revenue from external customers								
Sales	44,612	45,551	14,104	17,730	–	–	58,716	63,281
Other revenue	1,667	2,465	58	68	–	–	1,725	2,533
Total	**46,279**	**48,016**	**14,162**	**17,798**	**–**	**–**	**60,441**	**65,814**
Revenue from other operating segments								
Sales	–	–	15	21	–	–	15	21
Other revenue	–	–	–	–	–	–	–	–
Elimination of interdivisional revenue							(15)	(21)
Total	**–**	**–**	**15**	**21**	**–**	**–**	**–**	**–**
Segment results								
Operating profit	17,132	16,766	2,171	4,149	(3,908)	(3,439)	15,395	17,476
Capital expenditure								
Business combinations	0	0	0	0	–	–	0	0
Asset acquisitions	6,219	240	0	51	–	–	6,219	291
Additions to property, plant and equipment	1,970	1,694	1,716	1,622	84	86	3,770	3,402
Additions to right-of-use assets	681	218	214	114	4	6	899	338
Additions to intangible assets	963	918	53	26	–	–	1,016	944
Total	**9,833**	**3,070**	**1,983**	**1,813**	**88**	**92**	**11,904**	**4,975**
Research and development								
Research and development costs	12,352	13,384	1,848	1,841	–	–	14,200	15,225
Other segment information								
Depreciation of property, plant and equipment	1,263	1,381	1,095	1,128	65	56	2,423	2,565
Depreciation of right-of-use assets	197	211	116	117	12	13	325	341
Amortisation of intangible assets	554	764	162	174	–	–	716	938
Impairment (reversal) of property, plant and equipment	277	108	73	15	0	0	350	123
Impairment (reversal) of right-of-use assets	319	5	0	0	0	0	319	5
Impairment of goodwill	591	0	0	0	–	–	591	0
Impairment of intangible assets	589	2,837	19	0	–	–	608	2,837
Equity compensation plan expenses	634	560	113	102	83	76	830	738

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. Details and a reconciliation to the previously published income statement are disclosed in Note 34.

Pharmaceuticals subdivisional information in millions of CHF

	Roche Pharmaceuticals 2023	Roche Pharmaceuticals 2022	Chugai 2023	Chugai 2022	Pharmaceuticals Division 2023	Pharmaceuticals Division 2022
Revenue from external customers						
Sales	40,867	40,602	3,745	4,949	44,612	45,551
Other revenue	1,577	1,710	90	755	1,667	2,465
Total	**42,444**	**42,312**	**3,835**	**5,704**	**46,279**	**48,016**
Revenue from other operating segments						
Sales	1,943	3,384	2,490	2,602	4,433	5,986
Other revenue	43	47	878	964	921	1,011
Elimination of income within division					(5,354)	(6,997)
Total	**1,986**	**3,431**	**3,368**	**3,566**	**–**	**–**
Segment results						
Operating profit	13,868	13,275	2,915	3,988	16,783	17,263
Elimination of results within division					349	(497)
Operating profit	**13,868**	**13,275**	**2,915**	**3,988**	**17,132**	**16,766**
Capital expenditure						
Business combinations	0	0	0	0	0	0
Asset acquisitions	6,219	240	0	0	6,219	240
Additions to property, plant and equipment	1,532	1,245	438	449	1,970	1,694
Additions to right-of-use assets	630	168	51	50	681	218
Additions to intangible assets	962	885	1	33	963	918
Total	**9,343**	**2,538**	**490**	**532**	**9,833**	**3,070**
Research and development						
Research and development costs	11,258	12,331	1,114	1,096	12,372	13,427
Elimination of costs within division					(20)	(43)
Total	**11,258**	**12,331**	**1,114**	**1,096**	**12,352**	**13,384**
Other segment information						
Depreciation of property, plant and equipment	1,108	1,209	155	172	1,263	1,381
Depreciation of right-of-use assets	166	177	31	34	197	211
Amortisation of intangible assets	544	749	10	15	554	764
Impairment (reversal) of property, plant and equipment	269	108	8	0	277	108
Impairment (reversal) of right-of-use assets	319	5	0	0	319	5
Impairment of goodwill	591	0	0	0	591	0
Impairment of intangible assets	569	2,837	20	0	589	2,837
Equity compensation plan expenses	632	557	2	3	634	560

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. Details and a reconciliation to the previously published income statement are disclosed in Note 34.

Net assets in millions of CHF

At 31 December	Assets 2023	Assets 2022	Assets 2021	Liabilities 2023	Liabilities 2022	Liabilities 2021	Net assets 2023	Net assets 2022	Net assets 2021
Net operating assets									
Pharmaceuticals	49,640	47,292	48,677	(13,134)	(14,736)	(15,262)	36,506	32,556	33,415
Diagnostics	20,484	21,593	21,459	(4,546)	(5,075)	(5,399)	15,938	16,518	16,060
Corporate	555	445	420	(884)	(600)	(618)	(329)	(155)	(198)
Total	**70,679**	**69,330**	**70,556**	**(18,564)**	**(20,411)**	**(21,279)**	**52,115**	**48,919**	**49,277**
Current income tax net assets (liabilities)							(1,913)	(2,874)	(2,682)
Deferred tax net assets (liabilities)							6,289	5,782	4,955
Defined benefit plan net assets (liabilities)							(3,360)	(3,604)	(4,605)
Lease liabilities							(1,573)	(1,193)	(1,354)
Marketable securities							5,134	4,776	6,181
Cash and cash equivalents							5,376	4,991	6,850
Debt							(29,209)	(25,351)	(31,198)
Other net assets (liabilities)							404	569	921
Total net assets							**33,263**	**32,015**	**28,345**

Net operating assets – Pharmaceuticals subdivisional information in millions of CHF

At 31 December	Assets 2023	Assets 2022	Assets 2021	Liabilities 2023	Liabilities 2022	Liabilities 2021	Net assets 2023	Net assets 2022	Net assets 2021
Roche Pharmaceuticals	46,077	43,036	44,860	(13,269)	(15,217)	(15,808)	32,808	27,819	29,052
Chugai	6,589	8,890	7,892	(1,157)	(1,910)	(1,700)	5,432	6,980	6,192
Elimination within division	(3,026)	(4,634)	(4,075)	1,292	2,391	2,246	(1,734)	(2,243)	(1,829)
Pharmaceuticals Division	**49,640**	**47,292**	**48,677**	**(13,134)**	**(14,736)**	**(15,262)**	**36,506**	**32,556**	**33,415**

Information by geographical area in millions of CHF

	Revenue from external customers				Non-current assets
	Sales	Other revenue	Property, plant and equipment	Right-of-use assets	Goodwill and intangible assets
2023					
Switzerland	679	439	6,395	39	2,686
Germany	2,867	26	4,012	51	1,195
Rest of Europe	9,703	0	884	179	610
Europe	**13,249**	**465**	**11,291**	**269**	**4,491**
United States	27,183	1,169	6,135	663	19,611
Rest of North America	837	1	7	16	18
North America	**28,020**	**1,170**	**6,142**	**679**	**19,629**
Latin America	2,971	0	381	37	0
Japan	4,374	90	2,528	77	92
Rest of Asia	8,890	0	1,282	122	6
Asia	**13,264**	**90**	**3,810**	**199**	**98**
Africa, Australia and Oceania	1,212	0	100	31	0
Total	**58,716**	**1,725**	**21,724**	**1,215**	**24,218**
2022					
Switzerland	683	432	6,394	47	2,535
Germany	3,295	23	4,032	28	1,262
Rest of Europe	10,326	0	913	194	741
Europe	**14,304**	**455**	**11,339**	**269**	**4,538**
United States	27,939	1,322	7,194	570	15,794
Rest of North America	1,101	1	15	16	20
North America	**29,040**	**1,323**	**7,209**	**586**	**15,814**
Latin America	2,870	0	322	42	4
Japan	5,695	755	2,697	91	138
Rest of Asia	9,852	0	1,410	105	11
Asia	**15,547**	**755**	**4,107**	**196**	**149**
Africa, Australia and Oceania	1,520	0	98	40	0
Total	**63,281**	**2,533**	**23,075**	**1,133**	**20,505**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 on other revenue has been restated accordingly. Details and a reconciliation to the previously published income statement are disclosed in Note 34.

Sales are allocated to geographical areas by destination according to the location of the customer. Other revenue is allocated according to the location of the Group company that receives the revenue.

Major customers

In total three US national wholesale distributors represent approximately a third of the Group's sales in 2023 and in 2022. The three US national wholesale distributors are McKesson Corp. with CHF 8 billion (2022: CHF 8 billion), Cencora, Inc. (formerly AmerisourceBergen Corp.) with CHF 7 billion (2022: CHF 7 billion) and Cardinal Health, Inc. with CHF 4 billion (2022: CHF 4 billion). Approximately 99% (2022: 97%) of these revenues were in the Roche Pharmaceuticals operating segment, with the residual in the Diagnostics operating segment.

3. Revenue

Disaggregated revenue information

Disaggregation of revenue in millions of CHF

	2023			2022		
	Revenue from contracts with customers	Revenue from other sources	Total	Revenue from contracts with customers	Revenue from other sources	Total
Pharmaceuticals Division						
Sales by therapeutic area						
Oncology	19,087	–	19,087	19,995	–	19,995
Neuroscience	8,445	–	8,445	7,817	–	7,817
Immunology	6,242	–	6,242	7,181	–	7,181
Haemophilia A	4,147	–	4,147	3,823	–	3,823
Ophthalmology[a)]	2,865	–	2,865	1,651	–	1,651
Infectious diseases	1,056	–	1,056	2,161	–	2,161
Other therapeutic areas[a)]	2,770	–	2,770	2,923	–	2,923
Sales	**44,612**	**–**	**44,612**	**45,551**	**–**	**45,551**
Royalty income	551	284	835	663	261	924
Profit-share income	0	695	695	0	689	689
Other income from collaboration and out-licensing agreements	124	0	124	842	0	842
Other	13	0	13	10	0	10
Other revenue	**688**	**979**	**1,667**	**1,515**	**950**	**2,465**
Diagnostics Division						
Sales by customer area						
Core Lab	7,210	540	7,750	7,170	605	7,775
Molecular Lab	2,121	99	2,220	3,339	111	3,450
Pathology Lab	1,296	92	1,388	1,229	89	1,318
Point of Care	1,349	30	1,379	3,557	32	3,589
Diabetes Care	1,365	2	1,367	1,595	3	1,598
Sales	**13,341**	**763**	**14,104**	**16,890**	**840**	**17,730**
Royalty income	43	0	43	42	19	61
Profit-share income	0	0	0	0	0	0
Other income from collaboration and out-licensing agreements	2	0	2	0	0	0
Other	7	6	13	1	6	7
Other revenue	**52**	**6**	**58**	**43**	**25**	**68**
Total	**58,693**	**1,748**	**60,441**	**63,999**	**1,815**	**65,814**

a) In 2023 sales of the 'Ophthalmology' therapeutic area included sales of Luxturna. These were previously shown as part of 'Other therapeutic areas'. The comparative information for 2022 has been restated accordingly. Sales of Luxturna for 2022 were CHF 46 million.

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. The comparative information for 2022 has been restated accordingly. Details and a reconciliation to the previously published income statement are disclosed in Note 34.

Revenue from other sources primarily relates to lease revenue and collaboration revenue for which the counterparty is not considered a customer, such as income from profit-sharing agreements with collaboration partners.

Gross-to-net sales reconciliation for the Pharmaceuticals Division

The gross-to-net sales reconciliation for the Pharmaceuticals Division is shown in the table below. The companies in the Diagnostics Division have similar reconciling items, but at much lower amounts.

Pharmaceuticals Division sales gross-to-net reconciliation in millions of CHF

	2023	2022
Gross sales	57,298	56,799
Government and regulatory mandatory price reductions	(6,762)	(5,943)
Contractual price reductions	(4,655)	(4,108)
Cash discounts	(311)	(279)
Customer returns reserves	(330)	(366)
Others	(628)	(552)
Net sales	**44,612**	**45,551**

Government and regulatory mandatory price reductions. These consist of mandatory price reductions. The major elements are the 340B Drug Discount Program, Medicaid and other plans in the US, which totalled USD 5.7 billion, equivalent to CHF 5.2 billion (2022: USD 4.9 billion, equivalent to CHF 4.7 billion).

Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume based and performance based.

Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.

Customer returns reserves. These are allowances established for expected product returns.

Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables (see Note 12). Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities (see Note 19). Provisions for sales returns are recorded in the balance sheet as other provisions (see Note 20).

Contract balances

Receivables in millions of CHF

	2023	2022	2021
Accounts receivable [12]	11,021	11,606	10,806
Other current receivables – contracts with customers [16]	633	686	646
Other non-current receivables – contracts with customers [15]	19	26	36
Total receivables	**11,673**	**12,318**	**11,488**

Other current receivables mainly include royalty and licensing receivables. At 31 December 2023 total receivables included lease receivables of 2% (2022: 2%, 2021: 2%) which are not considered receivables from contracts with customers.

Contract assets in millions of CHF

	2023	2022	2021
Accrued income and contract costs	168	208	763
Total contract assets	**168**	**208**	**763**

Contract liabilities in millions of CHF

	2023	2022	2021
Deferred income – non-current	216	238	233
Deferred income – current	604	601	560
Total contract liabilities	**820**	**839**	**793**

Movement in contract liabilities in millions of CHF

	2023	2022
At 1 January	839	793
Revenue recognised that was included in the contract liability balance at the beginning of the year	(772)	(585)
Increases due to cash received or receivable, excluding amounts recognised as revenue during the year	825	669
Currency translation effects	(72)	(38)
At 31 December	**820**	**839**

Revenue recognised in relation to performance obligations satisfied in previous years

In 2023 there was a decrease in revenue recognised of CHF 46 million (2022: increase in revenue of CHF 102 million) relating to performance obligations that had been satisfied in previous periods, mainly due to adjustments of sales deduction provisions and accruals for expected sales returns, chargebacks and other allowances in respect of previous years.

Remaining performance obligations in (partially) unsatisfied long-term contracts

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts in the Diagnostics Division that have minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Transaction price allocated to contracts with (partially) unsatisfied performance obligations in millions of CHF

	2023	2022
No contract liability held	4,097	3,248
Contract liability held	820	839
Total	**4,917**	**4,087**
Thereof expected to be recognised as revenue		
– Within one year	2,104	1,895
– Between one and five years	2,705	2,084
– More than five years	108	108
Total	**4,917**	**4,087**

4. Net financial expense

Financing costs in millions of CHF

	2023	2022
Interest expense	(797)	(588)
Amortisation of debt discount [21]	(8)	(4)
Fair value loss on treasury locks designated as cash flow hedges – transferred from OCI	(2)	(2)
Net gains (losses) on debt derivatives	3	0
Net gains (losses) on redemption and repurchase of bonds and notes [21]	0	0
Discount unwind, including effects from discount rate changes [20]	(19)	27
Net interest cost of defined benefit plans [26]	(150)	(82)
Interest expense on lease liabilities [28]	(23)	(16)
Total financing costs	**(996)**	**(665)**

Other financial income (expense) in millions of CHF

	2023	2022
Net gains (losses) on equity investments/securities at fair value through profit or loss	4	(79)
Net income (expense) from equity investments/securities	**4**	**(79)**
Interest income (expense) from debt securities at fair value through OCI and at amortised cost	195	40
Net gains (losses) on sale of debt securities at fair value through OCI	0	0
Net gains (losses) on debt investments/securities at fair value through profit or loss	2	(6)
Write-downs and impairments of debt securities	(1)	0
Net interest income (expense) and income from debt investments/securities	**196**	**34**
Net foreign exchange gains (losses)	(353)	230
Net gains (losses) on foreign currency derivatives	110	(508)
Foreign exchange gains (losses)	**(243)**	**(278)**
Gains (losses) on net monetary position in hyperinflationary economies	(233)	(70)
Net other financial income (expense)	(12)	(50)
Associates	(32)	(41)
Total other financial income (expense)	**(320)**	**(484)**

Net financial expense in millions of CHF

	2023	2022
Financing costs	(996)	(665)
Other financial income (expense)	(320)	(484)
Net financial expense	**(1,316)**	**(1,149)**
Financial result from treasury management	(1,134)	(1,026)
Financial result from pension management	(150)	(82)
Associates	(32)	(41)
Net financial expense	**(1,316)**	**(1,149)**

Hyperinflationary economies

The Group has considered Argentina (since 1 July 2018) and Türkiye (since 1 April 2022) to be hyperinflationary economies in the context of IAS 29 'Financial Reporting in Hyperinflationary Economies'. The cumulative inflation index exceeds 100% for Argentina over the last three years as measured by the National Wholesale Price Index (Sistema de Índices de Precios Mayoristas) and for Türkiye over the last two years as measured by the consumer price index published by the Turkish Statistical Institute.

Accordingly the Group has reviewed the reporting from its affiliates in Argentina and Türkiye, and where necessary restated them in line with IAS 29. The potential adjustments resulting from the application of IAS 29 do not have a significant impact on the Group's operating results and balance sheet. An adjustment is recorded for the gains (losses) on the net monetary positions, which is a loss of CHF 233 million resulting from the loss in purchasing power of the positive net monetary positions during 2023 of the Group's affiliates in Argentina and Türkiye (2022: loss of CHF 70 million).

5. Income taxes

Income tax expenses in millions of CHF

	2023	2022
Current income taxes	(2,831)	(4,454)
Deferred taxes	1,110	1,658
Total income tax (expense)	**(1,721)**	**(2,796)**

Since the Group operates internationally, it is subject to income taxes in many different tax jurisdictions. The Group calculates its average expected tax rate as a weighted average of the tax rates in the tax jurisdictions in which the Group operates. This rate changes from year to year due to changes in the mix of the Group's taxable income and changes in local tax rates.

The Group's average expected tax rate decreased to 17.8% in 2023 (2022: 18.7%). This was driven by the lower percentage of profit contribution coming from tax jurisdictions with tax rates higher than the average Group tax rate. During 2023 there were no significant changes to local tax rates in the tax jurisdictions in which the Group operates.

The Group's effective tax rate decreased to 12.2% in 2023 (2022: 17.1%). This was mainly due to the higher effect from the resolution of several tax disputes in 2023 compared to 2022 and the mix in the profit contribution mentioned above.

The Group's effective tax rate can be reconciled to the Group's average expected tax rate as follows:

Reconciliation of the Group's effective tax rate

	2023	2022
Average expected tax rate	17.8%	18.7%
Tax effect of		
– Non-taxable income/non-deductible expenses	+2.2%	+1.8%
– Equity compensation plans	+0.5%	+0.4%
– Research and development tax credits and other deductions	–3.9%	–3.0%
– US state tax impacts	+0.4%	+0.5%
– Tax on unremitted earnings	+0.2%	+0.1%
– Resolution of several tax disputes	–5.5%	–1.9%
– Prior-year and other differences	+0.5%	+0.5%
Group's effective tax rate	**12.2%**	**17.1%**

The income tax benefit recorded in respect of equity compensation plans, which varies according to the price of the underlying equity, was CHF 77 million (2022: CHF 58 million). Had the income tax benefits been recorded solely on the basis of the IFRS 2 expense multiplied by the applicable tax rate, then a benefit of approximately CHF 145 million (2022: CHF 126 million) would have been recorded.

Tax effects of other comprehensive income in millions of CHF

	2023			2022		
	Pre-tax amount	Tax	After-tax amount	Pre-tax amount	Tax	After-tax amount
Remeasurements of defined benefit plans	(164)	41	(123)	849	(303)	546
Equity investments at fair value through OCI	(72)	8	(64)	28	2	30
Debt securities at fair value through OCI	13	0	13	(35)	2	(33)
Cash flow hedges	(18)	6	(12)	(90)	28	(62)
Currency translation of foreign operations	(2,644)	–	(2,644)	(1,703)	–	(1,703)
Other comprehensive income	**(2,885)**	**55**	**(2,830)**	**(951)**	**(271)**	**(1,222)**

Income tax assets (liabilities) in millions of CHF

	2023	2022	2021
Current income taxes			
– Assets	344	313	320
– Liabilities	(2,257)	(3,187)	(3,002)
Net current income tax assets (liabilities)	**(1,913)**	**(2,874)**	**(2,682)**
Deferred taxes			
– Assets	6,882	6,427	5,583
– Liabilities	(593)	(645)	(628)
Net deferred tax assets (liabilities)	**6,289**	**5,782**	**4,955**

Current income tax liabilities include accruals for uncertain tax positions.

Current income taxes: movements in recognised net assets (liabilities) in millions of CHF

	2023	2022
Net current income tax asset (liability) at 1 January	(2,874)	(2,682)
Income taxes paid	3,620	4,102
(Charged) credited to the income statement	(2,831)	(4,454)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	3	59
Currency translation effects and other movements	169	101
Net current income tax asset (liability) at 31 December	**(1,913)**	**(2,874)**

Deferred taxes: movements in recognised net assets (liabilities) in millions of CHF

	Property, plant and equipment and right-of-use assets	Intangible assets	Defined benefit plans	Other temporary differences	Total
Year ended 31 December 2022					
At 1 January 2022	(942)	(448)	940	5,405	4,955
Asset acquisitions [6]	0	0	0	6	6
(Charged) credited to the income statement	(16)	1,624	128	(78)	1,658
(Charged) credited to other comprehensive income [22]	–	–	(303)	32	(271)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	–	–	–	(327)	(327)
Currency translation effects and other movements	33	(62)	(45)	(165)	(239)
At 31 December 2022	**(925)**	**1,114**	**720**	**4,873**	**5,782**
Year ended 31 December 2023					
At 1 January 2023	(925)	1,114	720	4,873	5,782
Asset acquisitions [6]	0	7	0	19	26
(Charged) credited to the income statement	2	1,181	(24)	(49)	1,110
(Charged) credited to other comprehensive income [22]	–	–	41	14	55
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	–	–	–	(46)	(46)
Currency translation effects and other movements	78	(183)	(55)	(478)	(638)
At 31 December 2023	**(845)**	**2,119**	**682**	**4,333**	**6,289**

The net deferred tax assets for other temporary differences mainly relate to accrued and other liabilities, including lease liabilities, provisions and unrealised profit in inventory.

Deferred tax assets are recognised for tax losses carried forward only to the extent that realisation of the related tax benefit is probable. The Group has unrecognised tax losses, including valuation allowances, as follows:

Unrecognised tax losses: expiry

	2023 Amount (CHF million)	2023 Applicable tax rate	2022 Amount (CHF million)	2022 Applicable tax rate
Within one year	558	12%	279	12%
Between one and five years	4,499	12%	3,433	12%
More than five years	6,650	6%	7,134	6%
Total unrecognised tax losses	**11,707**	**9%**	**10,846**	**8%**

The 'More than five years' category includes losses that cannot be used for US state income tax purposes in those states which only permit tax reporting on a separate entity basis.

Deferred tax liabilities have not been established for the withholding tax and other taxes that would be payable on the remittance of earnings of foreign subsidiaries, where such amounts are currently regarded as permanently reinvested for the purpose of these financial statements. The total unremitted earnings of the Group, regarded as permanently reinvested for the purpose of these financial statements, were CHF 26.4 billion at 31 December 2023 (2022: CHF 28.3 billion).

Pillar Two income taxes

The Organisation for Economic Co-operation and Development (OECD) has published Global Anti-Base Erosion (GloBE) Model Rules, which include a minimum tax of 15% by jurisdiction (Pillar Two). Various countries intend to enact or have enacted tax legislation to either fully or partially comply with Pillar Two.

The Group is within the scope of the OECD's Pillar Two. The Group is in the process of assessing its exposure to Pillar Two, which did not impact the 2023 results but will impact the results from 1 January 2024 onwards. On 22 December 2023 the Swiss government decided to partially implement Pillar Two by introducing a Qualified Domestic Minimum Top-up Tax (QDMTT) to reach the required taxation level of 15% on Pillar Two qualifying profits of subsidiaries in Switzerland effective from 1 January 2024. The Swiss government did not introduce the Income Inclusion Rule (IIR), which would require Switzerland to levy taxes on Pillar Two qualifying profits of subsidiaries in other countries not reaching the 15%. Based on the assessment to date and the shape of the business as at 1 January 2024, this global minimum tax regime is expected to increase the Group's tax rate in 2024.

6. Mergers and acquisitions

This note includes both transactions accounted for as business combinations and asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations under IFRS 3 and include those acquisitions where the value in these acquired companies largely consists of the rights to a single asset, such as a product or technology, or to a group of similar assets. Cash consideration paid for asset acquisitions at the transaction date and subsequent additional contingent payments made upon the achievement of performance-related development milestones are included as a separate line in the table 'Cash flows from asset acquisitions' as disclosed below. Subsequent consideration for performance-related development milestones for transactions treated as asset acquisitions is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met.

Future business combinations

Carmot Therapeutics, Inc. On 26 January 2024 the Group acquired a 100% controlling interest in Carmot Therapeutics, Inc. ('Carmot'), a privately owned US company based in Berkeley, California. With the acquisition, the Group obtained access to Carmot's current research and development portfolio, which includes three clinical-stage product candidates to treat obesity and diabetes, as well as a number of preclinical programmes. Carmot's lead product candidate, CT-388, is a phase II-ready dual GLP-1/GIP receptor agonist for the treatment of overweight and obese patients with comorbidities. Carmot will be reported in the Pharmaceuticals Division. The purchase consideration was USD 2.9 billion in cash and up to USD 0.4 billion from a contingent consideration arrangement. The contingent payments are based on the achievement of predetermined performance-related milestones. Given the recent acquisition date, the initial accounting for this transaction has not been completed at the time these Annual Financial Statements were approved for issue.

LumiraDx. On 29 December 2023 the Group announced the entry into a definitive agreement to acquire a 100% controlling interest in selected subsidiaries of LumiraDx Limited ('LumiraDx'), a company incorporated under the laws of the Cayman Islands, as part of a pre-packaged UK administration sale. With the acquisition, the Group will obtain access to LumiraDx's point-of-care technology which combines multiple diagnostic modalities on a single platform. The transaction is subject to certain conditions including antitrust and regulatory approvals. The closing of the transaction is currently expected to take place by mid-2024. LumiraDx will be reported in the Diagnostics Division. The cash consideration to be paid at the acquisition date will be USD 295 million (subject to customary closing adjustments) and an additional payment of up to USD 55 million for the reimbursement of amounts to fund the point-of-care technology platform business until the closing of the acquisition.

Business combinations – 2023

The Group did not complete any business combinations in 2023.

Business combinations – 2022

The Group did not complete any business combinations in 2022.

Cash flows from business combinations

Business combinations: net cash outflows in millions of CHF

	Pharmaceuticals	Diagnostics	2023 Total	Pharmaceuticals	Diagnostics	2022 Total
Cash consideration paid	0	0	0	0	0	0
Deferred consideration paid	0	0	0	0	0	0
Contingent consideration paid [20]	0	0	0	0	0	0
Cash in acquired company	0	0	0	0	0	0
Total net cash outflows	**0**	**0**	**0**	**0**	**0**	**0**

Asset acquisitions – 2023

Telavant Holdings, Inc. On 14 December 2023 the Group acquired a 100% controlling interest in Telavant Holdings, Inc. ('Telavant'), a US company owned by Roivant Sciences Ltd. ('Roivant') and Pfizer Inc. ('Pfizer') and based in New York. With the acquisition, the Group obtained full rights to further develop and manufacture RVT-3101 and commercialise it in the US and in Japan pending clinical and regulatory success. Outside of the US and Japan, Pfizer holds commercialisation rights. RVT-3101 is a phase III-ready novel TL1A-directed antibody for the treatment of inflammatory bowel disease, including ulcerative colitis and Crohn's disease, and potentially multiple other diseases. In addition, with the acquisition the Group obtained an option to enter into a global collaboration with Pfizer on a next-generation p40/TL1A-directed bispecific antibody which is currently in phase I. Telavant is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was USD 7.1 billion. An additional contingent payment of USD 150 million may be made based on the achievement of a predetermined performance-related near-term milestone.

Asset acquisitions – 2023: net assets acquired in millions of CHF

	Telavant
Intangible assets	
– Product intangibles: not available for use [10]	6,193
– Product intangibles: in use [10]	26
Deferred tax assets [5]	26
Cash and cash equivalents	1
Other net assets (liabilities)	(25)
Net identifiable assets	**6,221**
Total consideration	**6,221**
Cash	6,221
Total consideration	**6,221**

Asset acquisitions – 2022

Good Therapeutics, Inc. On 26 September 2022 the Group acquired a 100% controlling interest in Good Therapeutics, Inc. ('Good Therapeutics'), a privately owned US company based in Seattle, Washington. Good Therapeutics is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was USD 197 million. Additional contingent payments may be made based upon the achievement of performance-related milestones.

Asset acquisitions – 2022: net assets acquired in millions of CHF

	Good Therapeutics
Intangible assets	
– Product intangibles: not available for use	240
Deferred tax assets [5]	6
Cash and cash equivalents	0
Other net assets (liabilities)	0
Net identifiable assets	**246**
Fair value of previously held equity interest	(52)
Total consideration	**194**
Cash	194
Total consideration	**194**

Cash flows from asset acquisitions

Asset acquisitions: net cash outflows in millions of CHF

	2023			2022		
	Pharmaceuticals	Diagnostics	Total	Pharmaceuticals	Diagnostics	Total
Cash consideration paid	(6,221)	0	(6,221)	(194)	0	(194)
Cash in acquired company	1	0	1	0	0	0
Contingent payments related to previous acquisitions	0	0	0	0	(51)	(51)
Total net cash outflows	**(6,220)**	**0**	**(6,220)**	**(194)**	**(51)**	**(245)**

For asset acquisitions previously closed, in 2023 the Group did not record any additions to product intangible assets related to contingent payments for the achievement of performance-related milestones (2022: CHF 51 million).

Future divestments

In May 2023, the Group announced plans to exit its legacy Genentech manufacturing facility in Vacaville, California, as part of a broader strategy to evolve its manufacturing capabilities in line with future pipeline requirements. As of 31 December 2023 the assets and certain liabilities directly associated with the Vacaville manufacturing plant were classified as held for sale, as the Group is committed to a plan to sell, which is expected to be completed in 2024. This transaction is reported in the Pharmaceuticals Division.

Assets held for sale and liabilities directly associated with assets held for sale in millions of CHF

	2023	2022
Property, plant and equipment [8]	684	0
Right-of-use assets [28]	8	0
Assets held for sale	**692**	**0**
Lease liabilities [28]	(8)	0
Liabilities directly associated with assets held for sale	**(8)**	**0**
Net assets held for sale	**684**	**0**

7. Global restructuring plans

During 2023 the Group launched different productivity initiatives to reinvest in strategic areas and continued the implementation of various global restructuring plans initiated in prior years.

Global restructuring plans: costs incurred in millions of CHF

	2023	2022
Global restructuring costs		
– Employee-related costs	577	127
– Site closure and other costs related to physical assets	925	323
– Divestment of products and businesses	0	0
– Other reorganisation expenses	536	519
Total global restructuring costs	**2,038**	**969**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	0	(2)
Total costs	**2,038**	**967**

The Pharmaceuticals Division incurred restructuring costs of CHF 1,112 million (2022: CHF 788 million), with the major item being an infrastructure strategy optimisation programme resulting in costs of CHF 554 million, primarily consisting of impairment of right-of-use assets and property, plant and equipment at US sites. In addition, the manufacturing network strategy review incurred site closure costs of CHF 269 million mainly related to sites in the US (2022: CHF 178 million related to sites in the US, Switzerland and Germany). In 2022 the portfolio prioritisation programme incurred costs of CHF 221 million mainly related to the closure of studies.

The Diagnostics Division incurred costs of CHF 437 million (2022: CHF 75 million) for manufacturing and supply chain optimisations, research and development productivity initiatives and business transformations to drive organisational and commercial effectiveness. These costs mainly included CHF 191 million for employee-related matters as well as CHF 71 million primarily relating to impairments of property, plant and equipment at manufacturing sites and CHF 62 million of other reorganisation expenses.

Corporate costs were CHF 489 million (2022: CHF 104 million) and included the business process transformation to simplify the systems landscape and reduce process complexity. The transformation is a multi-year cross-divisional programme to drive efficiency gains through system and process optimisation.

Global restructuring plans: summary of costs incurred in millions of CHF

	2023	2022
Employee-related costs		
– Termination costs	425	(38)
– Defined benefit plans	(2)	(15)
– Other employee-related costs	154	180
Total employee-related costs	**577**	**127**
Site closure costs		
– Impairment (reversal) of property, plant and equipment and right-of-use assets	635	92
– Accelerated depreciation of property, plant and equipment and right-of-use assets	51	105
– (Gains) losses on disposal of property, plant and equipment and right-of-use assets	(63)	2
– Other site closure costs	302	124
Total site closure and other costs related to physical assets	**925**	**323**
Divestment of products and businesses		
– (Gains) losses on divestment of subsidiaries	0	0
– Other (gains) losses on divestment of products and businesses	0	0
Total costs on divestment of products and businesses	**0**	**0**
Other reorganisation expenses	536	519
Total global restructuring costs	**2,038**	**969**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	0	(2)
Total costs	**2,038**	**967**

Global restructuring plans: classification of costs in millions of CHF

	2023			2022		
	Depreciation, amortisation and impairment	Other costs	Total	Depreciation, amortisation and impairment	Other costs	Total
Cost of sales						
– Pharmaceuticals	56	260	316	145	106	251
– Diagnostics	68	164	232	13	31	44
Research and development						
– Pharmaceuticals	56	99	155	22	241	263
– Diagnostics	0	75	75	0	(2)	(2)
Selling, general and administration						
– Pharmaceuticals	503	218	721	17	244	261
– Diagnostics	3	121	124	0	34	34
– Corporate	0	490	490	0	105	105
Other operating income (expense)						
– Pharmaceuticals	0	(80)	(80)	0	13	13
– Diagnostics	0	6	6	0	(1)	(1)
– Corporate	0	(1)	(1)	0	(1)	(1)
Total costs	**686**	**1,352**	**2,038**	**197**	**770**	**967**
Total by operating segment						
– Roche Pharmaceuticals	611	470	1,081	162	577	739
– Chugai	4	27	31	22	27	49
– Diagnostics	71	366	437	13	62	75
– Corporate	0	489	489	0	104	104
Total costs	**686**	**1,352**	**2,038**	**197**	**770**	**967**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

8. Property, plant and equipment

Property, plant and equipment: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Construction in progress	Total
At 1 January 2022					
Cost	1,316	18,175	21,998	4,756	46,245
Accumulated depreciation and impairment	0	(8,289)	(14,691)	(102)	(23,082)
Net book value	**1,316**	**9,886**	**7,307**	**4,654**	**23,163**
Year ended 31 December 2022					
At 1 January 2022	1,316	9,886	7,307	4,654	23,163
Additions	2	125	946	2,329	3,402
Disposals	(1)	(6)	(84)	(3)	(94)
Transfers	(9)	1,925	1,127	(3,043)	–
Reclassification to assets held for sale[6]	0	0	0	0	0
Depreciation charge	–	(869)	(1,696)	–	(2,565)
Impairment reversal (charge)	0	0	(35)	(88)	(123)
Other	0	(2)	(59)	(6)	(67)
Currency translation effects	(60)	(178)	(276)	(127)	(641)
At 31 December 2022	**1,248**	**10,881**	**7,230**	**3,716**	**23,075**
Cost	1,248	19,806	22,494	3,891	47,439
Accumulated depreciation and impairment	0	(8,925)	(15,264)	(175)	(24,364)
Net book value	**1,248**	**10,881**	**7,230**	**3,716**	**23,075**
Year ended 31 December 2023					
At 1 January 2023	1,248	10,881	7,230	3,716	23,075
Additions	34	6	956	2,774	3,770
Disposals	(32)	(13)	(75)	(4)	(124)
Transfers	1	737	612	(1,350)	–
Reclassification to assets held for sale[6]	(29)	(433)	(184)	(38)	(684)
Depreciation charge	–	(829)	(1,594)	–	(2,423)
Impairment reversal (charge)	(1)	(207)	(105)	(37)	(350)
Other	0	15	(62)	(15)	(62)
Currency translation effects	(112)	(629)	(505)	(232)	(1,478)
At 31 December 2023	**1,109**	**9,528**	**6,273**	**4,814**	**21,724**
Cost	1,109	17,933	19,913	4,882	43,837
Accumulated depreciation and impairment	0	(8,405)	(13,640)	(68)	(22,113)
Net book value	**1,109**	**9,528**	**6,273**	**4,814**	**21,724**

Classification of impairment of property, plant and equipment in millions of CHF

	2023	2022
Cost of sales	(116)	(119)
Research and development	(32)	(3)
Selling, general and administration	(202)	(1)
Other operating income (expense)	0	0
Total impairment reversal (charge)	**(350)**	**(123)**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

In 2023 and 2022 impairments for property, plant and equipment were mainly related to global restructuring plans (see Note 7). Included in the 2023 impairment charge was a full write-off of CHF 221 million for leasehold improvements and equipment recorded by Foundation Medicine in relation to its leased buildings in Boston and San Diego, US. These valuations were determined using a fair value less costs of disposal calculation and classified as a Level 3 fair value in the fair value hierarchy. A post-tax discount rate of 3.5% was applied to the projected post-tax cash flows for the remaining contractual period of Foundation Medicine's lease agreements of approximately 8 to 15 years.

In 2023 reimbursements of CHF 3 million were received from insurance companies in respect of impairments to property, plant and equipment (2022: none). In 2023 no borrowing costs were capitalised as property, plant and equipment (2022: none).

At 31 December 2023 buildings and land improvements as well as machinery and equipment with an original cost of CHF 5.6 billion (2022: CHF 5.7 billion) and a net book value of CHF 1.6 billion (2022: CHF 1.6 billion) were being leased to third parties (see Note 28).

Capital commitments

The Group has non-cancellable capital commitments for the purchase or construction of property, plant and equipment totalling CHF 1.8 billion (2022: CHF 2.6 billion).

9. Goodwill

Goodwill: movements in carrying value of assets in millions of CHF

	2023	2022
At 1 January		
Cost	14,942	14,900
Accumulated impairment	(4,122)	(4,091)
Net book value	**10,820**	**10,809**
Year ended 31 December		
At 1 January	10,820	10,809
Impairment charge recorded within other operating income (expense)	(591)	0
Currency translation effects	(839)	11
At 31 December	**9,390**	**10,820**
Cost	13,781	14,942
Accumulated impairment	(4,391)	(4,122)
Net book value	**9,390**	**10,820**
Allocated to the following cash-generating units		
Roche Pharmaceuticals strategic transactions	4,379	5,388
Roche Pharmaceuticals product transactions	322	345
Chugai	66	77
Total Pharmaceuticals Division	**4,767**	**5,810**
Diagnostics customer areas	3,443	3,753
Diabetes Care customer area	80	85
Divisional goodwill	1,100	1,172
Total Diagnostics Division	**4,623**	**5,010**

Cash-generating units used for allocating goodwill

Pharmaceuticals Division. The basis for the use of the cash-generating units for allocating goodwill in the Pharmaceuticals Division is as follows:

- Within the Roche Pharmaceuticals operating segment, goodwill arises from three broad types of transactions:
  - Strategic transactions that have a transformative effect across the whole division.
  - Technology transactions where the acquired technologies can have a range of areas of applications.
  - Product transactions where the acquired products typically have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions is the Roche Pharmaceuticals operating segment.
- The cash-generating unit for the goodwill arising from technology transactions is also the Roche Pharmaceuticals operating segment. However, if the acquired technologies permanently cease to operate, then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions is the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same therapeutic area, then the revenues, costs and corresponding assets of these other products are also taken into account. If the acquired products permanently cease to generate economic benefits, then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- Chugai is a separate operating segment in the Group's financial reporting and a separate cash-generating unit to which goodwill is allocated.

The Group allocated the goodwill in the Roche Pharmaceuticals operating segment as listed below.
- Strategic transactions consist of Genentech (1990/1999), Flatiron Health (2018) and Spark Therapeutics (2019).
- Technology transactions consist of Therapeutic Human Polyclonals (2007), Dutalys (2014) and Santaris (2014).
- Product transactions consist of GlycArt (2005) and Tanox (2007).

Diagnostics Division. The basis for the use of the cash-generating units for allocating goodwill in the Diagnostics Division is as follows:
- Within the Diagnostics Division, goodwill arises from three broad types of transactions:
  - Strategic transactions that have a transformative effect across the whole division.
  - Technology transactions where the acquired technologies can have a range of areas of applications.
  - Product transactions where the acquired products either have synergistic benefits across the wider business or where they have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions is the Diagnostics Division.
- The cash-generating unit for the goodwill arising from technology transactions is either the Diagnostics customer areas or the Diabetes Care customer area. However, if the acquired technologies permanently cease to operate, then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions is the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same business, then the revenues, costs and corresponding assets of these other products are also taken into account and the cash-generating unit is either the Diagnostics customer areas or the Diabetes Care customer area. If the acquired products permanently cease to generate economic benefits, then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.

The Group allocated the goodwill in the Roche Diagnostics operating segment as listed below.
- Strategic transactions consist of Corange/Boehringer Mannheim (1997).
- Technology transactions consist of Viewics (2017) in the Diagnostics customer areas and mySugr (2017) in the Diabetes Care customer area.
- Product transactions in the Diagnostics customer areas consist of Igen (2004), BioVeris (2007), Ventana (2008), PVT (2011), IQuum (2014), GenMark (2021) and TIB Molbiol (2021).
- Product transactions in the Diabetes Care customer area consist of Disetronic (2003) and Medingo (2010).

Impairment charge – 2023

In October 2023 the Group announced that, effective 1 January 2024, the Foundation Medicine business will be moved under the responsibility of the Diagnostics Division from the Pharmaceuticals Division, while retaining Foundation Medicine's independence in this new reporting set-up. Consequently the Foundation Medicine business was from the time of the announcement no longer considered a strategic transaction for the Pharmaceuticals Division, in the context of accounting for goodwill, and was therefore considered to be a product transaction for the regular impairment testing carried out at the end of 2023. The result of this testing was that a full impairment of CHF 591 million was recorded for the goodwill from the Foundation Medicine acquisition. There was no surplus from the estimated future revenues of the Foundation Medicine business to support the carrying value of the goodwill, neither were there any significant future synergistic benefits to other products within the Pharmaceuticals Division. Accordingly the separable recoverable value of this goodwill was estimated to be zero and it has been fully impaired.

Impairment charge – 2022

There were no impairments of goodwill during 2022.

Value in use

Value in use is calculated using a discounted expected cash flow approach, with a post-tax discount rate applied to the projected risk-adjusted post-tax cash flows and terminal value. The discount rate is the Group's weighted average cost of capital as the cash-generating units have integrated operations across large parts of the Group. It is derived from a capital asset pricing model using data from capital markets, including government twenty-year bonds. For assessing value in use, the cash flow projections are based on the most recent long-term forecasts approved by management. The long-term forecasts include management's latest estimates on sales volume and pricing, as well as production and other operating costs and assume no significant changes in the organisation. Other key assumptions used in the calculations are the period of cash flow projections included in the long-term forecasts, the terminal value growth rate and the discount rate.

Key assumptions used in value-in-use calculations

	2023			2022		
	Period of cash flow projections	Terminal value growth rate	Discount rate (after tax)	Period of cash flow projections	Terminal value growth rate	Discount rate (after tax)
Pharmaceuticals Division	5 years	n/a	7.2%	5 years	n/a	7.5%
Diagnostics Division	5 years	1.5%	7.2%	5 years	1.5%	7.5%

For goodwill relating to Roche Pharmaceuticals product transactions, product-specific periods of cash flow projections are used. For cash-generating units with a terminal value growth, the respective rate does not exceed the long-term projected growth rate for the relevant market.

Fair value less costs of disposal

For goodwill arising from the Chugai acquisition, the fair value less costs of disposal is determined with reference to the publicly quoted price of Chugai shares.

Sensitivity analysis

Management has performed sensitivity analyses for Roche Pharmaceuticals and the Diagnostics Division, which increased the discount rate by 1% combined with decreasing the forecast cash flows by 5%, and for Chugai, which decreased the publicly quoted share prices by 5%. The results of the sensitivity analyses demonstrated that the above changes in the key assumptions would not cause the carrying values of goodwill to exceed the recoverable amounts at 31 December 2023.

10. Intangible assets

Intangible assets: movements in carrying value of assets in millions of CHF

	Product intangibles: in use	Product intangibles: not available for use	Other intangibles	Total
At 1 January 2022				
Cost	27,202	8,029	2,001	37,232
Accumulated amortisation and impairment	(21,212)	(2,503)	(1,400)	(25,115)
Net book value	**5,990**	**5,526**	**601**	**12,117**
Year ended 31 December 2022				
At 1 January 2022	5,990	5,526	601	12,117
Asset acquisitions	0	291	0	291
Additions	221	596	127	944
Disposals	0	0	0	0
Transfers	94	(94)	0	–
Amortisation charge	(847)	–	(91)	(938)
Impairment charge	(1,484)	(1,353)	0	(2,837)
Currency translation effects	96	13	(1)	108
At 31 December 2022	**4,070**	**4,979**	**636**	**9,685**
Cost	27,473	8,375	2,118	37,966
Accumulated amortisation and impairment	(23,403)	(3,396)	(1,482)	(28,281)
Net book value	**4,070**	**4,979**	**636**	**9,685**
Allocated by operating segment				
Roche Pharmaceuticals	2,705	4,571	529	7,805
Chugai	10	39	12	61
Diagnostics	1,355	369	95	1,819
Total Group	**4,070**	**4,979**	**636**	**9,685**
Year ended 31 December 2023				
At 1 January 2023	4,070	4,979	636	9,685
Asset acquisitions [6]	26	6,193	0	6,219
Additions	385	530	101	1,016
Disposals	0	0	0	0
Transfers	31	(31)	0	–
Amortisation charge	(616)	–	(100)	(716)
Impairment charge	(208)	(400)	0	(608)
Other	0	0	(1)	(1)
Currency translation effects	(253)	(468)	(46)	(767)
At 31 December 2023	**3,435**	**10,803**	**590**	**14,828**
Cost	25,934	14,321	1,966	42,221
Accumulated amortisation and impairment	(22,499)	(3,518)	(1,376)	(27,393)
Net book value	**3,435**	**10,803**	**590**	**14,828**
Allocated by operating segment				
Roche Pharmaceuticals	2,309	10,446	477	13,232
Chugai	4	17	5	26
Diagnostics	1,122	340	108	1,570
Total Group	**3,435**	**10,803**	**590**	**14,828**

Significant intangible assets at 31 December 2023 in millions of CHF

	Operating segment	Net book value	Remaining amortisation period
Product intangibles in use			
GenMark acquisition	Diagnostics	562	11 years
Rozlytrek (Ignyta acquisition)	Roche Pharmaceuticals	546	8 years
Xofluza (Shionogi in-licensing transaction)	Roche Pharmaceuticals	365	12 years
Product intangibles not available for use			
RVT-3101 (Telavant acquisition)	Roche Pharmaceuticals	5,998	n/a
Elevidys (Sarepta in-licensing transaction)	Roche Pharmaceuticals	815	n/a
SPK-8011 haemophilia A gene therapy (Spark Therapeutics acquisition)	Roche Pharmaceuticals	484	n/a
Inflazome acquisition	Roche Pharmaceuticals	359	n/a
Stratos Genomics acquisition	Diagnostics	326	n/a
Alnylam in-licensing transaction	Roche Pharmaceuticals	264	n/a
Good Therapeutics acquisition	Roche Pharmaceuticals	206	n/a
BioNTech in-licensing transaction	Roche Pharmaceuticals	196	n/a
Other intangibles – Technology intangibles in use			
Adaptive in-licensing transaction	Roche Pharmaceuticals	190	15 years

Classification of intangible asset amortisation and impairment expenses in millions of CHF

	Amortisation 2023	Amortisation 2022	Impairment 2023	Impairment 2022
Cost of sales				
– Pharmaceuticals	(244)	(415)	(183)	(1,472)
– Diagnostics	(136)	(145)	0	0
Research and development				
– Pharmaceuticals	(301)	(336)	(406)	(1,365)
– Diagnostics	(7)	(8)	(19)	0
Selling, general and administration				
– Pharmaceuticals	(9)	(13)	0	0
– Diagnostics	(19)	(21)	0	0
Total	**(716)**	**(938)**	**(608)**	**(2,837)**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

Internally generated intangible assets

At 31 December 2023 internally generated intangible assets relating to commercial software amounted to CHF 70 million (2022: CHF 32 million) and are included in other intangibles. Other than that the Group has no internally generated intangible assets from development as the criteria for the recognition as an asset are not met.

Intangible assets with indefinite useful lives

The Group currently has no intangible assets with indefinite useful lives.

Intangible assets not available for use

These mostly represent in-process research and development assets acquired either through in-licensing arrangements, business combinations, asset acquisitions or separate purchases. On 31 December 2023 approximately 28% (2022: 88%) of the projects in the Pharmaceuticals Division had known decision points within the next twelve months which, under certain circumstances, could lead to impairment. Excluding the product intangible RVT-3101 acquired as part of the Telavant acquisition, this percentage is 65%. Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment if the project is not expected to result in a commercialised product.

Intangible asset impairment

Impairment charges arise from changes in the estimates of the future cash flows expected to result from the use of the asset and its eventual disposal. Factors such as the presence or absence of competition, technical obsolescence or lower-than-anticipated sales for products with capitalised rights could result in shortened useful lives or impairment.

Impairment charges – 2023

Pharmaceuticals Division. Impairment charges totalling CHF 589 million were recorded. The major items related to:

- A charge of CHF 183 million for the partial impairment of the product intangible asset for Rozlytrek, acquired as part of the Ignyta acquisition, due to reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 546 million. The intangible asset in use continues to be amortised over its remaining estimated useful life of eight years.
- A charge of CHF 87 million following a delay in clinical trials and revised sales expectations of a compound purchased separately. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 82 million following a clinical data assessment and the decision to stop part of the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 65 million following a clinical data assessment and the decision to stop part of the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 137 million.
- A charge of CHF 61 million following the decision to stop a programme with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 57 million for the partial impairment of the product intangible asset for SPK-9001, a novel gene therapy for the treatment of haemophilia B that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 109 million.

Diagnostics Division. Impairment charges totalling CHF 19 million were recorded. The major items related to:

- A charge of CHF 19 million following the decision to deprioritise the development of the underlying asset with a collaboration partner. The asset concerned, which was being amortised, was fully written down.

Impairment charges – 2022

Pharmaceuticals Division. Impairment charges totalling CHF 2,837 million were recorded. The major items related to:

- A charge of CHF 663 million for the full impairment of the in-licensed Gavreto product intangible asset due to lower sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 519 million for the partial impairment of the product intangible asset for SPK-8011, a novel gene therapy for the treatment of haemophilia A that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 530 million.
- A charge of CHF 362 million for the full impairment of the product intangible asset for PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition. The impairment was due to the decision to stop development following a data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 336 million for the partial impairment of the product intangible asset relating to the technology acquired as part of the Flatiron acquisition. The impairment was a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 56 million. The intangible asset continues to be amortised over its remaining estimated useful life of ten years.
- A charge of CHF 292 million for the partial impairment of the product intangible asset for Rozlytrek, acquired as part of the Ignyta acquisition, due to lower sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 882 million. The intangible asset in use continues to be amortised over its remaining estimated useful life of nine years.
- A charge of CHF 117 million for the full impairment of the product intangible asset relating to Foundation Medicine's technology. The impairment was a result of increased competition and reduced sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 107 million for the partial impairment of the product intangible asset for SPK-9001, a novel gene therapy for the treatment of haemophilia B that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 178 million.
- A charge of CHF 100 million following a clinical data assessment and the decision to stop the development of CD25, acquired as part of the Tusk Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 95 million due to the decision to stop the development of a compound and the related collaboration with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 86 million following a clinical data assessment and the decision to stop the development of NLRP3 inhibitors, acquired as part of the Jecure Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 60 million for the partial impairment of the product intangible asset for Luxturna, acquired as part of the Spark Therapeutics acquisition. The impairment was a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 76 million. The intangible asset continues to be amortised over its remaining estimated useful life of five years.
- A charge of CHF 54 million for the full impairment of the product intangible asset for SPK-3006, a novel gene therapy for the treatment of late-onset Pompe disease that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of a change in timelines of the underlying development programme leading to reduced sales expectations. The asset concerned, which was not yet being amortised, was fully written down.

Potential commitments from alliance collaborations and intangible asset purchase agreements within the next three years

The Group is party to in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements.

The Group's current estimate of future third-party commitments for such potential payments within the next three years is set out in the table below. These figures are undiscounted and are not risk-adjusted, meaning that they include all such potential payments that can arise assuming all projects currently in development are successful. The timing is based on the Group's current best estimate. These figures do not include any potential commitments within the Group, such as may arise between the Roche and Chugai businesses.

Potential future third-party collaboration and purchase payments at 31 December 2023 in millions of CHF

	Pharmaceuticals	Diagnostics	Group
Within one year	940	34	974
Between one and two years	1,193	1	1,194
Between two and three years	584	60	644
Total	**2,717**	**95**	**2,812**

11. Inventories

Inventories in millions of CHF

	2023	2022	2021
Raw materials and supplies	1,698	1,949	1,547
Work in process	118	118	100
Intermediates	5,504	6,273	5,738
Finished goods	1,182	1,138	1,202
Allowances for slow-moving and obsolete inventory	(753)	(873)	(872)
Total inventories	**7,749**	**8,605**	**7,715**

Inventories expensed through cost of sales totalled CHF 12.3 billion (2022: CHF 14.4 billion). Inventory write-downs during the year resulted in an expense of CHF 643 million (2022: CHF 509 million).

12. Accounts receivable

Accounts receivable in millions of CHF

	2023	2022	2021
Trade receivables	12,076	12,613	11,965
Notes receivable	55	33	45
Other receivables	51	52	54
Allowances for doubtful accounts	(440)	(490)	(538)
Chargebacks and other allowances to be withheld upon settlement [3]	(721)	(602)	(720)
Total accounts receivable [3]	**11,021**	**11,606**	**10,806**

Allowances for doubtful accounts: movements in recognised allowance in millions of CHF

	2023	2022
At 1 January	(490)	(538)
Additional allowances created	(104)	(128)
Unused amounts reversed	125	156
Utilised during the year	10	11
Currency translation effects	19	9
At 31 December	**(440)**	**(490)**

Bad debt expenses recorded as selling, general and administration costs totalled CHF 6 million (2022: expense of CHF 3 million).

13. Marketable securities

Marketable securities in millions of CHF

	2023	2022	2021
Equity securities at fair value through profit or loss [31]	1	1	2
Debt securities at fair value through OCI [31]	512	583	494
Debt securities at fair value through profit or loss	0	0	71
Money market instruments at fair value through OCI [31]	2,359	3,811	2,816
Time accounts over three months at amortised costs [31]	2,262	381	2,798
Total marketable securities	**5,134**	**4,776**	**6,181**

Marketable securities are held for fund management purposes and are primarily denominated in US dollars, euros and in Swiss francs. Money market instruments are contracted to mature within one year of 31 December 2023.

Debt securities – contracted maturity in millions of CHF

	2023	2022	2021
Within one year	120	107	130
Between one and five years	387	453	358
More than five years	5	23	77
Total debt securities	**512**	**583**	**565**

14. Cash and cash equivalents

Cash and cash equivalents in millions of CHF

	2023	2022	2021
Cash – cash in hand and in current or call accounts	4,102	2,841	5,028
Cash equivalents – time accounts with a maturity of three months or less	1,274	2,150	1,822
Total cash and cash equivalents	**5,376**	**4,991**	**6,850**

15. Other non-current assets

Other non-current assets in millions of CHF

	2023	2022	2021
Equity investments at fair value through OCI [31]	249	356	328
Equity and debt investments at fair value through profit or loss [31]	298	315	410
Loans receivable	7	7	7
Restricted cash	1	1	1
Other receivables – contracts with customers [3]	19	26	36
Other receivables	87	92	90
Total financial non-current assets	**661**	**797**	**872**
Long-term employee benefits	188	193	234
Other assets	873	948	834
Total non-financial non-current assets	**1,061**	**1,141**	**1,068**
Associates	242	300	331
Total other non-current assets	**1,964**	**2,238**	**2,271**

Equity investments designated at fair value through OCI are mainly investments in private companies from the pharmaceutical sector which are held as part of the Group's strategic alliance efforts.

16. Other current assets

Other current assets in millions of CHF

	2023	2022	2021
Accrued interest income	20	6	12
Derivative financial instruments [31]	148	167	189
Cash collateral receivables	61	198	23
Other receivables – contracts with customers [3]	633	686	646
Other receivables	183	192	211
Total financial current assets	**1,045**	**1,249**	**1,081**
Prepaid expenses and accrued income	1,144	1,202	1,869
Other taxes recoverable	718	865	633
Other assets	223	209	172
Total non-financial current assets	**2,085**	**2,276**	**2,674**
Total other current assets	**3,130**	**3,525**	**3,755**

17. Accounts payable

Accounts payable in millions of CHF

	2023	2022	2021
Trade payables	3,524	3,861	3,844
Other taxes payable	539	421	519
Dividends payable	2	3	3
Other payables	260	271	271
Total accounts payable	**4,325**	**4,556**	**4,637**

18. Other non-current liabilities

Other non-current liabilities in millions of CHF

	2023	2022	2021
Deferred income	227	254	246
Lease liabilities [28]	1,282	891	1,025
Other long-term liabilities	32	44	36
Total other non-current liabilities	**1,541**	**1,189**	**1,307**

19. Other current liabilities

Other current liabilities in millions of CHF

	2023	2022	2021
Deferred income	614	601	560
Lease liabilities [28]	291	302	329
Accrued payroll and related items	2,995	3,117	3,399
Interest payable	187	140	102
Derivative financial instruments [31]	420	626	262
Cash collateral payables	11	18	40
Accrued chargebacks and other allowances separately payable [3]	3,602	3,577	3,486
Accrued royalties and commissions	968	1,380	1,294
Other accrued liabilities	3,062	3,527	3,657
Total other current liabilities	**12,150**	**13,288**	**13,129**

20. Provisions and contingent liabilities

Provisions: movements in recognised liabilities in millions of CHF

	Legal provisions	Environmental provisions	Restructuring provisions	Contingent consideration provisions	Other provisions	Total
Year ended 31 December 2022						
At 1 January 2022	372	447	1,427	141	1,581	3,968
Additional provisions created	33	12	149	2	868	1,064
Unused amounts reversed	(67)	(1)	(221)	(41)	(215)	(545)
Utilised	(23)	(51)	(488)	0	(490)	(1,052)
Discount unwind, including effects from discount rate changes [4]	0	(20)	(7)	(1)	1	(27)
Business combinations						
– Acquired companies	0	0	0	0	0	0
– Deferred consideration	–	–	–	–	0	0
– Contingent consideration	–	–	–	0	–	0
Asset acquisitions	0	0	0	–	0	0
Currency translation effects	1	(13)	(16)	2	(23)	(49)
At 31 December 2022	**316**	**374**	**844**	**103**	**1,722**	**3,359**
Current	307	88	419	38	1,396	2,248
Non-current	9	286	425	65	326	1,111
At 31 December 2022	**316**	**374**	**844**	**103**	**1,722**	**3,359**
Year ended 31 December 2023						
At 1 January 2023	316	374	844	103	1,722	3,359
Additional provisions created	45	61	450	0	877	1,433
Unused amounts reversed	(171)	(8)	(86)	(10)	(579)	(854)
Utilised	(48)	(53)	(337)	0	(614)	(1,052)
Discount unwind, including effects from discount rate changes [4]	0	10	3	6	0	19
Business combinations						
– Acquired companies	0	0	0	0	0	0
– Deferred consideration	–	–	–	–	0	0
– Contingent consideration	–	–	–	0	–	0
Asset acquisitions	0	0	0	–	0	0
Currency translation effects	(16)	(23)	(23)	(4)	(96)	(162)
At 31 December 2023	**126**	**361**	**851**	**95**	**1,310**	**2,743**
Current	120	77	468	35	984	1,684
Non-current	6	284	383	60	326	1,059
At 31 December 2023	**126**	**361**	**851**	**95**	**1,310**	**2,743**
Expected outflow of resources						
Within one year	120	77	468	35	984	1,684
Between one and two years	2	103	234	12	113	464
Between two and three years	1	75	92	26	47	241
More than three years	3	106	57	22	166	354
At 31 December 2023	**126**	**361**	**851**	**95**	**1,310**	**2,743**

In 2023 CHF 1,052 million of provisions were utilised (2022: CHF 1,052 million), which are included in the cash flows from operating activities.

Legal provisions

Legal provisions relate to a number of separate legal matters, including claims arising from trade, in various Group companies. By their nature the amounts and timings of any outflows are difficult to predict.

As part of the regular review of litigation matters, management has reassessed the provisions recorded for certain litigation matters. Based on the development of the various litigations, notably the Meso case, some of the provisions previously held were released which resulted in an income of CHF 171 million in 2023. In addition, a fine of CHF 59 million imposed by the French Competition Authority on the Avastin/Lucentis investigation in 2020 was reimbursed following a court decision. These were the major elements in the expenses for legal cases in 2023, which show a net income of CHF 182 million reported in other operating income (expense) (2022: net income of CHF 25 million). Details of the major legal cases outstanding are disclosed below.

Environmental provisions

Provisions for environmental matters relate to various separate environmental issues in a number of countries. By their nature the amounts and timings of any outflows are difficult to predict. At 31 December 2023 significant provisions were discounted by between 3% and 5% (2022: between 4% and 5%) where the time value of money was material. The significant provisions relate to the estimated remediation costs for the manufacturing site at Clarecastle, Ireland, which was shut down in the meantime, and to the US site in Nutley, New Jersey, which was divested in September 2016. In 2023 environmental provisions decreased by CHF 13 million, mainly due to utilisations and currency translation effects and partially offset by an increase in provisions. The net environmental expenses reported in other operating income (expense) in 2023 were CHF 60 million (2022: net expenses of CHF 3 million) and included an increase of provisions of CHF 61 million mainly for the Clarecastle site following a reassessment of the expected costs of the environmental remediation.

The Group's procedures on environmental protection are included in the Annual Report on pages 78 to 83. These include the actions taken by the Group with regard to climate change, notably the Group's commitment to reduce greenhouse gas emissions.

Restructuring provisions

These arise from planned programmes that materially change the scope of business undertaken by the Group or the manner in which business is conducted. Such provisions include only the costs necessarily entailed by the restructuring which are not associated with the recurring activities of the Group. The timings of these cash outflows are reasonably certain. Significant non-current provisions are discounted using an average discount rate of 1.4% (2022: 2.1%).

In the Pharmaceuticals Division the significant provisions relate to various business transformation initiatives, including the site development plans at the Basel/Kaiseraugst site and the resourcing flexibility plans, as well as to the redesign and the strategic realignment of its manufacturing network mainly in the US. In the Diagnostics Division the significant provisions are associated with manufacturing and supply chain optimisations, research and development productivity initiatives and business transformations measures. Additionally, provisions were also recorded for a cross-divisional transformation programme to simplify the systems landscape and reduce process complexity. Further details are given in Note 7.

Contingent consideration provisions

The Group is party to certain contingent consideration arrangements arising from business combinations. Significant non-current provisions are discounted using an average discount rate of 4.9% (2022: 5.3%) where the time value of money is material. Additional details on measurement and on the total potential payments under these arrangements are provided in Note 31.

Other provisions

Other provisions relate to the items shown in the table below. With the exception of employee provisions, the timing of cash outflows is by its nature uncertain.

Other provisions in millions of CHF

	2023	2022	2021
Sales returns [3]	481	588	514
Employee provisions	406	366	384
Other items	423	768	683
Total other provisions	**1,310**	**1,722**	**1,581**

Contingent liabilities

The operations and earnings of the Group continue, from time to time and in varying degrees, to be affected by political, legislative, fiscal and regulatory developments, including those relating to environmental protection, in the countries in which it operates. The industries in which the Group operates are also subject to other risks of various kinds. The nature and frequency of these developments and events, not all of which are covered by insurance, as well as their effect on future operations and earnings, are not predictable.

The Group has entered into in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions, in order to gain access to potential new products or to utilise other companies to help develop the Group's own potential new products. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements. The Group's current estimate of future third-party commitments for such potential payments within the next three years is given in Note 10.

Legal cases

At 31 December 2023 legal provisions included provisions for legal cases of CHF 55 million (2022: CHF 235 million), mainly related to legal cases in the Pharmaceuticals Division of CHF 16 million (2022: CHF 21 million) and in the Diagnostics Division of CHF 39 million (2022: CHF 214 million). Provisions have been recorded, and in some cases settled, mainly relating to the legal matters listed below.

Avastin/Lucentis investigations. On 14 February 2013 the Italian Antitrust Authority ('AGCM') announced an investigation to determine whether Roche, Genentech and Novartis had entered into an agreement to restrict competition in the Italian market for drugs, with reference in particular to Avastin (marketed by Roche) and Lucentis (marketed by Novartis). Avastin and Lucentis are two different drugs that were developed and approved for different therapeutic purposes and contain different active pharmaceutical ingredients. On 5 March 2014 the AGCM issued a verdict that alleges that Roche and Novartis colluded to artificially differentiate Avastin and Lucentis in order to foster the sales of Lucentis in Italy. The AGCM fined Roche EUR 90.5 million and Novartis EUR 92 million. Roche appealed the AGCM verdict to the Tribunale Amministrativo Regionale del Lazio ('TAR'). On 2 December 2014 the TAR upheld the decision by the AGCM. Roche appealed the verdict of the TAR to the Consiglio di Stato. In July 2014 Roche paid the EUR 90.5 million fine under protest to avoid additional penalty fees. On 23 January 2018 the European Court of Justice rendered its decision on five questions which had been referred to the European Court of Justice by the Consiglio di Stato. On 15 July 2019 the Consiglio di Stato issued the final verdict on the case and upheld the verdicts of both the AGCM and the TAR. Roche filed an appeal with the Corte Suprema di Cassazione, which was rejected on 5 October 2021. In addition, Roche filed a motion for revocation with the Consiglio di Stato, which was rejected on 8 May 2023. This matter is now concluded. On 24 January 2019 the French Competition Authority ('FCA') issued a Statement of Objections against Roche, Genentech and Novartis regarding anti-competitive practices concerning the commercialisation of Avastin and Lucentis in France. The FCA alleges that Roche, Genentech and Novartis abused their collective dominant position on the French market for the treatment of wet age-related macular degeneration between 2008 and 2013. On 9 September 2020 the FCA issued a decision finding that Roche, Genentech and Novartis had infringed competition law, and imposed a fine of EUR 60 million against Roche and Genentech. Roche and Genentech appealed this decision. In January 2021 the fine was paid under protest to avoid additional penalty fees. On 16 February 2023 the Paris Court of Appeal issued its ruling in the Group's favour. As a result, the FCA reimbursed the fine in March 2023 and an income of EUR 60 million was recorded in other operating income (expense) in 2023. In March 2023 the FCA appealed this decision. In September 2021 Roche received an administrative fine letter from the Turkish Competition Authority ('TCA'). In its investigation the TCA alleges that Roche and Novartis entered into a cartel aiming at preventing off-label applications of Avastin in order to foster on-label applications of Lucentis. In October 2021 the fine of TRY 85 million was paid under protest to avoid additional penalty fees. Roche filed an appeal against the decision. On 30 January 2023 the Ankara Administrative Court issued its ruling in the Group's favour. As a result, the TCA reimbursed the fine and an income of TRY 85 million was recorded in other operating income (expense) in 2023. In April 2023 the TCA appealed this decision. In addition, the Group is challenging policies and regulations allowing off-label/unlicensed use and reimbursement for economic reasons in various countries. The Group is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Boniva litigation. Hoffmann-La Roche, Inc. ('HLR'), Genentech and various other Roche affiliates (collectively 'Roche') have been named as defendants in numerous legal actions in the US and one now dismissed case in Canada relating to the post-menopausal osteoporosis medication Boniva. In these litigations, the plaintiffs allege that Boniva caused either osteonecrosis of the jaw or atypical femoral fractures. At 31 December 2023 Roche was defending approximately 206 actions involving approximately 245 plaintiffs brought in federal and state courts throughout the US for personal injuries allegedly resulting from the use of Boniva. All of these cases are in the early discovery stages of litigation. Individual trial results depend on a variety of factors, including many that are unique to the particular case. Roche is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Meso litigation. In February 2017 Roche Diagnostics Corporation ('Roche') filed a lawsuit in the US District Court for the District of Delaware against Meso Scale Diagnostics, LLC ('Meso'). This is a patent infringement case involving certain US patents owned by BioVeris Corporation ('BioVeris'), a company acquired by the Group in 2007. Meso holds a limited exclusive licence to use certain aspects of the electrochemiluminescence ('ECL') detection technology. Roche and Meso disagree on the scope of the licence. The lawsuit is seeking a declaratory judgment to get judicial clarification that Roche is not infringing Meso's licence. On 25 November 2019 the jury found that Roche's use of the patents infringed the scope of Meso's licence. There was no injunction granted and the jury awarded Meso USD 137 million in damages. In 2020 post-trial motions were filed by both parties and Meso moved for enhancement, pre-judgment interest and post-judgment royalties. The court hearing took place on 6 May 2020. On 23 December 2020 the US District Court issued the final order of judgment in which the jury award was confirmed and Meso's request for enhanced damages was denied. The Group appealed this decision. On 8 April 2022 the US Court of Appeal issued its ruling. It reversed the induced infringement decision and vacated the damages award. The US Court of Appeal also affirmed that Roche directly infringed one patent and vacated the US District Court's decision on 23 December 2020 of non-infringement of three other patents. The case was remanded back to the US District Court for a new damages trial. On 7 March 2023 the parties agreed to a settlement that resolved all the disputes between them. On 27 March 2023 the court approved the joint stipulation for dismissal of the case. The matter is now concluded.

In addition, the legal cases in the Pharmaceuticals Division listed below do not currently have provisions recorded, but there are potential future obligations which will be confirmed only by the occurrence or non-occurrence of uncertain future events or where the obligation cannot be measured with sufficient reliability.

Hemlibra litigation. On 4 May 2017 Baxalta Inc. and Baxalta GmbH (both together 'Baxalta'), subsidiaries of Takeda Pharmaceutical Company Limited, filed a patent infringement and declaratory judgment of patent infringement suit in the US District Court for the District of Delaware, alleging that Genentech and Chugai Pharmaceutical Co., Ltd. ('Chugai') currently or imminently would manufacture, use, sell, offer for sale, or import into the US Hemlibra, which would infringe Baxalta's US Patent No. 7,033,590. Baxalta was seeking a judgment of infringement, injunctive and monetary relief, attorneys' fees, costs and expenses. On 11 May 2017 Genentech was served with the complaint. Genentech's response and counterclaims to the complaint were filed on 30 June 2017. On 19 June 2017 Chugai waived service. On 13 September 2017 Chugai filed a motion to dismiss the complaint for lack of personal jurisdiction. On 14 December 2017 Baxalta filed a request for a preliminary injunction against Genentech only, in which some inhibitor patients would not be subject to any injunction. A hearing was held in the US District Court for the District of Delaware on 13 and 14 June 2018 and during that hearing Baxalta withdrew its request for a preliminary injunction as to the inhibitor patients. On 25 June 2018 Baxalta submitted a new proposed preliminary injunction order, in which Genentech would be permitted to sell Hemlibra to all inhibitor patients, all non-inhibitor patients currently on Hemlibra whether through clinical trials or not, and selected non-inhibitor patients who have an additional 'medically diagnosed condition' which rendered factor VIII therapies impracticable. On 7 August 2018 the US District Court ruled against Baxalta, denying their request for an injunction. On 19 September 2018 Chugai was dismissed from this case. On 1 February 2019 the US District Court issued a final judgment in favour of Genentech stating that Hemlibra does not infringe Baxalta's patent based on the Court's definition of key terms related to the patent. On 8 February 2019 Baxalta appealed this decision. On 27 August 2020 the Appeals Court reversed the claim construction ruling of the US District Court in favour of Genentech and remanded the case back to the US District Court. On 3 September 2021 Genentech filed a motion for summary judgment on multiple grounds. On 19 November 2021 the US District Court heard Genentech's motions for summary judgment of invalidity, non-infringement under the doctrine of equivalence, and no wilful infringement. On 13 January 2022 the US District Court granted Genentech's motion for summary judgment of no enablement, which means that the previously scheduled trial will be cancelled. Baxalta appealed this ruling. On 20 September 2023 the US Federal Court affirmed the US District Court's decision from 13 January 2022. The matter is now concluded.

Iraqi Ministry of Health. In October 2017 F. Hoffmann-La Roche Ltd ('FHLR'), Hoffmann-La Roche, Inc. ('HLR') and Genentech and certain other pharmaceutical and/or medical device companies were named as defendants in a complaint filed in the Federal District Court for the District of Columbia, US, on behalf of US service members and their relatives who allege that they were killed or injured in Iraq between 2005 and 2009 (the 'Iraq lawsuit'). The complaint alleges that the defendants violated the US Anti-Terrorism Act and various state laws by providing funding for terrorist organisations through their sales practices pursuant to pharmaceutical and/or medical device contracts with the Iraqi Ministry of Health. In addition FHLR received an inquiry in July 2018 from the US Department of Justice in connection with an anti-corruption investigation relating to activities in Iraq, including interactions with the Iraqi government and certain of the same matters alleged in the Iraq lawsuit. On 29 October 2019 the US Department of Justice closed its inquiry against FHLR. On 17 July 2020 the Federal District Court granted the defendants' motions to dismiss. The plaintiffs appealed this decision. On 4 January 2022 the US Court of Appeals for the District of Columbia Circuit reversed the decision of the Federal District Court and remanded the case for further proceedings. Defendants filed petitions for rehearing en banc by the US Court of Appeals for the District of Columbia Circuit, which were denied on 2 February 2023. On 1 March 2023 the Federal District Court granted defendants' motion for a temporary partial stay pending the US Supreme Court's decision on a related matter. On 18 May 2023 the US Supreme Court reversed the decision in the related matter, clarifying the law under the US Anti-Terrorism Act. On 30 June 2023 defendants filed a petition for certiorari to the US Supreme Court on the merits asking the US Supreme Court to grant, vacate and remand for further proceedings as a result of another of its recent decisions on the US Anti-Terrorism Act, which remains pending. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Tamiflu qui tam litigation. In 2019, Roche Holding Ltd ('Roche Holding'), Hoffmann-La Roche, Inc. ('HLR') and Genentech, Inc. ('Genentech') were served with a lawsuit filed by a relator in the US District Court for the District of Maryland under the qui tam (whistleblower) provisions of the False Claims Act. The lawsuit was originally filed under seal years earlier on behalf of the US government and various US state governments. The lawsuit alleges certain improper conduct by the Group with respect to sales of Tamiflu to the US government and various US state governments. The US Department of Justice declined to intervene in the lawsuit. On 17 January 2020 the Group filed a motion to dismiss. On 28 September 2020 the plaintiff dismissed the complaint as to Roche Holding and Genentech and the District Court denied HLR's motion for summary judgment. On 4 November 2022 the US Department of Justice filed a motion to dismiss the claim. The motion was stayed pending a decision from the US Supreme Court on a related matter. This decision was issued in June 2023. On 12 July 2023 the whistleblower filed a stipulation of voluntary dismissal of all his claims, including all of those asserted on behalf of the US government and various US state governments. The stipulation was approved by the US District Court for the District of Maryland on 13 July 2023. The matter is now concluded.

Novartis litigation related to Cabilly royalties. Following the expiry of the Cabilly patent in December 2018, Genentech and Novartis discussed Cabilly royalties owed for Cosentyx and Ilaris manufactured in, or imported into, the US prior to patent expiry but sold after patent expiry (the 'Inventory Dispute'). On 25 May 2021 Novartis Vaccines and Diagnostics, Inc. and Novartis Pharma AG (collectively 'Novartis') filed a lawsuit against Genentech, Inc. ('Genentech') in California state court, in San Mateo County. Novartis alleged that it mistakenly overpaid, and is entitled to the return of, certain Cabilly royalties for its products Cosentyx and Ilaris, totalling USD 210 million. Among other things, Novartis claimed that Cosentyx was not a 'Licensed Product' within the meaning of the contract. On 24 June 2021 Genentech filed a notice of removal, seeking to move the case from state court to federal court. On 1 July 2021 Genentech filed a motion to dismiss all the claims on various grounds. In response to Genentech's motion, Novartis withdrew its initial complaint and filed an amended complaint on 20 August 2021. On 3 September 2021 Genentech filed a motion to dismiss the amended complaint on similar grounds. On 11 February 2022 Novartis and Genentech engaged in a voluntary mediation, which did not result in a settlement outcome. On 2 May 2023 the court dismissed with prejudice Novartis' five state-law claims seeking a refund for royalties paid under the parties' Cabilly licence. The court found the claims to be foreclosed by the federal patent bar and denied, as futile, Novartis' request for leave to amend the complaint. The court denied Genentech's motion to dismiss with respect to Novartis' remaining claim for a judicial declaration that it did not owe royalties in relation to the Inventory Dispute, and that claim will proceed.

Herceptin investigation. On 8 February 2022 the South African Competition Commission ('Commission') filed a referral with the Competition Tribunal for prosecution of Roche Holding Ltd, F. Hoffmann-La Roche Ltd and Roche Products (Pty) Ltd (together 'Roche') for alleged excessive pricing of trastuzumab (Herceptin) in contravention of the South African Competition Act. The Commission's referral affidavit also alleges that the excessive price of Herceptin constitutes a violation of basic human rights including the right of access to healthcare enshrined in South Africa's Bill of Rights as it denies access to life-saving medicine for women living with breast cancer. The alleged excessive pricing of Herceptin by Roche took place between January 2011 and November 2020 in the South African private healthcare sector and in the South African public healthcare sector during the period from November 2015 to July 2020. The Commission has asked the Competition Tribunal to impose a penalty against Roche. On 14 October 2022 Roche submitted its replies to the Competition Tribunal. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

University of Pennsylvania litigation. On 31 January 2022 the University of Pennsylvania filed a patent litigation action in the US against Genentech, Inc. ('Genentech') based on a claim that Herceptin, Perjeta, Phesgo and Herceptin Hylecta would infringe their US Patent No. 7,625,558 (the '558 patent). According to the complaint, the '558 patent generally relates to methods of treating ErbB (HER2) protein-mediated cancer tumours by administering a compound that inhibits the formation of ErbB (HER2) followed by radiation. Genentech filed a partial motion to dismiss the University of Pennsylvania's claims of wilfulness on 24 March 2022, which was granted on 2 December 2022. The University of Pennsylvania filed a motion to amend its complaint to add wilfulness back in, which was granted by the court on 5 May 2023. The University of Pennsylvania filed a first amended complaint on 17 May 2023. A jury trial was scheduled for September 2024 but that date was vacated and a new trial date has not been set. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

21. Debt

Debt: movements in carrying value of recognised liabilities in millions of CHF

	2023	2022
At 1 January	25,351	31,198
Proceeds from issue of bonds and notes	8,167	8,442
Redemption and repurchase of bonds and notes	(1,751)	(1,750)
Increase (decrease) in commercial paper	(806)	1,293
Increase (decrease) in other debt	175	(13,683)
Changes from financing cash flows	**5,785**	**(5,698)**
Net (gains) losses on redemption and repurchase of bonds and notes [4]	0	0
Amortisation of debt discount [4]	8	4
Financing costs	**8**	**4**
Business combinations	0	0
Asset acquisitions	0	0
Net foreign currency transaction (gains) losses	3	47
Currency translation effects	(2,026)	(64)
Changes in foreign exchange rates	**(2,023)**	**(17)**
Changes in fair values of hedging instruments	88	(136)
Other changes	0	0
At 31 December	**29,209**	**25,351**
Bonds and notes	27,812	23,158
Commercial paper	848	1,755
Amounts due to banks and other financial institutions	547	436
Other borrowings	2	2
Total debt	**29,209**	**25,351**
Long-term debt	24,809	21,391
Short-term debt	4,400	3,960
Total debt	**29,209**	**25,351**

There are no pledges on the Group's assets in connection with debt.

Bonds and notes

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF

	Effective interest rate Underlying instrument	Effective interest rate Including hedging	2023	2022	2021
US dollar notes – fixed rate					
3.25% notes due 17 September 2023, principal USD 0.75 billion, outstanding USD 0.39 billion (ISIN: US771196BN10)	3.32%	4.08%	–	349	354
0.45% notes due 5 March 2024, principal USD 0.5 billion (ISIN: US771196BQ41)	0.49%	2.75%	418	437	451
1.882% notes due 8 March 2024, principal USD 1.25 billion (ISIN: US771196BU52)	1.95%	n/a	1,055	1,153	–
3.35% notes due 30 September 2024, principal USD 1.65 billion, outstanding USD 0.59 billion (ISIN: US771196BE11)	3.40%	n/a	497	544	538
2.132% notes due 10 March 2025, principal USD 1.0 billion (ISIN: US771196BT89)	2.19%	n/a	844	922	–
3.0% notes due 10 November 2025, principal USD 1.0 billion, outstanding USD 0.51 billion (ISIN: US771196BJ08)	3.14%	n/a	426	466	461
0.991% notes due 5 March 2026, principal USD 0.65 billion (ISIN: US771196BS07)	1.03%	4.07%	510	539	582
2.625% notes due 15 May 2026, principal USD 1.0 billion (ISIN: US771196BK70)	2.78%	n/a	842	919	909
5.265% notes due 13 November 2026, principal USD 1.1 billion (ISIN: US771196CE02)	5.38%	n/a	927	–	–
2.375% notes due 28 January 2027, principal USD 0.85 billion (ISIN: US771196BL53)	2.54%	n/a	715	781	771
2.314% notes due 10 March 2027, principal USD 1.25 billion (ISIN: US771196BV36)	2.37%	n/a	1,054	1,152	–
3.625% notes due 17 September 2028, principal USD 0.65 billion (ISIN: US771196BP67)	3.69%	n/a	548	599	593
5.338% notes due 13 November 2028, principal USD 1.25 billion (ISIN: US771196CF76)	5.45%	n/a	1,053	–	–
1.93% notes due 13 December 2028, principal USD 2.0 billion (ISIN: US771196BW19)	1.97%	n/a	1,686	1,843	1,824
5.489% notes due 13 November 2030, principal USD 1.25 billion (ISIN: US771196CG59)	5.60%	n/a	1,053	–	–
2.076% notes due 13 December 2031, principal USD 2.0 billion (ISIN: US771196BX91)	2.11%	2.16%	1,685	1,842	1,823
5.593% notes due 13 November 2033, principal USD 1.6 billion (ISIN: US771196CH33)	5.71%	n/a	1,347	–	–
7.0% notes due 1 March 2039, principal USD 2.5 billion, outstanding USD 1.12 billion (ISIN: USU75000AN65 and US771196AU61)	7.43%	7.39%	916	1,001	990
4.0% notes due 28 November 2044, principal USD 0.65 billion (ISIN: US771196BH42)	4.16%	n/a	541	591	585
2.607% notes due 13 December 2051, principal USD 2.0 billion (ISIN: US771196BY74)	2.65%	2.74%	1,680	1,838	1,818
US dollar notes – floating rate					
Notes due 11 September 2023, principal USD 0.75 billion (ISIN: US771196BZ40)	3.90%	n/a	–	692	–
Notes due 5 March 2024, principal USD 0.35 billion (ISIN: US771196BR24)	2.86%	n/a	295	323	319
Notes due 10 March 2025, principal USD 0.75 billion (ISIN: US771196CA89)	4.99%	n/a	633	692	–
Notes due 13 November 2026, principal USD 0.3 billion (ISIN: US771196CD29)	6.21%	n/a	253	–	–
Euro Medium Term Note programme – fixed rate					
0.5% notes due 27 February 2023, principal EUR 0.65 billion (ISIN: XS1371715118)	0.63%	0.67%	–	639	672
5.375% notes due 29 August 2023, principal GBP 0.25 billion, outstanding GBP 0.08 billion (ISIN: XS0175478873)	5.46%	n/a	–	85	95
0.875% notes due 25 February 2025, principal EUR 1.0 billion (ISIN: XS1195056079)	0.93%	1.11%	926	968	1,032
Euro bonds – fixed rate					
3.312% bonds due 4 December 2027, principal EUR 0.6 billion (ISIN: XS2726331932)	3.35%	n/a	560	–	–
3.204% bonds due 27 August 2029, principal EUR 0.75 billion (ISIN: XS2592088236)	3.24%	n/a	699	–	–
3.355% bonds due 27 February 2035, principal EUR 0.5 billion (ISIN: XS2592088400)	3.38%	n/a	466	–	–
3.586% bonds due 4 December 2036, principal EUR 0.9 billion (ISIN: XS2726335099)	3.61%	n/a	838	–	–

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF *(continued)*

	Effective interest rate Underlying instrument	Effective interest rate Including hedging	2023	2022	2021
Swiss franc bonds – fixed rate					
1.625% bonds due 23 September 2022, principal CHF 0.5 billion (ISIN: CH0180513183)	1.64%	1.39%	–	–	501
0.1% bonds due 23 September 2024, principal CHF 0.75 billion (ISIN: CH0358654975)	0.11%	0.61%	738	721	748
0.25% bonds due 24 September 2025, principal CHF 0.5 billion (ISIN: CH0433761308)	0.25%	0.52%	494	486	500
1.5% bonds due 23 June 2026, principal CHF 0.425 billion (ISIN: CH1211713222)	1.48%	n/a	425	426	–
0.5% bonds due 25 February 2027, principal CHF 0.825 billion (ISIN: CH1166151899)	0.42%	0.48%	829	828	–
1.6% bonds due 15 September 2028, principal CHF 0.14 billion (ISIN: CH1305916764)	1.62%	n/a	140	–	–
0.45% bonds due 23 March 2029, principal CHF 0.35 billion (ISIN: CH0359915409)	0.46%	n/a	350	350	350
0.75% bonds due 24 September 2030, principal CHF 0.4 billion (ISIN: CH0433761316)	0.74%	n/a	400	400	400
0.75% bonds due 25 February 2031, principal CHF 0.625 billion (ISIN: CH1166151907)	0.71%	n/a	627	627	–
2.0% bonds due 23 September 2032, principal CHF 0.375 billion (ISIN: CH1211713230)	2.00%	n/a	375	375	–
1.75% bonds due 15 September 2033, principal CHF 0.19 billion (ISIN: CH1305916772)	1.77%	n/a	190	–	–
1.0% bonds due 25 February 2037, principal CHF 0.3 billion (ISIN: CH1166151915)	0.91%	n/a	303	304	–
1.95% bonds due 15 September 2038, principal CHF 0.23 billion (ISIN: CH1305916780)	1.93%	n/a	231	–	–
Genentech Senior Notes					
5.25% Senior Notes due 15 July 2035, principal USD 0.5 billion, outstanding USD 0.29 billion (ISIN: US368710AC32)	5.39%	n/a	243	266	263
Total bonds and notes			**27,812**	**23,158**	**16,579**

Bonds and notes maturity in millions of CHF

	2023	2022	2021
Within one year	3,004	1,764	501
Between one and two years	3,322	3,179	1,121
Between two and three years	2,957	3,534	2,057
Between three and four years	3,157	1,883	1,993
Between four and five years	3,427	2,761	1,490
More than five years	11,945	10,037	9,417
Total bonds and notes	**27,812**	**23,158**	**16,579**

Unamortised discount included in carrying value of bonds and notes in millions of CHF

	2023	2022	2021
US dollar notes	66	69	72
Euro notes and bonds	6	1	3
Swiss franc bonds	(8)	(9)	0
Total unamortised discount	**64**	**61**	**75**

Issuance of bonds and notes – 2023

On 27 February 2023 the Group completed an offering of EUR 0.75 billion fixed rate bonds with a coupon of 3.204% and EUR 0.5 billion fixed rate bonds with a coupon of 3.355%. The bonds will mature on 27 August 2029 and 27 February 2035, respectively. These bonds have a primary listing at the SIX Swiss Exchange. The Group received CHF 1,238 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

On 13 November 2023 the Group completed an offering of USD 1.1 billion fixed rate notes with a coupon of 5.265%, USD 1.25 billion fixed rate notes with a coupon of 5.338%, USD 1.25 billion fixed rate notes with a coupon of 5.489% and USD 1.6 billion fixed rate notes with a coupon of 5.593%. The notes will mature on 13 November 2026, 13 November 2028, 13 November 2030 and 13 November 2033, respectively. The Group received CHF 4,684 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Also on 13 November 2023 the Group completed an offering of USD 0.3 billion floating rate notes at a rate equal to the Secured Overnight Financing Rate (SOFR) plus a margin of 0.74%, which will mature on 13 November 2026. The Group received CHF 270 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 4 December 2023 the Group completed an offering of EUR 0.6 billion fixed rate bonds with a coupon of 3.312% and EUR 0.9 billion fixed rate bonds with a coupon of 3.586%. The bonds will mature on 4 December 2027 and 4 December 2036, respectively. These bonds have a primary listing at the SIX Swiss Exchange. The Group received CHF 1,415 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

On 15 December 2023 the Group completed an offering of CHF 0.14 billion fixed rate bonds with a coupon of 1.6%, CHF 0.19 billion fixed rate bonds with a coupon of 1.75% and CHF 0.23 billion fixed rate bonds with a coupon of 1.95%. The bonds will mature on 15 September 2028, 15 September 2033 and 15 September 2038, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 560 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Issuance of bonds and notes – 2022

On 25 February 2022 the Group completed an offering of CHF 3.0 billion fixed rate bonds issued in four tranches, of which CHF 1.25 billion for bonds with a zero coupon, CHF 0.825 billion for bonds with a coupon of 0.5%, CHF 0.625 billion for bonds with a coupon of 0.75% and CHF 0.3 billion for bonds with a coupon of 1.0%. The zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion matured on 25 November 2022. The other bonds will mature on 25 February 2027, 25 February 2031 and 25 February 2037, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 3,014 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

On 10 March 2022 the Group completed an offering of USD 1.25 billion fixed rate notes with a coupon of 1.882%, USD 1.0 billion fixed rate notes with a coupon of 2.132% and USD 1.25 billion fixed rate notes with a coupon of 2.314%. The notes will mature on 8 March 2024, 10 March 2025 and 10 March 2027, respectively. The Group received CHF 3,237 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Also on 10 March 2022 the Group completed an offering of USD 0.75 billion floating rate notes at a rate equal to the Secured Overnight Financing Rate (SOFR) plus a margin of 0.33%, which matured on 11 September 2023, and USD 0.75 billion floating rate notes at a rate equal to the SOFR plus a margin of 0.56%, which will mature on 10 March 2025. The Group received CHF 1,391 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 23 September 2022 the Group completed an offering of CHF 0.8 billion fixed rate bonds issued in two tranches, of which CHF 0.425 billion for bonds with a coupon of 1.5% and CHF 0.375 billion for bonds with a coupon of 2.0%. The bonds will mature on 23 June 2026 and 23 September 2032, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 800 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Redemption and repurchase of bonds and notes – 2023

On the due date of 27 February 2023 the Group redeemed the 0.5% fixed rate notes with principal amount of EUR 0.65 billion. The cash outflow was CHF 645 million, plus accrued interest. The effective interest rate of these notes was 0.63%.

On the due date of 29 August 2023 the Group redeemed the 5.375% fixed rate notes with an outstanding amount of GBP 0.08 billion. The cash outflow was CHF 86 million, plus accrued interest. The effective interest rate of these notes was 5.46%.

On the due date of 11 September 2023 the Group redeemed floating rate notes with principal amount of USD 0.75 billion. The cash outflow was CHF 670 million, plus accrued interest. The effective interest rate of these notes was 3.90%.

On the due date of 17 September 2023 the Group redeemed the 3.25% fixed rate notes with an outstanding amount of USD 0.39 billion. The cash outflow was CHF 350 million, plus accrued interest. The effective interest rate of these notes was 3.32%.

Redemption and repurchase of bonds and notes – 2022

On the due date of 23 September 2022 the Group redeemed the 1.625% fixed rate bonds with a principal amount of CHF 0.5 billion. The cash outflow was CHF 500 million, plus accrued interest. The effective interest rate of these bonds was 1.64%.

On the due date of 25 November 2022 the Group redeemed the zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion. The cash outflow was CHF 1,250 million. The effective interest rate of these bonds was –0.45%.

Cash flows from issuance, redemption and repurchase of bonds and notes

Cash inflows from issuance of bonds and notes in millions of CHF

	2023	2022
US dollar notes	4,954	4,628
Euro bonds	2,653	0
Swiss franc bonds	560	3,814
Total cash inflows from issuance of bonds and notes	**8,167**	**8,442**

Cash outflows from redemption and repurchase of bonds and notes in millions of CHF

	2023	2022
Euro Medium Term Note programme – Euro notes	(645)	0
Euro Medium Term Note programme – Pound sterling notes	(86)	0
US dollar notes	(1,020)	0
Swiss franc bonds	0	(1,750)
Total cash outflows from redemption and repurchase of bonds and notes	**(1,751)**	**(1,750)**

Commercial paper

Roche Holdings, Inc. commercial paper program. Roche Holdings, Inc. has an established commercial paper program under which it can issue up to USD 7.5 billion of unsecured commercial paper notes guaranteed by Roche Holding Ltd. The committed credit line that is available as a back-stop supporting the commercial paper program is USD 7.5 billion at 31 December 2023 (2022: USD 7.5 billion). On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026. The maturity of the notes under the program cannot exceed 365 days from the date of issuance. At 31 December 2023 unsecured commercial paper notes with a principal amount of USD 1.0 billion (2022: USD 1.9 billion) and an average interest rate of 5.34% (2022: 4.18%) were outstanding.

Movements in commercial paper obligations in millions of CHF

	2023	2022
At 1 January	1,755	500
Net cash proceeds (payments)	(806)	1,293
Currency translation effects	(101)	(38)
At 31 December	**848**	**1,755**

Amounts due to banks and other financial institutions

At 31 December 2023 the amounts outstanding of CHF 547 million (2022: CHF 436 million, 2021: CHF 14,118 million) are due within one year. These amounts are denominated in various currencies and the average interest rate was 3.30% (2022: 3.37%, 2021: 0.25%). At 31 December 2021 this position included the bridge loan facility drawn in December 2021 to finance the share repurchase transaction (see Note 22). The bridge loan facility was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. At 31 December 2021 the amount of the bridge loan facility outstanding was CHF 13.5 billion. On 19 January 2024 the Group executed a short-term bridge facility agreement of USD 5.0 billion with banks for general corporate purposes including but not limited to mergers and acquisitions and repayments of maturing debts. The bridge facility has an initial maturity of six months and two extension options for three months each.

22. Equity attributable to Roche shareholders

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2022						
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489
Net income recognised in income statement	–	12,421	–	–	–	12,421
Financial assets at fair value through OCI						
– Fair value gains (losses) – equity investments at fair value through OCI	–	–	28	–	–	28
– Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	–	0	0	–	–	–
– Fair value gains (losses) – debt securities at fair value through OCI	–	–	(35)	–	–	(35)
– Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	–	–	0	–	–	0
– Income taxes [5]	–	0	4	–	–	4
– Non-controlling interests	–	0	1	–	–	1
Cash flow hedges						
– Gains (losses) taken to equity [31]	–	–	–	(238)	–	(238)
– Transferred to income statement [31]	–	–	–	366	–	366
– Transferred to initial carrying amount of hedged items [31]	–	–	–	(218)	–	(218)
– Income taxes [5]	–	–	–	28	–	28
– Non-controlling interests	–	–	–	25	–	25
Currency translation of foreign operations						
– Exchange differences	–	–	3	5	(1,723)	(1,715)
– Accumulated differences transferred to income statement on divestment of subsidiaries	–	–	–	–	12	12
– Non-controlling interests	–	–	–	–	522	522
Defined benefit plans						
– Remeasurement gains (losses) [26]	–	2,372	–	–	–	2,372
– Limit on asset recognition [26]	–	(1,523)	–	–	–	(1,523)
– Income taxes [5]	–	(303)	–	–	–	(303)
– Non-controlling interests	–	(9)	–	–	–	(9)
Other comprehensive income, net of tax	**–**	**537**	**1**	**(32)**	**(1,189)**	**(683)**
Total comprehensive income	**–**	**12,958**	**1**	**(32)**	**(1,189)**	**11,738**
Dividends	–	(7,446)	–	–	–	(7,446)
Share capital reduction	(53)	53	–	–	–	–
Equity compensation plans, net of transactions in own equity	–	(786)	–	–	–	(786)
Changes in non-controlling interests	–	(3)	–	–	–	(3)
At 31 December 2022	**107**	**38,937**	**(59)**	**(92)**	**(10,901)**	**27,992**

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2023						
At 1 January 2023	107	38,937	(59)	(92)	(10,901)	27,992
Net income recognised in income statement	–	11,498	–	–	–	11,498
Financial assets at fair value through OCI						
– Fair value gains (losses) – equity investments at fair value through OCI	–	–	(72)	–	–	(72)
– Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	–	(16)	16	–	–	–
– Fair value gains (losses) – debt securities at fair value through OCI	–	–	13	–	–	13
– Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	–	–	0	–	–	0
– Income taxes [5]	–	4	4	–	–	8
– Non-controlling interests	–	1	(1)	–	–	0
Cash flow hedges						
– Gains (losses) taken to equity [31]	–	–	–	(344)	–	(344)
– Transferred to income statement [31]	–	–	–	437	–	437
– Transferred to initial carrying amount of hedged items [31]	–	–	–	(111)	–	(111)
– Income taxes [5]	–	–	–	6	–	6
– Non-controlling interests	–	–	–	5	–	5
Currency translation of foreign operations						
– Exchange differences	–	–	2	9	(2,656)	(2,645)
– Accumulated differences transferred to income statement on divestment of subsidiaries	–	–	–	–	1	1
– Non-controlling interests	–	–	–	–	604	604
Defined benefit plans						
– Remeasurement gains (losses) [26]	–	(691)	–	–	–	(691)
– Limit on asset recognition [26]	–	527	–	–	–	527
– Income taxes [5]	–	41	–	–	–	41
– Non-controlling interests	–	(5)	–	–	–	(5)
Other comprehensive income, net of tax	**–**	**(139)**	**(38)**	**2**	**(2,051)**	**(2,226)**
Total comprehensive income	**–**	**11,359**	**(38)**	**2**	**(2,051)**	**9,272**
Dividends	–	(7,590)	–	–	–	(7,590)
Equity compensation plans, net of transactions in own equity	–	(358)	–	–	–	(358)
Changes in non-controlling interests	–	(1)	–	–	–	(1)
At 31 December 2023	**107**	**42,347**	**(97)**	**(90)**	**(12,952)**	**29,315**

Share repurchase and share capital reduction

On 26 November 2021, an Extraordinary General Meeting of Roche shareholders approved a reduction of the share capital of Roche Holding Ltd, which is the Group's parent company, by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million through the cancellation of all such shares to be repurchased from Novartis. On 6 December 2021, the Roche Group repurchased 53.3 million Roche shares held by Novartis for a total consideration of CHF 19.0 billion. The repurchased shares were reported as treasury shares as at 31 December 2021. These shares were cancelled in February 2022 when the necessary legal procedures had been completed. Upon cancellation of these shares, the share capital of Roche Holding Ltd decreased by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million. The reduction in the share capital became effective at the beginning of February 2022, with the entry of the share capital reduction in the commercial register of the Canton of Basel-Stadt on 3 February 2022 and the publication of the share capital reduction in the Swiss Official Gazette of Commerce on 8 February 2022. The CHF 19.0 billion credit facility from banks drawn in 2021 to finance the share repurchase was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation.

Share capital

At 31 December 2023 the authorised and issued share capital of Roche Holding Ltd, which is the Group's parent company, consisted of 106,691,000 shares with a nominal value of CHF 1.00 each, as in the preceding year. The shares are bearer shares and the Group does not maintain a register of shareholders. At 31 December 2023, based on the information available to the Group, a shareholder group with pooled voting rights owned 69,318,000 shares representing 64.97% of the issued shares (31 December 2022: 72,018,000 shares representing 67.50% of the issued shares). On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement existing since 1948 with a modified shareholder composition. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2023, based on the information available to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2022: 8,091,900 shares representing 7.58% of the issued shares). This is further described in Note 32.

Non-voting equity securities (*Genussscheine*)

At 31 December 2023, 702,562,700 non-voting equity securities had been authorised and were in issue as in the preceding year. Under Swiss company law these non-voting equity securities have no nominal value, are not part of the share capital and cannot be issued against a contribution which would be shown as an asset in the balance sheet of Roche Holding Ltd. Each non-voting equity security confers the same rights as any of the shares to participate in the net profit and any remaining proceeds from liquidation following repayment of the nominal value of the shares and, if any, participation certificates. In accordance with the law and the Articles of Incorporation of Roche Holding Ltd, the General Meeting of the company's shareholders is entitled at all times to exchange shares or participation certificates for all or some of the non-voting equity securities without the consent of the bearers thereof.

Dividends

On 14 March 2023 the shareholders approved the distribution of a dividend of CHF 9.50 per share and non-voting equity security (2022: CHF 9.30) in respect of the 2022 business year. The distribution to holders of outstanding shares and non-voting equity securities totalled CHF 7,590 million (2022: CHF 7,446 million), which was recorded against retained earnings in 2023. The Board of Directors has proposed dividends for the 2023 business year of CHF 9.60 per share and non-voting equity security. This dividend proposal is subject to approval at the Annual General Meeting on 12 March 2024. If approved, this would result in a total distribution to shareholders of CHF 7,769 million.

Own equity instruments

Holdings of own equity instruments in number of shares and non-voting equity securities

	2023 (millions)	2022 (millions)
Shares	0.5	0
Non-voting equity securities	11.5	10.1
Total	**12.0**	**10.1**

On 10 February 2023, the Group announced that it had acquired 540,000 shares for a total consideration of CHF 166 million. The repurchased shares were initially reported as treasury shares subsequent to acquisition and will be used to cover current as well as future obligations arising from equity compensation plans. This announcement followed from reports that a member of a shareholder group with pooled voting rights sold 2.7 million Roche shares (see Note 32).

Own equity instruments are recorded within equity at original purchase cost. At 31 December 2023 the fair value of shares was CHF 136 million (2022: CHF 7 million) and the fair value of non-voting equity securities was CHF 2.8 billion (2022: CHF 2.9 billion). Own equity instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 27).

Reserves

Fair value reserve. At 31 December 2023 and 2022 the fair value reserve represents the cumulative net change in the fair value of financial assets at fair value through OCI until the asset is sold, impaired or otherwise disposed of.

Hedging reserve. The hedging reserve represents the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged transactions that have not yet occurred.

Translation reserve. The translation reserve represents the cumulative currency translation differences relating to the consolidation of Group companies that use functional currencies other than Swiss francs.

23. Subsidiaries and associates

Chugai

Effective 1 October 2002 the Roche Group and Chugai completed an alliance to create a leading research-driven Japanese pharmaceutical company, which was formed by the merger of Chugai and Roche's Japanese pharmaceuticals subsidiary, Nippon Roche. The merged company is known as Chugai.

Consolidated subsidiary. Chugai is a fully consolidated subsidiary of the Group. This is based on the Group's interest in Chugai at 31 December 2023 of 61.1% (2022: 61.1%) and the Roche relationship with Chugai that is founded on the Basic Alliance, Licensing and Research Collaboration Agreements.

The common stock of Chugai is publicly traded and is listed on the Tokyo Stock Exchange under the stock code 'TSE:4519'. Chugai prepares financial statements in accordance with IFRS Accounting Standards that are filed on a quarterly basis with the Tokyo Stock Exchange. Due to certain consolidation entries there are minor differences between Chugai's stand-alone IFRS results and the results of Chugai as consolidated by the Roche Group and included in these Annual Financial Statements.

Chugai summarised financial information in millions of CHF

	2023	2022
Income statement		
Sales [2]	6,235	7,551
Other revenue [2]	968	1,721
Total revenues	**7,203**	**9,272**
Operating profit [2]	2,915	3,988
Balance sheet		
Non-current assets	3,403	3,720
Current assets	8,207	9,329
Non-current liabilities	(130)	(171)
Current liabilities	(1,717)	(2,937)
Total net assets	**9,763**	**9,941**
Cash flows		
Cash flows from operating activities	2,623	1,774
Cash flows from investing activities	(239)	(1,061)
Cash flows from financing activities	(891)	(1,058)

Dividends. The dividends distributed to third parties holding Chugai shares during 2023 totalled CHF 327 million (2022: CHF 390 million) and were recorded against non-controlling interests (see Note 24). Dividends paid by Chugai to Roche are eliminated on consolidation as intercompany items.

Roche's relationship with Chugai. Chugai has entered into certain agreements with Roche, which are discussed below:

(1) Basic Alliance Agreement – As part of the Basic Alliance Agreement signed in December 2001 and partially revised in July 2022, Roche and Chugai entered into certain arrangements covering the future operation and governance of Chugai. Amongst other matters these cover the following areas:
- The structuring of the alliance.
- Roche's rights as a shareholder.
- Roche's rights to nominate members of Chugai's Board of Directors.
- Certain limitations to Roche's ability to buy or sell Chugai's common stock.

Chugai issues additional shares of common stock in connection with its convertible debt and equity compensation plans, and may issue additional shares for other purposes. If this occurs, Chugai will guarantee Roche's right to maintain its shareholding percentage in Chugai by allowing Roche to exercise its pre-emptive right or other rights.

(2) Licensing Agreements – Under the Japan Umbrella Rights Agreement signed in December 2001, Chugai has exclusive rights to market Roche's pharmaceutical products in Japan. Chugai has the right of first refusal on the development and marketing in Japan of all development compounds advanced by Roche.

The Rest of the World Umbrella Rights Agreement (excluding Japan and South Korea) signed in May 2002 was revised and the Amended and Restated Rest of the World Umbrella Rights Agreement (excluding Japan, South Korea and Taiwan) was signed in August 2014. Under this Agreement Chugai shall offer and Roche has the right of first refusal on the development and marketing of Chugai's development compounds in markets outside Japan, excluding South Korea and Taiwan.

Further to these agreements, Roche and Chugai have signed a series of separate agreements for certain specific products. Depending on the specific circumstances and the terms of the agreement, this may result in payments on an arm's length basis between Roche and Chugai, for any or all of the following matters:
- Upfront payments, if a right of first refusal to license a product is exercised.
- Milestone payments, dependent upon the achievement of agreed performance targets.
- Royalties on future product sales.

These specific product agreements may also cover the manufacture and supply of the respective products to meet the other party's clinical and/or commercial requirements on an arm's length basis.

(3) Research Collaboration Agreements – Roche and Chugai have entered into research collaboration agreements in the areas of small-molecule synthetic drug research and biotechnology-based drug discovery.

Associates

On 21 December 2021 the Group acquired an interest in Freenome Holdings, Inc. ('Freenome'), a privately owned US company based in South San Francisco, California. At 31 December 2023 the Group's interest in Freenome was 15.9% (31 December 2022: 16.4%). This investment has been assessed and is treated as an associate of the Group. The Group accounts for Freenome using the equity method based on Freenome's financial statements that are made available to the Group. The carrying value of the Group's share of Freenome's net assets, an asset of CHF 242 million (31 December 2022: CHF 299 million), is included in other non-current assets (see Note 15). The Group's share of Freenome's results, a loss of CHF 34 million (2022: a loss of CHF 40 million), is included in other financial income (expense) (see Note 4). On 26 January 2024 the Group made a further investment of USD 50 million.

24. Non-controlling interests

Changes in equity attributable to non-controlling interests in millions of CHF

	2023	2022
At 1 January	4,023	3,856
Net income recognised in income statement		
– Chugai	844	1,093
– Other non-controlling interests	16	17
Total net income recognised in income statement	**860**	**1,110**
Equity investments at fair value through OCI	0	(1)
Debt securities at fair value through OCI	0	0
Cash flow hedges	(5)	(25)
Currency translation of foreign operations	(604)	(522)
Remeasurements of defined benefit plans	5	9
Other comprehensive income, net of tax	**(604)**	**(539)**
Total comprehensive income	**256**	**571**
Business combinations	0	0
Dividends to non-controlling shareholders		
– Chugai [23]	(327)	(390)
– Other non-controlling interests	(7)	(16)
Equity compensation plans, net of transactions in own equity	2	(1)
Changes in non-controlling interests	1	3
At 31 December	**3,948**	**4,023**
Chugai	3,755	3,816
Other non-controlling interests	193	207
Total non-controlling interests	**3,948**	**4,023**

25. Employee benefits

Employee remuneration in millions of CHF

	2023	2022
Wages and salaries	12,375	11,778
Social security costs	1,150	1,184
Defined contribution plans [26]	469	452
Operating expenses for defined benefit plans [26]	453	611
Equity compensation plans [27]	830	738
Termination costs [7]	425	(38)
Other employee benefits	756	1,307
Employee remuneration included in operating results	**16,458**	**16,032**
Net interest cost of defined benefit plans [26]	150	82
Total employee remuneration	**16,608**	**16,114**

Other employee benefits consist mainly of life insurance schemes and certain other insurance schemes providing medical coverage and other long-term and short-term disability benefits.

26. Pensions and other post-employment benefits

The Group's objective is to provide attractive and competitive post-employment benefits to employees, while at the same time ensuring that the various plans are appropriately financed and managing any potential impacts on the Group's long-term financial position. Most employees are covered by pension plans sponsored by Group companies. The nature of such plans varies according to legal regulations, fiscal requirements and market practice in the countries in which the employees are employed. Post-employment benefit plans are classified for IFRS Accounting Standards as 'defined contribution plans' if the Group pays fixed contributions into a separate fund or to a third-party financial institution and will have no further legal or constructive obligation to pay further contributions. All other plans are classified as 'defined benefit plans'.

Defined contribution plans

Defined contribution plans are funded through payments by employees and by the Group to funds administered by third parties. The Group's expenses for these plans were CHF 469 million (2022: CHF 452 million). No assets or liabilities are recognised in the Group's balance sheet in respect of such plans, apart from regular prepayments and accruals of the contributions withheld from employees' wages and salaries and of the Group's contributions. The Group's major defined contribution plan is the US Roche 401(k) Savings Plan.

Defined benefit plans

Plans are usually established as trusts independent of the Group and are funded by payments from Group companies and by employees. In some cases, notably for the major defined benefit plans in Germany, the plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. Plans are usually governed by a senior governing body, such as a Board of Trustees, which is typically composed of both employee and employer representatives. Funding of these plans is determined by local regulations using independent actuarial valuations. Separate independent actuarial valuations are prepared in accordance with the requirements of IAS 19 for use in the Group's financial statements. The Group's major pension plans are located in Switzerland, the US and Germany, which in total account for 88% of the Group's defined benefit obligation (2022: 87%).

Pension plans in Switzerland. Current pension arrangements for employees in Switzerland are made through plans governed by the Swiss Federal Occupational Old Age, Survivors and Disability Pension Act ('BVG'). The Group's pension plans are administered by separate legal foundations, which are funded by regular employee and company contributions. The final benefit is contribution based with certain minimum guarantees. Due to these minimum guarantees, the Swiss plans are treated as defined benefit plans for the purposes of these financial statements prepared in accordance with IFRS Accounting Standards, although they have many of the characteristics of defined contribution plans. Where there is an underfunding, this may be remedied by various measures such as increasing employee and company contributions, lowering the interest rate on retirement account balances, reducing prospective benefits and a suspension of the early withdrawal facility.

Pension plans in the US. The Group's major defined benefit plans in the US have been closed to new members since 2007. New employees in the US now join the defined contribution plan. The largest of the remaining defined benefit plans are funded pension plans together with smaller unfunded supplementary retirement plans. The benefits are based on the highest average annual rate of earnings during a specified period and length of employment. The plans are non-contributory for employees, with the Group making periodic contributions to the plans. Where there is an underfunding, this would normally be remedied by additional company contributions. In 2023 payments made by the Group were USD 98 million (2022: none).

Pension plans in Germany. The Group's major pension arrangements in Germany are governed by the Occupational Pensions Act ('BetrAVG'). These plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. These plans are non-contributory for employees. The benefits are based on final salary and length of employment. These plans have been closed to new members since 2007. They have been replaced by a new plan which is funded by regular employee and company contributions and administered through a contractual trust agreement. The final benefit of the unfunded plan is contribution based with a minimum guarantee. Due to this minimum guarantee, this plan is treated as a defined benefit plan for the purposes of these financial statements prepared in accordance with IFRS Accounting Standards, although it has many of the characteristics of a defined contribution plan.

Pension plans in the Rest of the World. These represent approximately 8% of the Group's defined benefit obligation (2022: 9%) and consist of a number of smaller plans in various countries. Of these the largest are the pension plans at Chugai, which are independently managed by Chugai, and the main pension plan in the United Kingdom. In 2023 no additional voluntary contributions were made by Chugai to its pension plans (2022: voluntary contributions of JPY 1.3 billion). The Chugai plans are fully described in Chugai's own financial statements prepared in accordance with IFRS Accounting Standards. The UK pension plan had been closed to new members since 2003 and was funded by regular employee and company contributions, with benefits based on final salary and length of employment. This plan has been closed to future accruals from July 2023. The plan had been replaced with a defined contribution plan.

Other post-employment benefit ('OPEB') plans. These represent approximately 4% of the Group's defined benefit obligation (2022: 4%) and consist of post-employment healthcare and life insurance schemes, mainly in the US. These plans are mainly unfunded and/or are contributory for employees, with the Group reimbursing retired employees directly from its own financial resources. The Group's major OPEB plans in the US have been closed to new members since 2011. Part of the costs of these plans is reimbursable under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. There is no statutory funding requirement for these plans. The Group is funding these plans to the extent that it is tax efficient. In 2023 contributions of USD 37 million were made by the Group to these plans (2022: contributions of USD 33 million). At 31 December 2023 the funding status under IFRS Accounting Standards was 73% (2022: 62%), including reimbursement rights, for the funded OPEB plans in the US.

Defined benefit plans: income statement in millions of CHF

	2023			2022		
	Pension plans	Other post-employment benefit plans	Total expense	Pension plans	Other post-employment benefit plans	Total expense
Current service cost	447	9	456	618	12	630
Past service (income) cost	(3)	0	(3)	(19)	0	(19)
Settlement (gain) loss	0	0	0	0	0	0
Total operating expenses	**444**	**9**	**453**	**599**	**12**	**611**
Net interest cost of defined benefit plans	126	24	150	64	18	82
Total expense recognised in income statement	**570**	**33**	**603**	**663**	**30**	**693**

Funding status

The funding of the Group's various defined benefit plans is the responsibility of the respective senior governing body, such as a Board of Trustees, and the sponsoring employer, and is managed based on local statutory valuations, which follow the legislation and requirements of the respective jurisdiction in which the plan is established. Qualified independent actuaries carry out statutory actuarial valuations on a regular basis. The actuarial assumptions determining the funding status on the statutory basis are regularly assessed by the local senior governing body. The funding status is closely monitored at a corporate level. The unfunded plans are mainly those in the Group's German affiliates, where the fully reserved pension obligations are used for self-financing of the local affiliate's operations.

The funding status on an IFRS basis of the Group's funded defined benefit plans decreased to 110% (2022: 113%).

Reimbursement rights are linked to the post-employment medical plans in the US and represent the expected reimbursement of the medical expenditure provided under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

Defined benefit plans: funding status in millions of CHF

	2023			2022		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
Funded plans						
– Fair value of plan assets	16,781	302	17,083	16,317	281	16,598
– Defined benefit obligation	(15,026)	(469)	(15,495)	(14,202)	(531)	(14,733)
Over (under) funding	**1,755**	**(167)**	**1,588**	**2,115**	**(250)**	**1,865**
Unfunded plans						
– Defined benefit obligation	(3,697)	(268)	(3,965)	(3,705)	(296)	(4,001)
Total funding status	**(1,942)**	**(435)**	**(2,377)**	**(1,590)**	**(546)**	**(2,136)**
Limit on asset recognition	(1,032)	0	(1,032)	(1,526)	0	(1,526)
Reimbursement rights	–	49	49	–	58	58
Net recognised asset (liability)	**(2,974)**	**(386)**	**(3,360)**	**(3,116)**	**(488)**	**(3,604)**
Reported in balance sheet						
– Defined benefit plan assets	970	49	1,019	899	58	957
– Defined benefit plan liabilities	(3,944)	(435)	(4,379)	(4,015)	(546)	(4,561)

Plan assets

The responsibility for the investment strategies of funded plans is with the respective senior governance body, such as the Board of Trustees. Asset-liability studies are performed regularly for all major pension plans. These studies examine the obligations from post-employment benefit plans and evaluate various investment strategies with respect to key financial measures such as expected returns, expected risks, expected contributions, and expected funded status of the plan in an interdependent way. The goal of an asset-liability study is to select an appropriate asset allocation for the funds held within the plan. The investment strategy is developed to optimise expected returns, to manage risks and to contain fluctuations in the statutory funded status. Asset-liability studies include strategies to match the cash flows of the assets with the plan obligations. The Group currently does not use longevity swaps to manage longevity risk.

Plan assets are managed using internal and external asset managers. The actual performance is continually monitored by the pension fund governance bodies as well as being closely monitored at a corporate level. In these financial statements the difference between the interest income and actual return on plan assets is a remeasurement that is recorded directly to other comprehensive income. In 2023 the actual return on plan assets was a gain of CHF 926 million (2022: loss of CHF 2,256 million), which excludes the actual return on reimbursement rights.

Defined benefit plans: fair value of plan assets and reimbursement rights in millions of CHF

	2023			2022		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	16,317	339	16,656	18,817	455	19,272
Interest income on plan assets and reimbursement rights	439	16	455	175	13	188
Remeasurements on plan assets and reimbursement rights	427	41	468	(2,364)	(131)	(2,495)
Currency translation effects	(341)	(83)	(424)	(140)	(32)	(172)
Employer contributions	519	37	556	429	32	461
Employee contributions	191	10	201	181	9	190
Benefits paid – funded plans	(767)	(7)	(774)	(776)	(5)	(781)
Benefits paid – settlements	0	0	0	0	0	0
Administration costs	(4)	(2)	(6)	(5)	(2)	(7)
At 31 December	**16,781**	**351**	**17,132**	**16,317**	**339**	**16,656**

The recognition of plan assets is limited to the present value of any economic benefits available from refunds from the plans or reductions in future contributions to the plans. There was a limit on asset recognition as a result of a surplus, based on current market assumptions, in certain Swiss pension plans that was not recognisable under IFRS Accounting Standards. The movement of the limit on asset recognition included CHF 527 million recorded in other comprehensive income within equity (2022: CHF 1,523 million) and CHF 33 million (2022: nil) as a reduction to interest income on plan assets in the income statement.

Defined benefit plans: limit on asset recognition in millions of CHF

	2023	2022
Limit on asset recognition		
At 1 January	(1,526)	(3)
Limitation of interest income relating to unrecognised plan assets	(33)	0
Changes to limit on asset recognition	527	(1,523)
At 31 December	**(1,032)**	**(1,526)**
Fair value of plan assets at 31 December		
Excluding limit on asset recognition	17,083	16,598
Limit on asset recognition	(1,032)	(1,526)
Including limit on asset recognition	16,051	15,072

Defined benefit plans: composition of plan assets in millions of CHF

	2023	2022
Equity securities	5,325	4,833
Debt securities	6,425	6,217
Property	2,623	2,799
Cash and money market instruments	353	312
Other investments	2,357	2,437
At 31 December	**17,083**	**16,598**

Assets are invested in a variety of different classes in order to maintain a balance between risk and return as follows:

- Equity and debt securities which mainly have quoted market prices (Level 1 fair value hierarchy).
- Property which is primarily in private and commercial property funds which mainly have other observable inputs (Level 2 fair value hierarchy).
- Cash and money market instruments which are mainly invested with financial institutions with a credit rating no lower than A.
- Other investments which mainly consist of alternatives, mortgages, commodities and insurance contracts. These are used for risk management purposes and mainly have other observable inputs (Level 2 fair value hierarchy) and unobservable inputs (Level 3 fair value hierarchy).

Included within the fair value of plan assets are the Group's shares and non-voting securities with a fair value of CHF 165 million (2022: CHF 147 million) and debt instruments issued by the Group with a fair value of CHF 15 million (2022: CHF 15 million).

Defined benefit obligation

The defined benefit obligation is calculated using the projected unit credit method. This reflects service rendered by employees to the dates of valuation and incorporates actuarial assumptions primarily regarding discount rates used in determining the present value of benefits, projected rates of remuneration growth and mortality rates. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. The corporate or government bonds are denominated in the currency in which the benefits will be paid, and have maturity terms approximating to the terms of the related pension obligation.

The Group's final salary-based defined benefit pension plans in the US, Germany and the United Kingdom have been closed to new participants. Active employees that had been members of these pension plans in the US and in Germany at the time these were closed to new participants continue to accrue benefits in the final salary-based defined benefit pension plans. The UK plan has been closed to future accruals in 2023. New employees in the US and UK now join the Group's defined contribution plans, while new employees in Germany join the contribution-based plan with a minimum guarantee. As a result, the proportion of the defined benefit obligation which relates to these closed plans is expected to decrease in the future. The defined benefit pension plans in Switzerland, where the final benefit is contribution based with a minimum guarantee, remain open to new employees.

Defined benefit plans: defined benefit obligation in millions of CHF

	2023			2022		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	17,907	827	18,734	22,820	1,054	23,874
Current service cost	447	9	456	618	12	630
Interest cost	532	40	572	239	31	270
Remeasurements:						
– Demographic assumptions	(48)	0	(48)	266	0	266
– Financial assumptions	1,000	(11)	989	(5,385)	(252)	(5,637)
– Experience adjustments	215	3	218	488	12	500
Currency translation effects	(573)	(125)	(698)	(342)	(23)	(365)
Employee contributions	191	10	201	181	9	190
Benefits paid – funded plans	(767)	(7)	(774)	(776)	(5)	(781)
Benefits paid – unfunded plans	(178)	(9)	(187)	(183)	(11)	(194)
Benefits paid – settlements	0	0	0	0	0	0
Past service (income) cost	(3)	0	(3)	(19)	0	(19)
Settlement (gain) loss	0	0	0	0	0	0
At 31 December	**18,723**	**737**	**19,460**	**17,907**	**827**	**18,734**
Composition of plans						
Active members	9,744	182	9,926	9,149	206	9,355
Deferred vested members	1,364	4	1,368	1,320	4	1,324
Retired members	7,615	551	8,166	7,438	617	8,055
At 31 December	**18,723**	**737**	**19,460**	**17,907**	**827**	**18,734**
Plans by geography						
Switzerland	10,295	–	10,295	9,304	–	9,304
United States	3,239	711	3,950	3,467	796	4,263
Germany	3,669	–	3,669	3,517	–	3,517
Rest of the World	1,520	26	1,546	1,619	31	1,650
At 31 December	**18,723**	**737**	**19,460**	**17,907**	**827**	**18,734**
Duration in years	12.3	9.7	12.2	12.6	10.0	12.4

Actuarial assumptions

The actuarial assumptions used in these financial statements are based on the requirements set out in IAS 19 'Employee Benefits'. They are unbiased and mutually compatible estimates of variables that determine the ultimate cost of providing post-employment benefits. They are set on an annual basis by local management, based on advice from actuaries, and are subject to approval by corporate management and the Group's actuaries. Actuarial assumptions consist of demographic assumptions on matters such as mortality and employee turnover, and financial assumptions on matters such as interest rates, salary and benefit levels, inflation rates and costs of medical benefits. The actuarial assumptions vary based upon local economic and social conditions. The actuarial assumptions used in the various statutory valuations may differ from these based on local legal and regulatory requirements.

Demographic assumptions. The most significant demographic assumptions relate to mortality rates. The Group's actuaries use mortality tables which take into account historic patterns and expected changes, such as further increases in longevity. Rates of employee turnover, disability and early retirement are based on historical behaviour. The average life expectancy assumed now for an individual at the age of 65 is as follows:

Defined benefit plans: average life expectancy at the age of 65 for major schemes in years

Country	Mortality table	Male 2023	Male 2022	Female 2023	Female 2022
Switzerland	BVG 2020 projected with CMI model	21.8	21.7	23.5	23.5
United States	Pri-2012 projected with MP-2021	22.0	21.9	23.4	23.3
Germany	Heubeck tables 2018 G projected with CMI model	19.8	19.6	23.0	23.0

The mortality assumptions used for the pension plans in Switzerland were based on BVG 2020 applying the Continuous Mortality Investigation ('CMI') model. A long-term rate of 1.25% (2022: 1.25%) was used for longevity improvements.

The Group used as mortality assumptions for the pension plans in Germany Heubeck tables 2018 G applying the CMI model with a long-term rate of 1.25% for longevity improvements (2022: 1.25%).

Financial assumptions. These are based on market expectations for the period over which the obligations are to be settled. The assumptions used in the actuarial valuations are shown below.

Defined benefit plans: financial actuarial assumptions

	2023 Weighted average	2023 Range	2022 Weighted average	2022 Range
Discount rates	2.65%	1.40% – 5.60%	3.20%	1.23% – 5.30%
Expected rates of salary increases	2.42%	0.00% – 3.70%	2.69%	0.00% – 4.25%
Expected rates of pension increases	0.61%	0.00% – 3.00%	0.71%	0.00% – 3.00%
Expected inflation rates	2.16%	0.00% – 3.00%	2.26%	0.00% – 3.10%
Immediate medical cost trend rate	5.52%	5.50% – 6.22%	5.69%	5.49% – 5.70%
Ultimate medical cost trend rate (in 2044)	4.00%	4.00% – 4.00%	4.00%	4.00% – 4.00%

Discount rates are determined with reference to interest rates on high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. Expected rates of salary increases are based on expected inflation rates with an adjustment to reflect the Group's latest expectation of long-term real salary increases taking into account expected inflation rates, amongst other factors. Expected rates of pension increases are generally linked to the expected inflation rate or the funding status of the plan. Expected inflation rates are derived by looking at the level of inflation implied by the financial markets in conjunction with the economists' price inflation forecasts, historic price inflation as well as other economic variables and circumstances. Medical cost trend rates take into account the benefits set out in the plan terms and expected future changes in medical costs. Since the Group's major post-employment medical plans are for US employees, these rates are driven by developments in the US.

Sensitivity analysis. The measurement of the net defined benefit obligation is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. The following table summarises the impact of a change in those assumptions on the present value of the defined benefit obligation.

Defined benefit plans: sensitivity of defined benefit obligation to actuarial assumptions in millions of CHF

	2023	2022
Increase (decrease) in defined benefit obligation		
Life expectancy		
– 1 year increase	482	464
Discount rates		
– 0.25% increase	(549)	(550)
– 0.25% decrease	583	567
Expected inflation rates		
– 0.25% increase	136	122
– 0.25% decrease	(131)	(168)
Immediate medical cost trend rate		
– 1.00% increase	60	72
– 1.00% decrease	(51)	(61)

Each sensitivity analysis considers the change in one assumption at a time leaving the other assumptions unchanged. This approach shows the isolated effect of changing one individual assumption but does not take into account that some assumptions are related. The method used to carry out the sensitivity analysis is the same as in the prior year.

Cash flows

The Group incurred cash flows from its defined benefit plans as shown in the table below.

Defined benefit plans: cash flows in millions of CHF

	2023	2022
Employer contributions, net of reimbursements – funded plans	(556)	(461)
Benefits paid – unfunded plans	(187)	(194)
Total cash inflows (outflows)	**(743)**	**(655)**

Based on the most recent actuarial valuations, the Group expects that employer contributions for funded plans in 2024 will be approximately CHF 426 million, which includes an estimate of CHF 10 million of additional contributions related to the UK pension plan. Benefits paid for unfunded plans in 2024 are estimated to be approximately CHF 216 million, which mostly relate to the German defined benefit plans.

27. Equity compensation plans

The Group operates several equity compensation plans, including separate plans at Chugai. IFRS 2 'Share-based Payment' requires that the fair value of all equity compensation plan awards granted to employees be estimated at grant date and recorded as an expense over the vesting period.

Expenses for equity compensation plans in millions of CHF

	2023	2022
Cost of sales	86	86
Research and development	385	330
Selling, general and administration	359	322
Total operating expenses	**830**	**738**
Equity compensation plans		
Roche Stock-settled Stock Appreciation Rights	175	150
Roche Restricted Stock Unit Plan	602	538
Roche Connect	42	38
Roche Option Plan	1	1
Executive stock compensation	8	8
Chugai plans	2	3
Total operating expenses	**830**	**738**
Of which		
– Equity-settled	830	738
– Cash-settled	–	–

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

Cash inflows (outflows) from equity compensation plans in millions of CHF

	2023	2022
Roche Option Plan exercises	9	13
Chugai plans' exercises	2	4
Roche Connect costs	(42)	(38)
Transactions in own equity	(1,113)	(1,236)
Total cash inflows (outflows) from equity-settled equity compensation plans, net of transactions in own equity	**(1,144)**	**(1,257)**

The net cash outflows from transactions in own equity mainly arise from sales and purchases of equity instruments which are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 22).

Equity compensation plans

Roche Stock-settled Stock Appreciation Rights. The Group issues Stock-settled Stock Appreciation Rights (S-SARs) to certain directors, management and employees selected at the discretion of the Group. The S-SARs give employees the right to receive non-voting equity securities reflecting the value of any appreciation in the market price of the non-voting equity securities between the grant date and the exercise date. The Roche S-SAR Plan was renewed effective 1 January 2023 and 150 million S-SARs will be available for issuance over a ten-year period from 2023 to 2032. The rights, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Rights granted before 2019 have a seven-year duration and vested on a phased basis over three years.

Roche S-SARs – movement in number of rights outstanding

	2023		2022	
	Number of rights (thousands)	Weighted average exercise price (CHF)	Number of rights (thousands)	Weighted average exercise price (CHF)
Outstanding at 1 January	29,865	294.14	28,535	277.00
Granted	9,979	261.21	6,308	358.53
Forfeited	(1,859)	308.27	(1,147)	318.63
Exercised	(2,102)	248.14	(3,807)	265.18
Expired	(41)	251.50	(24)	258.44
Outstanding at 31 December	**35,842**	**286.99**	**29,865**	**294.14**
– of which exercisable	17,629	278.55	14,270	261.91

Roche S-SARs – terms of rights outstanding at 31 December 2023

			Rights outstanding		Rights exercisable
Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)
2017	2,469	0.26	251.49	2,469	251.49
2018	3,608	1.26	221.32	3,608	221.32
2019	3,769	5.27	272.27	3,769	272.27
2020	5,194	6.27	308.26	3,608	308.27
2021	5,772	7.27	308.15	2,703	308.32
2022	5,500	8.27	358.45	1,386	358.36
2023	9,530	9.26	261.20	86	261.80
Total	**35,842**	**6.51**	**286.99**	**17,629**	**278.55**

Roche Restricted Stock Unit Plan. The Group issues Restricted Stock Units (RSUs) awards to certain directors, management and employees selected at the discretion of the Group. The RSUs, which are non-tradable, represent the right to receive non-voting equity securities. RSUs vest on a phased basis over four years, subject to performance conditions, if any. There are currently no performance conditions on outstanding RSUs at 31 December 2023. The Roche RSU Plan was renewed effective 1 January 2023 and 30 million non-voting equity securities will be available for issuance over a ten-year period from 2023 to 2032. The Roche RSU Plan also includes a value adjustment which will be an amount equivalent to the sum of shareholder distributions made by the Group during the vesting period attributable to the number of non-voting equity securities for which an individual award has been granted.

Roche RSUs – movement in number of awards outstanding

	2023 Number of awards (thousands)	2022 Number of awards (thousands)
Outstanding at 1 January	3,812	3,613
Granted	2,775	1,943
Forfeited	(351)	(353)
Transferred to participants	(1,811)	(1,391)
Outstanding at 31 December	**4,425**	**3,812**
– of which vested and transferable	1	1

Roche Connect. This programme enables all employees worldwide, except for those in the US and certain other countries, to make regular deductions from their salaries to purchase non-voting equity securities. It is administered by independent third parties. The Group contributes to the programme, which allows the employees to purchase non-voting equity securities at a discount (usually 20%). The administrators purchase the necessary non-voting equity securities directly from the market. At 31 December 2023 the administrators held 4.2 million non-voting equity securities (2022: 3.7 million). In 2023 the cost of the plan was CHF 42 million (2022: CHF 38 million).

Roche Option Plan. This programme is used in countries where S-SARs are not used. Awards under this plan give employees the right to purchase non-voting equity securities at an exercise price specified at the grant date. The options, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Options granted before 2019 have a seven-year duration and vested on a phased basis over three years.

Roche Option Plan – movement in number of options outstanding

	2023		2022	
	Number of options (thousands)	Weighted average exercise price (CHF)	Number of options (thousands)	Weighted average exercise price (CHF)
Outstanding at 1 January	259	266.66	294	258.47
Granted	22	261.19	20	359.29
Forfeited	(8)	299.98	(3)	316.70
Exercised	(39)	251.81	(52)	252.59
Expired	(1)	251.50	0	256.10
Outstanding at 31 December	**233**	**267.54**	**259**	**266.66**
– of which exercisable	183	258.34	191	250.32

Roche Option Plan – terms of options outstanding at 31 December 2023

	Options outstanding			Options exercisable	
Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)
2017	36	0.28	250.95	36	250.95
2018	63	1.28	223.05	63	223.05
2019	53	5.25	271.65	52	271.65
2020	20	6.25	308.01	15	308.01
2021	23	7.29	311.98	12	311.85
2022	16	8.25	359.21	5	359.26
2023	22	9.26	261.18	0	n/a
Total	**233**	**4.26**	**267.54**	**183**	**258.34**

The weighted average share price of Roche non-voting equity securities during the year was CHF 265.94 (2022: CHF 333.29).

Executive stock compensation. The Chairman of the Board of Directors until April 2023, Dr Franz, and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2023. These are subject to approval by the 2024 Annual General Meeting in March 2024 and will be issued in March 2024. From April 2023, the new Chairman of the Board of Directors, Dr Schwan, received part of his base salary in the form of shares blocked for ten years. The number of awards and fair value per award are calculated at the grant date.

Fair value measurement

The inputs used in the measurement of the fair values at grant date of the equity compensation plans were as follows:

Fair value measurement in 2023

	Roche Stock-settled Stock Appreciation Rights	Roche Restricted Stock Unit Plan	Roche Option Plan
Vesting period	Progressively over 4 years	Progressively over 4 years	Progressively over 4 years
Contractual life	10 years	n/a	10 years
Number granted during year (thousands)	9,979	2,775	22
Weighted average fair value (CHF)	21	261	21
Model used	Binomial	Market price[a)]	Binomial
Inputs to option pricing model			
– Share price at grant date (CHF)	261	261	261
– Exercise price (CHF)	261	–	261
– Expected volatility[b)]	19.58%	n/a	19.58%
– Expected dividend yield	7.00%	n/a	7.00%
– Early exercise factor[c)]	1.348	n/a	1.348
– Expected exit rate	8.40%	n/a	8.40%

a) The fair value of the Roche RSUs is equivalent to the share price on the date of grant.
b) Volatility was determined primarily by reference to historically observed prices of the underlying equity. Risk-free interest rates are derived from zero coupon swap rates at the grant date taken from Datastream.
c) The early exercise factor describes the ratio between the expected market price at the exercise date and the exercise price at which early exercises can be expected, based on historically observed behaviour.

28. Leases

The Group as a lessee

The Group enters into leasing transaction as a lessee mainly for reasons of convenience and flexibility. The Group has good cash generation ability and it enjoys strong long-term investment grade credit ratings. Therefore it typically does not enter into leasing arrangements for financing considerations. The main areas of leases that the Group has entered into are for:

- Property – offices and apartments. These are a small number of leases, but represent most of the value.
- Cars – mostly for sales representatives.
- Office equipment – photocopiers and similar.

The right-of-use assets reported for the Group's leases are shown in the table below.

Right-of-use assets: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Total
Year ended 31 December 2022				
At 1 January 2022	49	1,040	160	1,249
Additions	40	179	119	338
Disposals	0	(35)	(12)	(47)
Reclassification to assets held for sale [6]	0	0	0	0
Depreciation charge	(3)	(248)	(90)	(341)
Impairment reversal (charge)	0	(5)	0	(5)
Other	1	(28)	0	(27)
Currency translation effects	(2)	(23)	(9)	(34)
At 31 December 2022	**85**	**880**	**168**	**1,133**
Cost	101	1,543	325	1,969
Accumulated depreciation and impairment	(16)	(663)	(157)	(836)
Net book value	**85**	**880**	**168**	**1,133**
Year ended 31 December 2023				
At 1 January 2023	85	880	168	1,133
Additions	2	777	120	899
Disposals	0	(18)	(20)	(38)
Reclassification to assets held for sale [6]	0	0	(8)	(8)
Depreciation charge	(4)	(231)	(90)	(325)
Impairment reversal (charge)	0	(319)	0	(319)
Other	0	(21)	0	(21)
Currency translation effects	(7)	(86)	(13)	(106)
At 31 December 2023	**76**	**982**	**157**	**1,215**
Cost	94	1,953	314	2,361
Accumulated depreciation and impairment	(18)	(971)	(157)	(1,146)
Net book value	**76**	**982**	**157**	**1,215**

Classification of impairment reversal (charge) of right-of-use assets in millions of CHF

	2023	2022
Cost of sales	(3)	0
Research and development	(23)	0
Selling, general and administration	(293)	(5)
Total impairment reversal (charge)	**(319)**	**(5)**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

Impairment charges for right-of-use assets were mainly related to global restructuring plans (see Note 7). Included in the 2023 impairment charge was a write-off of CHF 287 million for right-of-use assets recorded by Foundation Medicine in relation to its leased buildings in Boston and San Diego, US. The recoverable amount of CHF 224 million was determined using fair value less costs of disposal calculations. These valuations were classified as a Level 3 fair value in the fair value hierarchy. A post-tax discount rate of 3.5% was applied to the projected post-tax cash flows for the remaining contractual period of Foundation Medicine's leases of approximately 8 to 15 years.

Liabilities reported for the Group's leases are shown in the table below.

Leases: movements in carrying value of recognised liabilities in millions of CHF

	2023	2022
At 1 January	1,193	1,354
Increase from new lease arrangements	897	335
Repayment of lease liabilities	(360)	(419)
Disposals	(43)	(57)
Reclassification to liabilities directly associated with assets held for sale [6]	(8)	0
Interest expense on lease liabilities [4]	23	16
Other	0	(2)
Currency translation effects	(129)	(34)
At 31 December	**1,573**	**1,193**
Non-current lease liabilities [18]	1,282	891
Current lease liabilities [19]	291	302
Total lease liabilities	**1,573**	**1,193**

The maturity analysis of lease liabilities is given in Note 31 in the 'Liquidity risk' section.

Short-term leases and leases of low-value assets are accounted for using the recognition exemption permitted by IFRS 16. Expenses for short-term leases are recognised on a straight-line basis. These mainly include short-term property leases for employee apartments. The amount reported in 2023 was CHF 35 million (2022: CHF 36 million). Expenses for leases of low-value assets are recognised on a straight-line basis. These mainly include certain office equipment. The amount reported in 2023 was CHF 11 million (2022: CHF 13 million).

Expenses for variable lease payments not included in the measurement of lease liabilities was CHF 36 million in 2023 (2022: CHF 38 million). In 2023 income from subleasing right-of-use assets was CHF 6 million (2022: CHF 3 million). In 2023 and 2022 the Group did not enter into any material sale and leaseback transactions.

The major cash flows in respect of leases where the Group is the lessee are shown in the table below.

Leases: cash flows in millions of CHF

	2023	2022
Included in cash flows from operating activities	(81)	(87)
Included in cash flows from financing activities	(362)	(422)
Total lease payments	**(443)**	**(509)**

Cash flows from operating activities include cash flows from short-term leases, leases of low-value assets and variable lease payments. Cash flows from financing activities include the payment of interest and the principal portion of lease liabilities as well as prepayments made before the lease commencement date.

Leases committed and not yet commenced. In November 2021 Genentech entered into a binding lease agreement with a third party for the lease of laboratory and office space in a building in South San Francisco, US, which is to be constructed by the landlord at the location currently known as '751 Gateway'. According to the agreement Genentech is committed to lease the building for seven years. The commencement date of the lease is currently expected to be in the first half of 2024. The committed future cash outflows related to this agreement are estimated to be approximately USD 117 million based on current assumptions.

The Group as a lessor

In the Diagnostics Division the Group enters into certain contracts which include placement of diagnostics instruments, supply of reagents and other consumables, and servicing arrangements. Depending upon the term of the agreement, the instrument placement may result in either a finance lease or an operating lease. The Group performs a thorough customer assessment before new leasing agreements are signed. Usually the Group also retains rights to terminate or modify contracts if certain conditions are not met.

Finance leases. Certain assets, mainly diagnostics instruments, are leased to third parties through finance lease arrangements. Such assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as sales at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in other revenue.

The following amounts were recorded as income in respect of finance leases.

Finance leases: selected items of income in millions of CHF

	2023	2022
Selling profit as the difference between sales and cost of sales	4	7
Finance income on the net investment in the lease	6	6

Currently the Group does not have any income from the variable lease payments of finance leases. The carrying amount of the net investment in finance leases reported as receivables was CHF 137 million (2022: CHF 144 million).

Finance leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	Gross investment in lease 2023	Gross investment in lease 2022	Present value of minimum lease receipts 2023	Present value of minimum lease receipts 2022
Within one year	56	58	51	52
Between one and two years	36	39	33	37
Between two and three years	25	29	23	26
Between three and four years	17	17	16	16
Between four and five years	10	9	9	9
More than five years	6	5	5	5
Total	**150**	**157**	**137**	**145**
Unearned finance income	(13)	(13)	n/a	n/a
Unguaranteed residual value	n/a	n/a	0	(1)
Net investment in lease	**137**	**144**	**137**	**144**

Operating leases. Certain assets, mainly diagnostics instruments, are leased to third parties through operating lease arrangements. Income from operating leases is recognised as sales on a straight-line basis over the lease term or, when lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, as the performance obligations for reagents are satisfied.

Lease income in 2023 was CHF 707 million (2022: CHF 787 million) and was included in sales. Of this CHF 485 million (2022: CHF 588 million) relates to variable lease payments not depending upon an index or rate.

Leased assets are reported within property, plant and equipment, as shown in the tables below.

Machinery and equipment subject to operating leases: movements in carrying value of assets in millions of CHF

	2023 Leased out	2023 Own use	2023 Total	2022 Leased out	2022 Own use	2022 Total
At 1 January						
Cost	5,717	16,777	22,494	5,641	16,357	21,998
Accumulated depreciation and impairment	(4,163)	(11,101)	(15,264)	(4,014)	(10,677)	(14,691)
Net book value	**1,554**	**5,676**	**7,230**	**1,627**	**5,680**	**7,307**
Year ended 31 December						
At 1 January	1,554	5,676	7,230	1,627	5,680	7,307
Additions	824	132	956	711	235	946
Disposals	(34)	(41)	(75)	(43)	(41)	(84)
Transfers	7	605	612	3	1,124	1,127
Reclassification to assets held for sale	0	(184)	(184)	0	0	0
Depreciation charge	(636)	(958)	(1,594)	(662)	(1,034)	(1,696)
Impairment reversal (charge)	(2)	(103)	(105)	0	(35)	(35)
Other	(10)	(52)	(62)	1	(60)	(59)
Currency translation effects	(130)	(375)	(505)	(83)	(193)	(276)
At 31 December	**1,573**	**4,700**	**6,273**	**1,554**	**5,676**	**7,230**
Cost	5,555	14,358	19,913	5,717	16,777	22,494
Accumulated depreciation and impairment	(3,982)	(9,658)	(13,640)	(4,163)	(11,101)	(15,264)
Net book value	**1,573**	**4,700**	**6,273**	**1,554**	**5,676**	**7,230**

Buildings and land improvements subject to operating leases: movements in carrying value of assets in millions of CHF

	2023			2022		
	Leased out	Own use	Total	Leased out	Own use	Total
At 1 January						
Cost	0	19,806	19,806	0	18,175	18,175
Accumulated depreciation and impairment	0	(8,925)	(8,925)	0	(8,289)	(8,289)
Net book value	**0**	**10,881**	**10,881**	**0**	**9,886**	**9,886**
Year ended 31 December						
At 1 January	0	10,881	10,881	0	9,886	9,886
Additions	0	6	6	0	125	125
Disposals	0	(13)	(13)	0	(6)	(6)
Transfers	25	712	737	0	1,925	1,925
Reclassification to assets held for sale	0	(433)	(433)	0	0	0
Depreciation charge	(1)	(828)	(829)	0	(869)	(869)
Impairment reversal (charge)	0	(207)	(207)	0	0	0
Other	0	15	15	0	(2)	(2)
Currency translation effects	(1)	(628)	(629)	0	(178)	(178)
At 31 December	**23**	**9,505**	**9,528**	**0**	**10,881**	**10,881**
Cost	25	17,908	17,933	0	19,806	19,806
Accumulated depreciation and impairment	(2)	(8,403)	(8,405)	0	(8,925)	(8,925)
Net book value	**23**	**9,505**	**9,528**	**0**	**10,881**	**10,881**

The undiscounted amounts expected to be received from non-cancellable operating leases are shown in the table below.

Operating leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	2023	2022
Within one year	191	172
Between one and two years	148	131
Between two and three years	107	99
Between three and four years	76	57
Between four and five years	52	28
More than five years	39	12
Total minimum receipts	**613**	**499**

29. Earnings per share and non-voting equity security

Basic earnings per share and non-voting equity security

	2023	2022
Net income attributable to Roche shareholders (CHF millions)	**11,498**	**12,421**
Weighted average number of outstanding shares (millions)	107	112
Number of outstanding non-voting equity securities (millions)[22]	703	703
Weighted average number of own shares and non-voting equity securities held (millions)	(11)	(15)
Weighted average number of outstanding shares and non-voting equity securities used to calculate basic earnings per share (millions)	**799**	**800**
Basic earnings per share and non-voting equity security (CHF)	**14.40**	**15.52**

Diluted earnings per share and non-voting equity security

	2023	2022
Net income attributable to Roche shareholders (CHF millions)	11,498	12,421
Increase in non-controlling interests' share of Group net income, assuming all outstanding Chugai stock options exercised (CHF millions)	0	(1)
Net income used to calculate diluted earnings per share (CHF millions)	**11,498**	**12,420**
Weighted average number of outstanding shares and non-voting equity securities (millions)	799	800
Adjustment for assumed exercise of equity compensation plans, where dilutive (millions)	5	8
Weighted average number of outstanding shares and non-voting equity securities used to calculate diluted earnings per share (millions)	**804**	**808**
Diluted earnings per share and non-voting equity security (CHF)	**14.31**	**15.37**

30. Statement of cash flows

Cash flows from operating activities

Cash flows from operating activities arise from the Group's primary activities in the Pharmaceuticals and Diagnostics Divisions. These are calculated using the indirect method by adjusting the Group's operating profit for any operating income and expenses that are not cash flows (for example depreciation, amortisation and impairment) in order to derive the cash generated from operations. This and other operating cash flows are shown in the statement of cash flows. Operating cash flows also include income taxes paid on all activities.

Cash generated from operations in millions of CHF

	2023	2022
Net income	12,358	13,531
Add back non-operating (income) expense		
– Financing costs [4]	996	665
– Other financial (income) expense [4]	320	484
– Income taxes [5]	1,721	2,796
Operating profit	**15,395**	**17,476**
Depreciation of property, plant and equipment [8]	2,423	2,565
Depreciation of right-of-use assets [28]	325	341
Amortisation of intangible assets [10]	716	938
Impairment of goodwill [9]	591	0
Impairment of intangible assets [10]	608	2,837
Impairment (reversal) of property, plant and equipment [8]	350	123
Impairment (reversal) of right-of-use assets [28]	319	5
Operating (income) expense for defined benefit plans [26]	453	611
Operating expense for equity-settled equity compensation plans [27]	830	738
Net (income) expense for provisions	572	514
Bad debt (reversal) expense	6	3
Inventory write-downs	643	509
Net (gain) loss on disposal of products	(558)	(612)
Other adjustments	(56)	(18)
Cash generated from operations	**22,617**	**26,030**

Cash flows from investing activities

Cash flows from investing activities are principally those arising from the Group's investments in property, plant and equipment and intangible assets, and from the acquisition and divestment of subsidiaries, associates and businesses. Cash flows connected with the Group's portfolio of marketable securities and other investments are also included, as are any interest and dividend payments received in respect of these securities and investments. These cash flows indicate the Group's net reinvestment in its operating assets and the cash flow effects of business combinations and divestments, as well as the cash generated by the Group's other investments.

Interest received (paid) and dividends received on marketable securities and other investments in millions of CHF

	2023	2022
Interest received (paid)	168	32
Dividends received	0	0
Total	**168**	**32**

Cash flows from financing activities

Cash flows from financing activities are primarily the proceeds from the issuance and repayment of the Group's equity and debt instruments. They also include interest payments and dividend payments on these instruments. Cash flows from short-term financing are also included. These cash flows indicate the Group's transactions with the providers of its equity and debt financing. Cash flows from lease payments are also included within financing activities. Cash flows from short-term borrowings are shown as a net movement, as these consist of a large number of transactions with short maturity.

Dividends paid in millions of CHF

	2023	2022
Dividends to Roche shareholders	(7,590)	(7,446)
Dividends to non-controlling shareholders		
– Chugai	(327)	(390)
– Other non-controlling interests	(7)	(16)
Increase (decrease) in dividends payable	(1)	0
Dividend withholding tax	(1)	20
Total	**(7,926)**	**(7,832)**

Liabilities arising from financing activities

Movements in carrying value of recognised assets (liabilities) in millions of CHF

	Debt [21]	Interest payable [19]	Principal portion of lease liabilities	Derivative financial instruments, net [16, 19, 31]	Cash collateral receivables (payables), net [16, 19, 31]	Total
Year ended 31 December 2022						
At 1 January 2022	(31,198)	(102)	(1,353)	(73)	(17)	(32,743)
Cash flows						
– Outflows (inflows)	5,698	557	405	327	199	7,186
Non-cash changes						
– Financing costs	(4)	(588)	(16)	0	0	(608)
– Business combinations	0	0	0	0	0	0
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	136	(8)	(262)	(735)	0	(869)
– Foreign exchange rates	17	1	35	22	(2)	73
At 31 December 2022	**(25,351)**	**(140)**	**(1,191)**	**(459)**	**180**	**(26,961)**
Year ended 31 December 2023						
At 1 January 2023	(25,351)	(140)	(1,191)	(459)	180	(26,961)
Cash flows						
– Outflows (inflows)	(5,785)	770	339	(32)	(123)	(4,831)
Non-cash changes						
– Financing costs	(8)	(797)	(23)	0	0	(828)
– Business combinations	0	0	0	0	0	0
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	(88)	(32)	(824)	182	0	(762)
– Foreign exchange rates	2,023	12	129	37	(7)	2,194
At 31 December 2023	**(29,209)**	**(187)**	**(1,570)**	**(272)**	**50**	**(31,188)**

Significant non-cash transactions

In 2023 there were no significant non-cash transactions (2022: none) except for the leasing transactions where the Group is a lessee (see Note 28).

31. Risk management

Group risk management

Risk management is a fundamental element of the Group's business practice on all levels and encompasses different types of risks. At Group level, risk management is an integral part of the long-term forecasting and controlling processes. Material risks are monitored and regularly discussed with the Corporate Executive Committee and the Audit Committee of the Board of Directors.

Financial risk management

The Group is exposed to various financial risks arising from its underlying operations and corporate finance activities. The Group's financial risk exposures are predominantly related to changes in foreign exchange rates, interest rates and equity prices as well as the creditworthiness and the solvency of the Group's counterparties.

Financial risk management within the Group is governed by policies reviewed by the boards of directors of Roche and Chugai as appropriate to their areas of statutory responsibility. These policies cover credit risk, liquidity risk and market risk. The policies provide guidance on risk limits, types of authorised financial instruments and monitoring procedures. As a general principle, the policies prohibit the use of derivative financial instruments for speculative trading purposes. Policy implementation and day-to-day risk management are carried out by the relevant treasury functions and regular reporting on these risks is performed by the relevant accounting and controlling functions within Roche and Chugai.

Credit risk

Credit risk arises from the possibility that counterparties to transactions may default on their obligations, causing financial losses for the Group. The objective of managing counterparty credit risk is to prevent losses of liquid funds deposited with or invested in such counterparties. The maximum exposure to credit risk resulting from financial activities, without considering netting agreements and without taking account of any collateral held or other credit enhancements, is equal to the carrying value of the Group's financial assets.

The Group considers a financial asset to be in default when the counterparty is unlikely to pay its obligations to the Group in full. In assessing whether a counterparty is in default, the Group considers both qualitative and quantitative indicators (e.g. overdue status) that are based on data developed internally and for certain financial assets are also obtained from external sources. A major part of the Group's receivables which are past due more than 90 days relate to public customers. Risk of default of public customers is considered low. The Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate for this particular customer segment.

Accounts receivable. At 31 December 2023 the Group had trade receivables of CHF 12.1 billion (2022: CHF 12.6 billion). These are subject to a policy of active credit risk management which focuses on the assessment of country risk, credit availability, ongoing credit evaluation and account monitoring procedures. The objective of trade receivables management is to maximise the collection of unpaid amounts.

The Group uses an allowance matrix to estimate the allowance for doubtful accounts for all trade receivables. The expected credit loss ('ECL') rate is based on the Group's historical experience and the Group's expectation of economic conditions over the period until receivables are expected to be paid.

Customer credit risk exposure based on accounts receivable days overdue in millions of CHF

	Total	Current	Overdue 1–3 months	Overdue 3–12 months	Overdue more than 1 year	Credit impaired
At 31 December 2023						
Gross carrying amount	11,461	9,594	748	428	656	35
Group's expected credit loss rate	4%	0%	1%	7%	52%	100%
Allowance for doubtful accounts	(440)	(24)	(11)	(28)	(342)	(35)
At 31 December 2022						
Gross carrying amount	12,096	10,373	708	369	604	42
Group's expected credit loss rate	4%	0%	1%	8%	64%	100%
Allowance for doubtful accounts	(490)	(27)	(6)	(31)	(384)	(42)

At 31 December 2023 the Group's combined trade receivables balance with three US national wholesale distributors, McKesson Corp., Cencora, Inc. (formerly AmerisourceBergen Corp.) and Cardinal Health, Inc., was equivalent to CHF 3.7 billion representing 31% of the Group's consolidated trade receivables (2022: CHF 3.1 billion representing 25%). There is no other significant concentration of counterparty credit risk due to the Group's large number of customers and their wide geographical spread. Risk limits and exposures are continuously monitored by country and by the nature of counterparties. The Group obtains credit insurance and similar enhancements when appropriate to protect the collection of trade receivables.
At 31 December 2023 no collateral was considered to measure expected credit losses for trade receivables (2022: none).

The nature and geographic location of counterparties to accounts receivable that are not overdue or impaired are shown in the table below. These include the balances with US national wholesalers described above.

Accounts receivable (not overdue), net of allowances for doubtful accounts and other allowances: nature and geographical location of counterparties in millions of CHF

	2023				2022			
Regions	Total	Public	Whole-salers/ distributors	Private	Total	Public	Whole-salers/ distributors	Private
Switzerland	379	135	142	102	291	69	167	55
Europe	1,395	513	402	480	1,609	594	376	639
North America	4,188	81	3,663	444	3,904	130	3,272	502
Latin America	609	131	231	247	584	122	233	229
Japan	1,198	5	1,183	10	2,236	1,091	1,135	10
Asia, Australia and Oceania	1,241	220	921	100	1,221	212	888	121
Rest of the World	560	137	228	195	501	125	199	177
Total	**9,570**	**1,222**	**6,770**	**1,578**	**10,346**	**2,343**	**6,270**	**1,733**

Cash and marketable securities (excluding equity securities). At 31 December 2023 the Group had cash and marketable securities (excluding equity securities) of CHF 10.5 billion (2022: CHF 9.8 billion). These are subject to a policy of restricting exposures to high-quality counterparties and setting defined limits for individual counterparties. These limits and counterparty credit ratings are reviewed regularly.

Cash and cash equivalents are held with banks and financial institutions, which are predominantly rated as investment grade (94% in 2023 and 95% in 2022), based on Moody's and Standard & Poor's ratings. Cash and short-term time deposits are subject to rules which limit the Group's exposure to individual financial institutions.

Impairment on cash and cash equivalents is measured on a 12-month expected credit losses ('ECL') basis with a reference to external credit ratings of the counterparties. This reflects the short maturities of the exposures in cash and cash equivalents. The Group considers that its cash and cash equivalents have low credit risk based on these external credit ratings.

Investments in marketable securities (excluding equity securities) are entered into on the basis of guidelines with regard to liquidity, quality and maximum amount. As a general rule, the Group invests only in high-quality securities with adequate liquidity and with counterparties that have a credit rating of at least Baa3 from Moody's and BBB- from Standard & Poor's.

The credit risk of the counterparties with external ratings below investment grade or with no rating is closely monitored and reviewed on an individual basis.

Rating analysis of cash and marketable securities (excluding equity securities) – market values in millions of CHF

	2023			2022		
	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)
AAA range	1,254	954	300	2,123	2,123	0
AA range	910	134	776	1,021	121	900
A range	7,604	1,435	6,169	5,946	1,754	4,192
BBB range	344	342	2	400	390	10
Total investment grade	**10,112**	**2,865**	**7,247**	**9,490**	**4,388**	**5,102**
Below BBB range (below investment grade)	64	5	59	77	5	72
Unrated	333	1	332	199	1	198
Total gross carrying amounts	**10,509**	**2,871**	**7,638**	**9,766**	**4,394**	**5,372**
Loss allowance [a)]	**1**	**0**	**1**	**1**	**0**	**1**

a) The loss allowance related to fair value through OCI does not affect the carrying amount of marketable securities (excluding equity securities) but is booked against corresponding OCI reserve instead.

Debt securities at amortised cost and those at fair value through OCI are investment grade and therefore considered to be low risk, and thus the impairment allowance is determined at 12-month expected credit losses ('ECL') with a reference to external credit ratings of the counterparties. There were no debt securities for which the Group observed a significant increase in the credit risk which would require the application of the lifetime expected credit losses impairment model. In addition, there were no material movements in the loss allowance in 2023 and 2022, respectively.

Master netting agreements. The Group enters into derivative transactions and collateral agreements under International Swaps and Derivatives Association (ISDA) master netting agreements with the respective counterparties in order to mitigate counterparty risk. Under such agreements the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. The ISDA agreements do not meet the criteria for offsetting in the balance sheet as the Group does not have a currently enforceable right to offset recognised amounts, because the right to offset is only enforceable on the occurrence of future events, such as a default or other credit events.

Contract terms. At 31 December 2023 there were no significant financial assets whose terms had been renegotiated (2022: none).

Impairment losses on financial assets excluding equity investments/securities. During 2023 there were no impairment losses (2022: none).

Liquidity risk

Liquidity risk arises through a surplus of financial obligations over available financial assets due at any point in time. The Group's approach to liquidity risk is to maintain sufficient readily available reserves in order to meet its liquidity requirements at any point in time. Roche and Chugai enjoy strong credit quality and are rated by at least one major credit rating agency. The ratings will permit efficient access to the international capital markets in the event of major financing requirements. At 31 December 2023 the Group had an unused committed credit line with various financial institutions totalling CHF 6.6 billion (2022: CHF 7.2 billion), of which CHF 6.3 billion (2022: CHF 6.9 billion) serve as a back-stop line for the commercial paper program. On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026. On 19 January 2024 the Group executed a short-term bridge facility agreement of USD 5.0 billion (CHF 4.2 billion) with banks for general corporate purposes including but not limited to mergers and acquisitions and repayments of maturing debts. The bridge facility has an initial maturity of six months and two extension options for three months each.

The remaining undiscounted cash flow contractual maturities of financial liabilities, including estimated interest payments, are shown in the table below.

Contractual maturities of financial liabilities in millions of CHF

	Carrying value	Total	Less than 1 year	1–2 years	2–5 years	Over 5 years
At 31 December 2023						
Debt [21]						
– Bonds and notes	27,812	35,231	4,616	4,038	11,326	15,251
– Other debt	1,397	1,397	1,397	0	0	0
Contingent consideration [20]	95	106	35	13	38	20
Accounts payable [17]	4,325	4,325	4,325	–	–	–
Other non-current liabilities [18]	1,541	1,708	–	504	481	723
– of which lease liabilities	*1,282*	*1,449*	*–*	*260*	*478*	*711*
Other current liabilities [19]	12,150	12,173	12,079	55	39	0
– of which lease liabilities	*291*	*314*	*314*	*–*	*–*	*–*
– of which derivative financial instruments	*420*	*420*	*326*	*55*	*39*	*0*
Liabilities directly associated with assets held for sale [6]	8	8	8	–	–	–
Total financial liabilities	**47,328**	**54,948**	**22,460**	**4,610**	**11,884**	**15,994**
At 31 December 2022						
Debt [21]						
– Bonds and notes	23,158	28,153	2,264	3,671	9,319	12,899
– Other debt	2,193	2,193	2,193	0	0	0
Contingent consideration [20]	103	116	38	47	9	22
Accounts payable [17]	4,556	4,556	4,556	–	–	–
Other non-current liabilities [18]	1,189	1,258	–	530	386	342
– of which lease liabilities	*891*	*960*	*–*	*249*	*383*	*328*
Other current liabilities [19]	13,288	13,301	13,150	61	90	0
– of which lease liabilities	*302*	*315*	*315*	*–*	*–*	*–*
– of which derivative financial instruments	*626*	*626*	*475*	*61*	*90*	*0*
Liabilities directly associated with assets held for sale [6]	0	0	0	–	–	–
Total financial liabilities	**44,487**	**49,577**	**22,201**	**4,309**	**9,804**	**13,263**

Take-or-pay commitments. The Group has entered into contract manufacturing agreements with various companies to further develop manufacturing capacity and flexibility, mainly in the Pharmaceuticals Division. There are future minimum take-or-pay commitments within some of these agreements with a total potential commitment from the Group of CHF 1.7 billion at 31 December 2023 (2022: CHF 1.9 billion).

Commitments for capital calls. The Group holds investments in funds reported as debt investment at fair value through profit or loss in which it has committed to invest further upon future capital calls. As of 31 December 2023 the total uncalled capital commitments for the Group's investments in funds amounted to CHF 72 million (2022: CHF 89 million).

Market risk

Market risk arises from changing market prices, mainly foreign exchange rates and interest rates, of the Group's financial assets or financial liabilities which affect the Group's financial result and equity.

Value-at-Risk. The Group uses Value-at-Risk (VaR) to measure the impact of market risk on its financial instruments. VaR indicates the value range within which a given financial instrument will fluctuate with a preset probability as a result of movements in market prices. VaR is calculated using a historical simulation approach and for each scenario, all financial instruments are fully valued and the total change in value and earnings is determined. VaR calculations are based on a 95% confidence level and a holding period of 20 trading days over the past ten years. This holding period reflects the time required to change the corresponding risk exposure, should this be deemed appropriate.

Actual future gains and losses associated with the Group's treasury activities may differ materially from the VaR analyses due to the inherent limitations associated with predicting the timing and amount of changes to interest rates, foreign exchange rates and equity investment prices, particularly in periods of high market volatilities. Furthermore, VaR does not include the effect of changes in credit spreads.

Market risk of financial instruments in millions of CHF

	2023	2022
VaR – Interest rate component	440	234
VaR – Foreign exchange component	32	40
VaR – Other price component	38	54
Diversification	(72)	(67)
VaR – Total market risk	**438**	**261**

The interest rate component increased due to the bond issuances during 2023. The foreign exchange component was lower due to a favourable exposure mix. The other price component decreased due to a lower balance of equity investments.

Foreign exchange risk

The Group uses the Swiss franc as its reporting currency and as a result is exposed to movements in foreign currencies, mainly the US dollar, Japanese yen and euro. The Group's foreign exchange risk management strategy is to preserve the economic value of its current and future assets and to minimise the volatility of the Group's financial result. The primary focus of the Group's foreign exchange risk management activities is on hedging transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies. The Group uses forward contracts and foreign exchange options to hedge transaction exposures. Application of these instruments intends to continuously immunise against unfavourable developments of foreign exchange rates.

Interest rate risk

The Group mainly raises debt on a fixed rate basis for bonds and notes. The Group is exposed to movements in interest rates, mainly for its US dollar, Swiss franc and euro floating rate financial instruments and short-term debt. The Group's interest rate risk management strategy is to optimise the net interest result. The Group may use forward contracts, options and interest rate swaps to hedge its interest rate exposures. Depending on the interest rate environment of major currencies, the Group will use these instruments to generate an appropriate mix of fixed and floating rate exposures.

Other price risk

Other price risk arises mainly from movements in the prices of equity securities. The Group manages the price risk through placing limits on individual and total equity investments. These limits are defined both as a percentage of total liquid funds and as an absolute number for individual equity investments.

Capital management

The Group defines the capital that it manages as the Group's total capitalisation, being the sum of debt plus equity, including non-controlling interests. The Group's objectives when managing capital are:

- To safeguard the Group's ability to continue as a going concern, so that it can continue to provide benefits for patients and returns to investors.
- To provide an adequate return to investors based on the level of risk undertaken.
- To have available the necessary financial resources to allow the Group to invest in areas that may deliver future benefits for patients and returns to investors.
- To maintain sufficient financial resources to mitigate against risks and unforeseen events.

The capitalisation is reported to senior management as part of the Group's regular internal management reporting and is shown in the table below.

Capital in millions of CHF

	2023	2022	2021
Capital and reserves attributable to Roche shareholders [22]	29,315	27,992	24,489
Equity attributable to non-controlling interests [24]	3,948	4,023	3,856
Total equity	**33,263**	**32,015**	**28,345**
Total debt [21]	**29,209**	**25,351**	**31,198**
Capitalisation	**62,472**	**57,366**	**59,543**

The Group is not subject to regulatory capital adequacy requirements as known in the financial services industry. The Group has a majority shareholding in Chugai (see Note 23). Chugai is a public company and its objectives, policies and processes for managing its own capital are determined by Chugai management.

Financial instrument accounting classifications and fair values

The fair values of financial assets and liabilities, together with the carrying value shown in the consolidated balance sheet, are as follows:

Carrying value and fair value of financial instruments – 2023 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2023							
Other non-current assets [15]							
– Equity and debt investments	298	249	–	–	–	547	547
– Other financial non-current assets	–	–	–	114	–	114	114
Accounts receivable [12]	–	–	–	11,021	–	11,021	11,021
Marketable securities [13]							
– Equity securities	1	–	–	–	–	1	1
– Debt securities	0	512	–	–	–	512	512
– Money market instruments	–	2,359	–	–	–	2,359	2,359
– Time accounts over three months	–	–	–	2,262	–	2,262	2,262
Cash and cash equivalents [14]	–	–	–	5,376	–	5,376	5,376
Other current assets [16]							
– Derivative financial instruments	–	–	148	–	–	148	148
– Other financial current assets	–	–	–	897	–	897	897
Total financial assets	**299**	**3,120**	**148**	**19,670**	**–**	**23,237**	**23,237**
Debt [21]							
– Bonds and notes	–	–	–	–	(27,812)	(27,812)	(27,081)
– Other debt	–	–	–	–	(1,397)	(1,397)	(1,397)
Contingent consideration [20]	(95)	–	–	–	–	(95)	(95)
Accounts payable [17]	–	–	–	–	(4,325)	(4,325)	(4,325)
Other non-current liabilities [18]	–	–	–	–	(1,541)	(1,541)	(1,541)
Other current liabilities [19]	–	–	(420)	–	(11,730)	(12,150)	(12,150)
Liabilities directly associated with assets held for sale [6]	–	–	–	–	(8)	(8)	(8)
Total financial liabilities	**(95)**	**–**	**(420)**	**–**	**(46,813)**	**(47,328)**	**(46,597)**

Carrying value and fair value of financial instruments – 2022 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2022							
Other non-current assets [15]							
– Equity and debt investments	315	356	–	–	–	671	671
– Other financial non-current assets	–	–	–	126	–	126	126
Accounts receivable [12]	–	–	–	11,606	–	11,606	11,606
Marketable securities [13]							
– Equity securities	1	–	–	–	–	1	1
– Debt securities	0	583	–	–	–	583	583
– Money market instruments	–	3,811	–	–	–	3,811	3,811
– Time accounts over three months	–	–	–	381	–	381	381
Cash and cash equivalents [14]	–	–	–	4,991	–	4,991	4,991
Other current assets [16]							
– Derivative financial instruments	–	–	167	–	–	167	167
– Other financial current assets	–	–	–	1,082	–	1,082	1,082
Total financial assets	**316**	**4,750**	**167**	**18,186**	**–**	**23,419**	**23,419**
Debt [21]							
– Bonds and notes	–	–	–	–	(23,158)	(23,158)	(21,443)
– Other debt	–	–	–	–	(2,193)	(2,193)	(2,193)
Contingent consideration [20]	(103)	–	–	–	–	(103)	(103)
Accounts payable [17]	–	–	–	–	(4,556)	(4,556)	(4,556)
Other non-current liabilities [18]	–	–	–	–	(1,189)	(1,189)	(1,189)
Other current liabilities [19]	–	–	(626)	–	(12,662)	(13,288)	(13,288)
Liabilities directly associated with assets held for sale [6]	–	–	–	–	0	0	0
Total financial liabilities	**(103)**	**–**	**(626)**	**–**	**(43,758)**	**(44,487)**	**(42,772)**

The fair value of bonds and notes is Level 1 and is calculated based on the observable market prices of the debt instruments or the present value of the future cash flows on the instrument, discounted at a market rate of interest for instruments with similar credit status, cash flows and maturity periods.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2 – observable inputs other than quoted prices in active markets for identical assets and liabilities.
- Level 3 – unobservable inputs.

Fair value hierarchy of financial instruments in millions of CHF

	Level 1	Level 2	Level 3	Total
At 31 December 2023				
Marketable securities [13]				
– Equity securities at fair value through profit or loss	1	–	–	1
– Debt securities at fair value through OCI	506	6	–	512
– Money market instruments at fair value through OCI	250	2,109	–	2,359
Derivative financial instruments [16]	–	148	–	148
Equity investments at fair value through OCI [15]	241	8	–	249
Equity and debt investments at fair value through profit or loss [15]	98	172	28	298
Financial assets recognised at fair value	**1,096**	**2,443**	**28**	**3,567**
Derivative financial instruments [19]	–	(420)	–	(420)
Contingent consideration [20]	–	–	(95)	(95)
Financial liabilities recognised at fair value	**–**	**(420)**	**(95)**	**(515)**
At 31 December 2022				
Marketable securities [13]				
– Equity securities at fair value through profit or loss	1	–	–	1
– Debt securities at fair value through OCI	518	65	–	583
– Money market instruments at fair value through OCI	0	3,811	–	3,811
Derivative financial instruments [16]	–	167	–	167
Equity investments at fair value through OCI [15]	356	0	–	356
Equity and debt investments at fair value through profit or loss [15]	114	179	22	315
Financial assets recognised at fair value	**989**	**4,222**	**22**	**5,233**
Derivative financial instruments [19]	–	(626)	–	(626)
Contingent consideration [20]	–	–	(103)	(103)
Financial liabilities recognised at fair value	**–**	**(626)**	**(103)**	**(729)**

Level 1 financial assets consisted of treasury bills, bonds and quoted shares. Level 2 financial assets consisted primarily of commercial paper, certificates of deposit and derivative financial instruments.

The Group determines Level 2 fair values using the following valuation techniques:

- Marketable securities and derivative financial instruments are based on valuation models that use observable market data for interest rates, yield curves, foreign exchange rates and implied volatilities for similar instruments at the measurement date.
- Equity and debt investments at fair value through OCI and at fair value through profit or loss are based on a valuation model that uses the most recently published observable market data.

The Group recognises transfers between levels of the fair value hierarchy as at the end of the reporting period during which the transfer occurred. There were no significant transfers between Level 1 and Level 2 and vice versa during the year (2022: none).

Level 3 fair values

Details of the determination of Level 3 fair value measurements are set out below.

Contingent consideration arrangements in millions of CHF

	2023	2022
At 1 January	(103)	(141)
Arising from business combinations	0	0
Utilised for settlements [6]	0	0
Total gains and losses included in the income statement		
– Unused amounts reversed – recorded within other operating income (expense)	10	41
– Additional amount created – recorded within other operating income (expense)	0	(2)
– Discount unwind included in financing costs	(6)	1
Total gains and losses included in other comprehensive income		
– Currency translation effects	4	(2)
At 31 December	**(95)**	**(103)**

Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement (see Note 34). The comparative information for 2022 has been restated accordingly.

Contingent consideration arrangements

The Group is party to certain contingent consideration arrangements, including those from business combinations. The fair values of contingent consideration from business combinations are determined considering the expected payments and, where payments are expected to be made beyond the next 12 months, discounted to present value using a risk-adjusted average discount rate of 4.9% (2022: 5.3%). The expected payments are determined by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario and the probability of each scenario. The significant unobservable inputs are the forecast sales, other performance criteria and the risk-adjusted discount rate. The estimated fair value would increase if the forecast sales or other performance criteria rates were higher or the risk-adjusted discount rate was lower. At 31 December 2023 the total potential payments under contingent consideration arrangements arising from business combinations could be up to CHF 0.3 billion (2022: CHF 0.4 billion) as follows:

Potential payments under contingent consideration arrangements in millions of CHF

Acquisition	Year acquired	Operating segment	2023	2022
Dutalys	2014	Roche Pharmaceuticals	186	203
Genia	2014	Diagnostics	137	150
At 31 December			**323**	**353**

Derivative financial instruments

Cash collateral agreements are in place with the counterparties to certain derivative financial instruments to mitigate counterparty risk. The following table sets out the carrying value of derivative financial instruments and the amounts that are subject to master netting agreements.

Derivative financial instruments in millions of CHF

	Assets			Liabilities		
	2023	2022	2021	2023	2022	2021
Foreign currency derivatives						
– Forward exchange contracts	147	167	187	(352)	(471)	(242)
– Other	0	0	0	0	0	0
Interest rate derivatives						
– Swaps	1	0	2	(68)	(155)	(20)
– Other	0	0	0	0	0	0
Other derivatives	0	0	0	0	0	0
Carrying value of derivative financial instruments [16, 19]	**148**	**167**	**189**	**(420)**	**(626)**	**(262)**
Derivatives subject to master netting agreements	(68)	(92)	(54)	68	92	54
Collateral arrangements	0	(12)	(32)	50	192	15
Net amount	**80**	**63**	**103**	**(302)**	**(342)**	**(193)**

Collateral arrangements

Movements in cash collateral other receivable (accrued liability) in millions of CHF

	2023	2022
At 1 January	180	(17)
Net cash delivered by (to) the Group	(123)	199
Fair value and other	0	0
Currency translation effects	(7)	(2)
At 31 December	**50**	**180**

Hedge accounting

As described above the Group's risk management strategy is to hedge the transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies as well as to generate an appropriate mix of fixed and floating rate exposures. The level of hedging depends on market conditions and business requirements of the Group. The Group designates a specific interest rate risk management objective to ensure that a predetermined level of its interest rate risk exposure is at a floating rate.

Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments at each reporting date to ensure that an economic relationship exists between the hedged item and the hedging instrument. The Group performs a qualitative assessment of the hedge effectiveness using a critical terms match method. As the critical terms of the hedged items and the hedging instruments match, the Group concludes that risks being hedged for the hedged items and the hedging instruments are sufficiently aligned, that there is no inherent mismatch in the hedging relationship and that a 100% hedge ratio applies both for the actual quantities hedged and for the hedge accounting.

Accounting treatment, sources of ineffectiveness and prospective effectiveness assessment method by risk category

	Accounting treatment	Potential sources of ineffectiveness	Prospective effectiveness assessment method
Interest rate and/or foreign exchange rate fluctuations	Cash flow hedge	Counterparty credit risk	Critical terms match
Foreign exchange rate fluctuations	Cash flow hedge	Lower volume of hedged items / counterparty credit risk	Critical terms match
Interest rate fluctuations	Fair value hedge	Counterparty credit risk	Critical terms match

The ineffective portion of the hedge accounting is recognised in the income statement and included in other financial income (expense). It is measured using the hypothetical derivative method for cash flow hedges and the cumulative dollar offset method for fair value hedges. At 31 December 2023 and 2022 none of the above potential sources of ineffectiveness, individually or collectively, resulted in material amounts of actual ineffectiveness being reported for any hedge accounting relationships.

The table below shows fair values and nominal amounts of derivative financial instruments, including a range of the maturity of the nominal amount of the hedging instruments, which are designated as hedging instruments in a cash flow hedge and a fair value hedge. At 31 December 2023 and 2022, respectively, the Group had the following cash flow hedges and fair value hedges which are designated in a qualifying hedge relationship:

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2023

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 647 billion	41	(174)	2024–2025
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		**41**	**(174)**	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,150 million	0	(42)	2024–2026
– Interest rate swaps	EUR 200 million	0	(8)	2025
– Interest rate swaps	CHF 1,250 million	1	(18)	2024–2027
Total		**1**	**(68)**	

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2022

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 635 billion	39	(173)	2023–2024
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		**39**	**(173)**	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,540 million	0	(96)	2023–2026
– Interest rate swaps	EUR 500 million	0	(17)	2023–2025
– Interest rate swaps	CHF 1,050 million	0	(42)	2024
Total		**0**	**(155)**	

The fair values of derivative financial instruments used for hedge accounting are included in other current assets (see Note 16) or other current liabilities (see Note 19). The Group's approach to managing market risk, including interest rate risk and foreign currency risk, is discussed in the 'Market risk' section in this Note.

Cash flow hedges. In November and December 2021 the Group entered into treasury locks to hedge interest rate risk of fixed rate notes issued by the Group on 13 December 2021. At this date the treasury locks were settled. At 31 December 2023 a relating hedging reserve of CHF 33 million was held as a deduction within equity (2022: CHF 35 million), which will be released and transferred to the income statement within financing costs (see Note 4) until redemption of the fixed rate notes. There was no ineffective portion.

Chugai has entered into forward exchange contracts to hedge a part of its foreign translation exposure to the Swiss franc and the US dollar. At 31 December 2023 such instruments were recorded as fair value assets of CHF 41 million and as fair value liabilities of CHF 174 million (2022: fair value assets of CHF 39 million and fair value liabilities of CHF 173 million). There was no ineffective portion.

Carrying amount of items designated as hedged items in a cash flow hedging relationship in millions of CHF

	2023 Assets	2023 Liabilities	2022 Assets	2022 Liabilities
At 31 December				
Inventories				
Risk hedged by forward exchange contracts: foreign exchange rate fluctuations				
– Inventories	3,862	–	4,410	–

Hedging reserve for continuing hedging relationships in millions of CHF

	2023 Total	2023 Treasury locks	2023 Forward exchange contracts	2022 Total	2022 Treasury locks	2022 Forward exchange contracts
At 1 January	(92)	(35)	(57)	(60)	(37)	(23)
Gains (losses) taken to equity	(344)	0	(344)	(238)	0	(238)
Transferred to income statement[a)]	437	2	435	366	2	364
Transferred to initial carrying amount of hedged items[b)]	(111)	–	(111)	(218)	–	(218)
Income taxes	6	0	6	28	0	28
Non-controlling interests	5	0	5	25	0	25
Currency translation effects	9	0	9	5	0	5
At 31 December	**(90)**	**(33)**	**(57)**	**(92)**	**(35)**	**(57)**

a) In 2023, an amount of CHF 2 million was transferred to the income statement (2022: CHF 2 million) and reported in financing costs, see Note 4. An additional amount of CHF 435 million (2022: CHF 364 million) transferred to the income statement was related to forward exchange contracts entered into by Chugai to hedge a part of its foreign translation exposure to the Swiss franc from revenue transactions. Thereof CHF 19 million (2022: CHF 22 million) were reported in other financial income (expense) (see Note 4) as well as CHF 298 million (2022: CHF 266 million) and CHF 118 million (2022: CHF 76 million) were reported in Chugai's sales and other revenue from other operating segments, respectively (see Note 2).

b) The entire amount transferred to the cost of inventory was related to fair value gains and losses on forward exchange contracts designated by Chugai as cash flow hedges to hedge a part of its foreign translation exposure to the Swiss franc and the US dollar from inventory purchase transactions.

The expected undiscounted cash flows from qualifying cash flow hedges, including interest payments during the duration of the derivative contract and final settlement on maturity, are shown in the table below.

Expected cash flows of qualifying cash flow hedges in millions of CHF

	2023 Total	2023 Less than 1 year	2023 More than 1 year	2022 Total	2022 Less than 1 year	2022 More than 1 year
Cash inflows	5,062	4,254	808	6,857	6,114	743
Cash outflows	(5,304)	(4,454)	(850)	(7,155)	(6,407)	(748)
Total cash inflows (outflows)	**(242)**	**(200)**	**(42)**	**(298)**	**(293)**	**(5)**

The undiscounted cash flows in the table above will affect profit or loss as shown below. These include interest payments during the duration of the derivative contract but do not include the final settlement on maturity.

Expected cash flows of qualifying cash flow hedges with impact on profit or loss in millions of CHF

	2023 Total	2023 Less than 1 year	2023 More than 1 year	2022 Total	2022 Less than 1 year	2022 More than 1 year
Cash inflows	0	0	0	0	0	0
Cash outflows	0	0	0	0	0	0
Total cash inflows (outflows)	**0**	**0**	**0**	**0**	**0**	**0**

Fair value hedges. The Group has entered into some interest rate swaps to hedge its exposure to changes in the fair value of some of its fixed-term debt instruments in respect of a benchmark interest rate. At 31 December 2023 such instruments were recorded as fair value assets of CHF 1 million and as fair value liabilities of CHF 68 million (2022: fair value assets of CHF 0 million and fair value liabilities of CHF 155 million). During 2023 fair value adjustments of CHF 88 million were recorded as income on these interest rate swaps (2022: CHF 137 million as expense). As the fair value hedge had been highly effective since inception, the result of the interest rate swaps was largely offset by changes in the fair value of the hedged debt instruments. The Group's approach to managing market risk, including interest rate risk, is discussed in the 'Market risk' section in this Note.

Carrying amount of items designated as hedged items in a fair value hedging relationship in millions of CHF

	Liabilities	Fair value adjustments cumulative	Fair value adjustments in current year
At 31 December 2023			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
– Bonds and notes	2,348	(67)	88
At 31 December 2022			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
– Bonds and notes	2,826	(155)	(137)

Net investment hedges. The Group does not have any net investment hedges.

32. Related parties

Controlling shareholders

On 10 February 2023, the Group announced that it had acquired 540,000 shares for a total consideration of CHF 166 million. The repurchased shares were initially reported as treasury shares subsequent to acquisition and will be used to cover current as well as future obligations arising from equity compensation plans. This announcement followed from reports that a member of a shareholder group with pooled voting rights sold 2.7 million Roche shares.

At 31 December 2023, based on the information available to the Group, a shareholder group with pooled voting rights owned 69,318,000 shares representing 64.97% of the issued shares (31 December 2022: 72,018,000 shares representing 67.50% of the issued shares). On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement with a modified shareholder composition. This group now consists of Mr André Hoffmann, Ms Marie-Anne Hoffmann, Ms Vera Michalski, Mr Alexander Hoffmann, Mr Frederic Hoffmann, Ms Isabel Hoffmann, Mr Lucas Hoffmann, Ms Marina Hoffmann, Ms Kasia Barbotin-Larrieu, Ms Tatiana Fabre, Mr Andreas Oeri, Ms Catherine Oeri, Ms Sabine Duschmalé, Mr Jörg Duschmalé, Mr Lukas Duschmalé, the charitable foundation Wolf and Artuma Holding LLC. The shareholder pooling agreement has existed since 1948. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2023, based on the information available to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2022: 8,091,900 shares representing 7.58% of the issued shares).

Mr André Hoffmann and Dr Jörg Duschmalé are members of the Board of Directors of Roche Holding Ltd. Mr Hoffmann received remuneration totalling CHF 402,815 (2022: CHF 406,734) and Dr Duschmalé received remuneration totalling CHF 364,592 (2022: CHF 334,475).

There were no other transactions between the Group and the individual members of the above shareholder group.

Subsidiaries and associates

A listing of the Group subsidiaries and associates is included in Note 33. This listing excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation. Transactions between the parent company and its subsidiaries and between subsidiaries are eliminated on consolidation. There were no significant transactions between the Group and its associates.

Key management personnel

Total remuneration of key management personnel was CHF 42 million (2022: CHF 48 million).

Members of the Board of Directors of Roche Holding Ltd receive an annual remuneration and payment for their time and expenses related to their membership of Board Committees. The Chairman of the Board of Directors and members of the Corporate Executive Committee (CEC) of Roche Holding Ltd receive remuneration which consists of an annual salary, a bonus and an expense allowance. The Group pays social insurance contributions in respect of the above remuneration and pays contributions to pension and other post-employment benefit plans for the Chairman of the Board of Directors and the members of the CEC. The members of the CEC also participate in certain equity compensation plans as described below. The terms, vesting conditions and fair value of these awards are disclosed in Note 27.

Remuneration of the members of the Board of Directors and the Corporate Executive Committee in millions of CHF

	2023	2022
Salaries, including cash-settled bonus	19	22
Executive stock compensation	8	8
Social security costs	2	2
Pensions and other post-employment benefits	3	3
Equity compensation plans	6	7
Board fees	3	3
Other employee benefits	1	3
Total	**42**	**48**

For the purposes of these remuneration disclosures the values for equity compensation plans, including executive stock compensation, are calculated based on the fair value used in Note 27. These represent the cost to the Group of such awards at grant date and reflect, amongst other matters, the observed exercise behaviour and exit rate for the whole population that receive the awards and initial simulations of any performance conditions.

The detailed disclosures regarding executive remuneration that are required by Swiss law are included in the Remuneration Report disclosed in the Annual Report on pages 148 to 177. In those disclosures the values for equity compensation plans, including executive stock compensation, represent the fair value that the employee receives taking into account the preliminary assessment of any completed performance conditions. These fair values are shown in the table below, which reconciles those disclosures required by Swiss law to the above related party disclosures for key management personnel.

Reconciliation to executive remuneration disclosures required by Swiss law in millions of CHF

	2023	2022
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (IFRS basis – see table above)	42	48
Deduct		
– Executive stock compensation (IFRS basis)	(8)	(8)
– Equity compensation plans (IFRS basis)	(6)	(7)
Add back		
– Executive stock compensation (Swiss legal basis)	6	4
– Equity compensation plans (Swiss legal basis)	13	12
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (Swiss legal basis)	**47**	**49**
Of which (including social security costs)		
– Board of Directors (page 165 of the Annual Report)	11	10
– Corporate Executive Committee (page 174 of the Annual Report)	36	39

Executive stock compensation. The Chairman of the Board of Directors until April 2023, Dr Franz, and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2023. These are subject to approval by the 2024 Annual General Meeting in March 2024 and will be issued in March 2024. From April 2023, the new Chairman of the Board of Directors, Dr Schwan, received part of his base salary in the form of shares blocked for ten years. The number of awards and fair value per award are calculated at the grant date.

Equity compensation plans. The members of the Corporate Executive Committee received equity compensation as shown in the following tables.

Number of rights, options and awards granted to members of the Corporate Executive Committee

	2023	2022
Roche Stock-settled Stock Appreciation Rights	316,516	183,420
Roche Restricted Stock Unit Plan	11,837	7,190

Contributions paid for members of the Corporate Executive Committee in millions of CHF

	2023	2022
Roche Connect	0.1	0.2

Defined benefit plans

Transactions between the Group and the various defined benefit plans for the employees of the Group are described in Note 26.

33. List of subsidiaries and associates

The following is a listing of the Group subsidiaries and associates. It excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation.

Listed companies

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Switzerland	Roche Holding Ltd Stock Exchange: SIX Swiss Exchange Zurich Stock code (Share): RO, Valor: 1203211 Stock code (*Genussschein*): ROG, Valor: 1203204 ISIN Share: CH0012032113 ISIN *Genussschein*: CH0012032048 Market capitalisation: CHF 196,720 million	Basel	CHF	106.7	
Japan	Chugai Pharmaceutical Co., Ltd. Stock Exchange: Tokyo Stock code: TSE:4519 ISIN: JP3519400000 Market capitalisation: JPY 8,789,267 million	Tokyo	JPY	73,201.8	61.1

Non-listed companies

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Algeria	Roche Algérie SPA	Hydra	DZD	1.0	48
Argentina	Productos Roche S.A. Química e Industrial	Buenos Aires	ARS	18,295.8	100
	Roche Diabetes Care Argentina S.A.	Buenos Aires	ARS	87.4	100
Australia	Roche Diabetes Care Australia Pty Limited	North Ryde	AUD	14.1	100
	Roche Diagnostics Australia Pty Limited	North Ryde	AUD	5.0	100
	Roche Products Pty Limited	Sydney	AUD	65.0	100
Austria	mySugr GmbH	Vienna	EUR	5.7	100
	Roche Austria GmbH	Vienna	EUR	14.5	100
	Roche Diabetes Care Austria GmbH	Vienna	EUR	(–)	100
	Roche Diagnostics GmbH	Vienna	EUR	1.1	100
Bangladesh	Roche Bangladesh Limited	Dhaka	BDT	27.2	100
Belarus	FLLC "Roche Products Limited"	Minsk	USD	1.5	100
Belgium	Roche Diagnostics Belgium NV	Diegem	EUR	3.8	100
	Roche SA/NV	Brussels	EUR	32.0	100
Bermuda	Chemical Manufacturing and Trading Company Limited	Pembroke	USD	(–)	100
	Hoffmann-La Roche Products Limited	Pembroke	USD	(–)	100
	Roche Financial Management Ltd.	Pembroke	USD	(–)	100
	Roche International Ltd.	Pembroke	USD	(–)	100
	Roche Intertrade Limited	Pembroke	USD	10.0	100
	Roche Services Holdings Ltd.	Pembroke	USD	(–)	100
Bolivia	Roche Bolivia S.R.L.	Santa Cruz	BOB	0.1	100
Bosnia and Herzegovina	Roche d.o.o. farmaceutsko drustvo - Roche Ltd. Pharmaceutical Company	Sarajevo	BAM	13.1	100
Brazil	Produtos Roche Químicos e Farmacêuticos S.A.	São Paulo	BRL	1,141.7	100
	Roche Diabetes Care Brasil Ltda.	São Paulo	BRL	44.4	100
	Roche Diagnostica Brasil Ltda.	São Paulo	BRL	683.5	100
Bulgaria	Roche Bulgaria EOOD	Sofia	BGN	5.1	100
Cameroon	Roche Cameroun SARL	Douala	XAF	60.0	100
Canada	Hoffmann-La Roche Limited	Mississauga	CAD	40.3	100
Chile	Roche Chile Limitada	Santiago de Chile	CLP	70.9	100
China	Roche (China) Holding Ltd.	Shanghai	USD	37.3	100
	Roche (Shanghai) Pharmaceuticals Consulting Co., Ltd.	Shanghai	CNY	30.0	100
	Roche (Shanghai) Pharmaceuticals Trading Co., Ltd.	Shanghai	USD	90.0	100
	Roche Diagnostics (Hong Kong) Limited	Hong Kong	HKD	10.0	100
	Roche Diagnostics (Shanghai) Ltd.	Shanghai	USD	31.0	100
	Roche Diagnostics (Suzhou) Limited	Suzhou	USD	160.0	100
	Roche Hong Kong Limited	Hong Kong	HKD	10.0	100
	Roche R&D Center (China) Ltd.	Shanghai	USD	35.8	100
	Shanghai Roche Pharmaceuticals Limited	Shanghai	USD	278.7	70

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Colombia	Productos Roche S.A.	Bogotá	COP	26,923.7	100
	TIB Molbiol S.A.S.	Santiago de Cali	COP	3.0	100
Congo Democratic Republic	Roche DRC SARLU	Kinshasa	USD	0.3	100
Costa Rica	Roche Services Americas, Sociedad de Responsabilidad Limitada	San José	CRC	361.4	100
	Roche Servicios S.A.	Heredia	USD	8.1	100
Côte d'Ivoire	Roche Côte d'Ivoire SARL	Abidjan	XOF	50.0	100
Croatia	Roche d.o.o.	Zagreb	EUR	0.6	100
Czech Republic	Roche s.r.o.	Prague	CZK	200.0	100
Denmark	OBI Aps	Hadsund	DKK	4.4	100
	Roche Diagnostics a/s	Copenhagen	DKK	1.3	100
	Roche Innovation Center Copenhagen A/S	Hoersholm	DKK	100.1	100
	Roche Pharmaceuticals A/S	Copenhagen	DKK	4.0	100
Dominican Republic	Productos Roche Dominicana, S.R.L.	Santo Domingo	DOP	0.6	100
Ecuador	Roche Ecuador S.A.	Quito	USD	28.1	100
Egypt	Roche Diagnostics Egypt for Trading S.A.E.	Giza	EGP	5.0	100
	Roche Egypt for Manufacturing and Trading SAE	Cairo	EGP	229.0	100
	Roche Egypt LLC	Cairo	EGP	228.1	100
El Salvador	Productos Roche (El Salvador) S.A. de C.V.	Antiguo Cuscatlan	USD	(–)	100
Estonia	Roche Eesti OÜ	Tallinn	EUR	0.1	100
Finland	Roche Diagnostics Oy	Espoo	EUR	0.2	100
	Roche Oy	Espoo	EUR	(–)	100
France	Institut Roche SAS	Boulogne-Billancourt	EUR	0.5	100
	Roche Diabetes Care France SAS	Montbonnot-Saint-Martin	EUR	4.5	100
	Roche Diagnostics France SAS	Meylan	EUR	16.0	100
	Roche SAS	Boulogne-Billancourt	EUR	38.2	100
	Timkl SAS	Montbonnot-Saint-Martin	EUR	0.8	100
Georgia	Roche Georgia LLC	Tbilisi	GEL	0.5	100
Germany	Ascur Versicherungsvermittlungs GmbH	Grenzach-Wyhlen	EUR	(–)	100
	Flatiron Health GmbH	Cologne	EUR	(–)	100
	Foundation Medicine GmbH	Penzberg	EUR	(–)	100
	Galenus Mannheim Pharma GmbH	Mannheim	EUR	(–)	100
	Roche Beteiligungs GmbH	Grenzach-Wyhlen	EUR	3.6	100
	Roche Deutschland Holding GmbH	Grenzach-Wyhlen	EUR	6.0	100
	Roche Diabetes Care Deutschland GmbH	Mannheim	EUR	(–)	100
	Roche Diabetes Care GmbH	Mannheim	EUR	(–)	100
	Roche Diagnostics Automation Solutions GmbH	Ludwigsburg	EUR	(–)	100
	Roche Diagnostics Deutschland GmbH	Mannheim	EUR	1.0	100
	Roche Diagnostics GmbH	Mannheim	EUR	94.6	100
	Roche mtm laboratories AG	Mannheim	EUR	1.4	100
	Roche Pharma AG	Grenzach-Wyhlen	EUR	61.4	100
	Roche Privacy GmbH	Grenzach-Wyhlen	EUR	(–)	100
	Roche Real Estate Services Mannheim GmbH	Mannheim	EUR	1.8	100
	Roche Registration GmbH	Grenzach-Wyhlen	EUR	(–)	100
	RoX Health GmbH	Berlin	EUR	(–)	100
	Signature Diagnostics GmbH	Potsdam	EUR	0.1	100
	TIB Molbiol Syntheselabor GmbH	Berlin	EUR	(–)	100
Ghana	Roche Products Ghana Limited	Accra	GHS	1.2	100
Greece	Roche (Hellas) S.A.	Marousi	EUR	19.2	100
	Roche Diagnostics (Hellas) S.A.	Marousi	EUR	8.3	100
Guatemala	Productos Roche Guatemala (Sociedad Anónima)	Guatemala City	GTQ	0.6	100
Honduras	Productos Roche (Honduras), S.A.	Tegucigalpa	HNL	(–)	100
Hungary	Roche (Hungary) Ltd	Budapest	HUF	30.0	100
	Roche Services (Europe) Ltd	Budapest	HUF	3.0	100
India	Roche Diabetes Care India Private Limited	Mumbai	INR	15.2	100
	Roche Diagnostics India Private Limited	Mumbai	INR	149.2	100
	Roche Information Solutions India Private Limited	Pune	INR	(–)	100
	Roche Products (India) Private Limited	Mumbai	INR	14.0	100
Indonesia	P.T. Roche Indonesia	Jakarta	IDR	43,770.0	100
Iran	Roche Pars Co. (Ltd.)	Tehran	IRR	41,610.0	100
Ireland	Inflazome Limited	Dublin	EUR	(–)	100
	Roche Ireland Limited	Clarecastle	EUR	2.4	100
	Roche Products (Ireland) Limited	Dublin	EUR	(–)	100
	Spark Therapeutics Ireland Limited	Dublin	EUR	(–)	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Israel	Medingo Ltd.	Yokneam Illit	ILS	8.0	100
	Roche Pharmaceuticals (Israel) Ltd.	Hod Hasharon	ILS	(–)	100
Italy	Roche Diabetes Care Italy S.p.A.	Monza	EUR	40.2	100
	Roche Diagnostics S.p.A.	Monza	EUR	18.1	100
	Roche S.p.A.	Monza	EUR	34.1	100
Japan	Flatiron Health K.K.	Tokyo	JPY	10.0	100
	Roche DC Japan K. K.	Tokyo	JPY	10.0	100
	Roche Diagnostics K.K.	Tokyo	JPY	2,500.0	100
Jordan	F. Hoffmann-La Roche Ltd / Jordan P.S.C.	Amman	JOD	(–)	100
Kazakhstan	Roche Kazakhstan LLP	Almaty	KZT	150.0	100
Kenya	Roche Kenya Limited	Nairobi	KES	50.0	100
Kuwait	Roche for the Trade in Medicines, Equipment, Devices and Medical Supplies SPC	Kuwait City	KWD	1.8	100
Latvia	Roche Latvija SIA	Riga	EUR	1.7	100
Lebanon	Roche Lebanon S.A.R.L.	Beirut	LBP	1,000.0	100
Lithuania	UAB Roche Lietuva	Vilnius	EUR	0.2	100
Malaysia	Roche (Malaysia) Sdn. Bhd.	Kuala Lumpur	MYR	4.0	100
	Roche Diagnostics (Malaysia) Sdn. Bhd.	Petaling Jaya	MYR	0.9	100
	Roche Services (Asia Pacific) Sdn. Bhd.	Kuala Lumpur	MYR	0.5	100
Mauritius	Roche Products (Mauritius) Ltd	Moka	MUR	4.0	100
Mexico	Productos Roche, S.A. de C.V.	Mexico City	MXN	82.6	100
	Roche DC México, S.A. de C.V.	Mexico City	MXN	3.9	100
Morocco	Roche S.A.	Casablanca	MAD	59.5	100
Myanmar	Roche Myanmar Company Limited	Yangon	USD	(–)	100
Netherlands	Roche Diabetes Care Nederland B.V.	Almere	EUR	0.6	100
	Roche Diagnostics Nederland B.V.	Almere	EUR	2.3	100
	Roche Finance Europe B.V.	Woerden	EUR	2.0	100
	Roche Nederland B.V.	Woerden	EUR	10.9	100
	Roche Pharmholding B.V.	Woerden	EUR	467.8	100
New Zealand	Roche Diagnostics NZ Limited	Auckland	NZD	3.0	100
	Roche Products (New Zealand) Limited	Auckland	NZD	13.5	100
Nicaragua	Productos Roche (Nicaragua), S.A.	Managua	NIO	0.9	100
Nigeria	Roche Products Limited	Lagos	NGN	200.0	100
North Macedonia	Roche Makedonija DOOEL	Skopje	EUR	0.3	100
Norway	Roche Diagnostics Norge AS	Oslo	NOK	5.8	100
	Roche Norge AS	Oslo	NOK	6.2	100
Pakistan	Roche Pakistan Limited	Karachi	PKR	2,063.3	100
Panama	Productos Roche (Panama), S.A.	Panama City	PAB	(–)	100
	Productos Roche Interamericana S.A. (PRISA)	Panama City	USD	0.1	100
	Roche Products Inc.	Panama City	USD	0.5	100
	Syntex Puerto Rico, Inc.	Panama City	USD	(–)	100
Paraguay	Roche Diagnostics Paraguay S.A.	Asunción	PYG	10,197.6	100
Peru	Productos Roche Q.F.S.A.	Lima	PEN	11.1	100
	Roche Farma (Peru) S.A.	Lima	PEN	38.1	100
Philippines	Roche (Philippines) Inc.	Taguig City	PHP	300.0	100
Poland	Roche Diabetes Care Polska sp. z o.o.	Warsaw	PLN	2.0	100
	Roche Diagnostics Polska Sp. z o.o.	Warsaw	PLN	8.0	100
	Roche Polska Sp. z o.o.	Warsaw	PLN	25.0	100
Portugal	Roche Farmacêutica Química, Lda.	Amadora	EUR	1.1	100
	Roche Sistemas de Diagnósticos, Sociedade Unipessoal, Lda.	Amadora	EUR	2.6	100
Puerto Rico	Genentech P.R., Inc.	San Juan	USD	(–)	100
Romania	Roche Romania S.R.L.	Bucharest	RON	472.2	100
Russian Federation	"Roche-Moscow" JSC.	Moscow	RUB	2.6	100
	Limited Liability Company Roche Diabetes Care Rus	Moscow	RUB	100.0	100
	Limited Liability Company Roche Diagnostics Rus	Moscow	RUB	250.0	100
Saudi Arabia	Roche Diagnostics Saudi Arabia LLC	Riyadh	SAR	200.0	75
	Roche Products Saudi Arabia LLC	Jeddah	SAR	30.0	100
Serbia	Roche d.o.o. Beograd	Belgrade	RSD	939.1	100
Singapore	Roche Diabetes Care Asia Pacific Pte. Ltd.	Singapore	SGD	0.6	100
	Roche Diagnostics Asia Pacific Pte. Ltd.	Singapore	SGD	20.4	100
	Roche Singapore Pte. Ltd.	Singapore	SGD	4.0	100
	Roche Singapore Technical Operations, Pte. Ltd.	Singapore	USD	35.0	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Slovakia	Roche Slovensko, S.R.O.	Bratislava	EUR	0.3	100
Slovenia	Roche farmacevtska družba d.o.o.	Ljubljana	EUR	0.2	100
South Africa	Kapa Biosystems (Pty) Ltd	Cape Town	ZAR	(–)	100
	Roche Diabetes Care South Africa Proprietary Limited	Midrand	ZAR	15.0	100
	Roche Diagnostics Proprietary Limited	Midrand	ZAR	(–)	100
	Roche Products (Proprietary) Limited	Midrand	ZAR	60.0	100
South Korea	Roche Diagnostics Korea Co., Ltd.	Seoul	KRW	22,969.0	100
	Roche Korea Company Ltd.	Seoul	KRW	13,375.0	100
Spain	Roche Diabetes Care Spain, S.L.	Sant Cugat del Vallès	EUR	1.0	100
	Roche Diagnostics S.L.	Sant Cugat del Vallès	EUR	17.0	100
	Roche Farma, S.A.	Madrid	EUR	45.0	100
Sweden	Roche AB	Solna	SEK	20.0	100
	Roche Diagnostics Scandinavia AB	Solna	SEK	9.0	100
Switzerland	Biopharm AG	Basel	CHF	0.3	100
	F. Hoffmann-La Roche Ltd	Basel	CHF	150.0	100
	Hoffmann - La Roche Ltd	Basel	CHF	0.5	100
	InterMune International AG	Basel	CHF	10.0	100
	Museum Tinguely AG	Basel	CHF	0.1	100
	Phaor AG	Basel	CHF	0.2	100
	Roche Capital Market Ltd	Basel	CHF	1.0	100
	Roche Catalyst Investments Ltd.	Basel	USD	0.5	100
	Roche Chemische Unternehmungen AG	Basel	CHF	1.3	100
	Roche Diabetes Care (Switzerland) Ltd	Rotkreuz	CHF	0.1	100
	Roche Diagnostics (Switzerland) Ltd	Rotkreuz	CHF	1.0	100
	Roche Diagnostics International Ltd	Rotkreuz	CHF	20.0	100
	Roche Finance Ltd	Basel	CHF	409.2	100
	Roche Financial Investments Ltd.	Basel	EUR	0.5	100
	Roche Forum Buonas Ltd	Buonas	CHF	0.1	100
	Roche Glycart Ltd	Schlieren	CHF	0.3	100
	Roche Long Term Foundation	Basel	CHF	0.5	100
	Roche Pharma (Switzerland) Ltd	Basel	CHF	2.0	100
	Roche Sapac Ltd.	Basel	CHF	0.5	100
	Tavero AG	Basel	CHF	0.1	100
Taiwan	Roche Diagnostics Ltd.	Taipei	TWD	1,107.4	100
	Roche Products Ltd.	Taipei	TWD	2,212.7	100
Thailand	Roche Diagnostics (Thailand) Limited	Bangkok	THB	103.0	100
	Roche Thailand Limited	Bangkok	THB	12.0	100
Tunisia	Roche Tunisie SA	Tunis	TND	0.8	100
Türkiye	Infogenetik Moleküler Bilgi Hizmetleri Anonim Şirketi	Istanbul	TRY	3.5	100
	Roche Diagnostics Turkey Anonim Şirketi	Istanbul	TRY	250.0	100
	Roche Müstahzarlari Sanayi Anonim Şirketi	Istanbul	TRY	249.5	100
Ukraine	Roche Ukraine LLC	Kiev	UAH	124.0	100
United Arab Emirates	Roche Diabetes Care Middle East FZCO	Dubai	AED	0.5	100
	Roche Diagnostics Middle East FZCO	Dubai	AED	19.0	100
	Roche Pharmaceuticals Middle East FZCO	Dubai	AED	0.5	100
United Kingdom	Flatiron Health UK Ltd	St Albans	GBP	(–)	100
	Inflazome UK Limited	Welwyn Garden City	GBP	(–)	100
	InterMune Holdings Limited	Welwyn Garden City	GBP	(–)	100
	Roche Diabetes Care Limited	Burgess Hill	GBP	0.4	100
	Roche Diagnostics Limited	Burgess Hill	GBP	32.6	100
	Roche Holding (UK) Limited	Welwyn Garden City	GBP	100.0	100
	Roche Products Limited	Welwyn Garden City	GBP	98.3	100
	Roche Registration Limited	Welwyn Garden City	GBP	(–)	100
	Spark Therapeutics UK Ltd	London	GBP	(–)	100
	TMEM16A Limited	Welwyn Garden City	GBP	0.2	100
	Tusk Therapeutics Limited	Welwyn Garden City	GBP	(–)	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
United States	Adheron Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Anadys Pharmaceuticals, Inc.	South San Francisco	USD	(–)	100
	Bina Technologies, Inc.	Pleasanton	USD	(–)	100
	BioVeris Corporation	Indianapolis	USD	(–)	100
	Flatiron Health, Inc.	New York	USD	(–)	100
	ForSight VISION4, Inc.	South San Francisco	USD	(–)	100
	Foundation Medicine, Inc.	Cambridge	USD	(–)	100
	Freenome Holdings, Inc.	South San Francisco	USD	(–)	16
	Genentech USA, Inc.	South San Francisco	USD	(–)	100
	Genentech, Inc.	South San Francisco	USD	(–)	100
	GenMark Diagnostics, Inc.	Carlsbad	USD	(–)	100
	GenMark Holdings, Inc.	Carlsbad	USD	(–)	100
	Good Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Hoffmann-La Roche Inc.	Little Falls	USD	3.0	100
	IGEN International, Inc.	Pleasanton	USD	(–)	100
	Ignyta, Inc.	South San Francisco	USD	(–)	100
	InterMune, Inc.	South San Francisco	USD	(–)	100
	IQuum, Inc.	Indianapolis	USD	(–)	100
	Jecure Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Kapa Biosystems, Inc.	Wilmington	USD	(–)	100
	Lexent Bio, Inc.	Cambridge	USD	(–)	100
	Memory Pharmaceuticals Corp.	Little Falls	USD	(–)	100
	Prescient Design Corp.	South San Francisco	USD	(–)	100
	Promedior, Inc.	South San Francisco	USD	(–)	100
	Protocol First, Inc.	Salt Lake City	USD	(–)	100
	Roche Diabetes Care, Inc.	Indianapolis	USD	(–)	100
	Roche Diagnostics Corporation	Indianapolis	USD	(–)	100
	Roche Diagnostics Hematology, Inc.	Westborough	USD	(–)	100
	Roche Diagnostics Operations, Inc.	Indianapolis	USD	(–)	100
	Roche Diagnostics Seattle, Inc.	Seattle	USD	(–)	100
	Roche Holdings, Inc.	South San Francisco	USD	1.0	100
	Roche Laboratories Inc.	Little Falls	USD	(–)	100
	Roche Molecular Systems, Inc.	Pleasanton	USD	(–)	100
	Roche Palo Alto LLC	South San Francisco	USD	(–)	100
	Roche Sequencing Solutions, Inc.	Pleasanton	USD	(–)	100
	Roche TCRC, Inc.	Little Falls	USD	(–)	100
	Seragon Pharmaceuticals Inc.	South San Francisco	USD	(–)	100
	Spark Therapeutics International Holdings, Inc.	Philadelphia	USD	(–)	100
	Spark Therapeutics, Inc.	Philadelphia	USD	(–)	100
	Tanox, Inc.	South San Francisco	USD	(–)	100
	Telavant Holdings, Inc.	New York	USD	1.4	100
	Telavant, Inc.	New York	USD	(–)	100
	Therapeutic Human Polyclonals, Inc.	South San Francisco	USD	(–)	100
	TIB Molbiol LLC	Howell Township	USD	(–)	100
	Ventana Medical Systems, Inc.	Tucson	USD	(–)	100
	Viewics, Inc.	Santa Clara	USD	(–)	100
Uruguay	Roche International Ltd. (Montevideo Branch)	Montevideo	UYU	(–)	100
Venezuela	Productos Roche S.A.	Caracas	VEF	156.9	100
Vietnam	Roche Pharma (Vietnam) Company Limited	Ho Chi Minh City	VND	75,600.0	100
	Roche Vietnam Company Limited	Ho Chi Minh City	USD	25.0	100

(–) = share capital of less than 100,000 local currency units.

34. Accounting policies

This note provides a list of accounting policies adopted by the Group in the preparation of the Annual Financial Statements and the changes in accounting policies in 2023.

Consolidation policy

Subsidiaries are all companies over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Companies acquired during the year are consolidated from the date on which control is transferred to the Group, and subsidiaries to be divested are included up to the date on which control passes from the Group. Intercompany balances, transactions and resulting unrealised income are eliminated in full. Changes in ownership interests in subsidiaries are accounted for as equity transactions if they occur after control has already been obtained and if they do not result in a loss of control. Associates are companies over which the Group exercises, or has the power to exercise, significant influence, but which it does not control, and they are accounted for using the equity method.

Segment reporting

For the purpose of segment reporting the Group's Corporate Executive Committee (CEC) is considered to be the Group's Chief Operating Decision Maker. The determination of the Group's operating segments is based on the organisation units for which information is reported to the CEC on a regular basis. The information provided is used as the basis of the segment revenue and profit disclosures reported in Note 2, with the geographic analysis based on the location of customers. Selected segment balance sheet information is also routinely provided to the CEC.

Transfer prices between operating segments are set on an arm's length basis. Operating assets and liabilities consist of property, plant and equipment, goodwill and intangible assets, trade receivables/payables, inventories and other assets and liabilities, such as provisions, which can be reasonably attributed to the reported operating segments. Non-operating assets and liabilities mainly include current and deferred income tax balances, post-employment benefit assets/liabilities and financial assets/liabilities such as cash, marketable securities, investments and debt.

Foreign currency translation

The Annual Financial Statements are presented in Swiss francs. Most Group companies use their local currency as their functional currency. Certain Group companies use other currencies (such as US dollar, Swiss franc or euro) as their functional currency where this is the currency of the primary economic environment in which the entity operates. Local transactions in other currencies are initially reported using the exchange rate at the date of the transaction. Gains and losses from the settlement of such transactions and gains and losses on translation of monetary assets and liabilities denominated in other currencies are included in income, except when they are qualifying cash flow hedges or arise on monetary items that, in substance, form part of the Group's net investment in a foreign entity. In such cases the gains and losses are deferred into other comprehensive income.

Upon consolidation, assets and liabilities of Group companies using functional currencies other than Swiss francs are translated into Swiss francs using year-end rates of exchange. The income statement and statement of cash flows are translated at the average rates of exchange for the year. Translation differences due to the changes in exchange rates between the beginning and the end of the year and the difference between net income translated at the average and year-end exchange rates are taken directly to other comprehensive income.

Revenue

Sales. Revenue from the sale of goods supplied (product sales) and services rendered are recorded as 'Sales'.

Sales are recognised when a promise in a customer contract (performance obligation) has been satisfied by transferring control over the promised goods and services to the customer. Control over a promised good or service refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, those goods or services. Control is usually transferred upon shipment, delivery to, upon receipt of goods by the customer, or as services are rendered, in accordance with the delivery and acceptance terms agreed with the customers. For goods subject to installation, such as instruments sold in the Diagnostics Division, sales are generally recognised upon completion of the installation at the customer's site and customer acceptance. The amount of sales to be recognised (transaction price) is based on the consideration the Group expects to receive in exchange for its goods and services, excluding amounts collected on behalf of third parties such as value added taxes or other taxes directly linked to sales. If a contract contains more than one performance obligation, the transaction price is allocated to each performance obligation based on their relative stand-alone selling prices.

Instruments in the Diagnostics Division may be sold together with other goods such as reagents and other consumables as well as services under a single contract or under several contracts that are combined for revenue recognition purposes. Sales are recognised upon satisfaction of each of the performance obligations in the contract. Instruments are either sold in cash and instalment sales transactions or otherwise made available to customers under finance lease and operating lease transactions.

- Finance leases: Arrangements in which the Group transfers substantially all of the risks and rewards of ownership to the customer are treated as finance lease arrangements. Income from finance leases is recognised as sales at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. As interest rates embedded in finance lease arrangements are approximately market rates, income from finance leases is comparable to revenue for outright sales. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest rate method and recorded in other revenue.
- Operating leases: Income from operating leases is recognised as sales on a straight-line basis over the lease term or, when lease revenue is entirely variable and subject to subsequent reagent sales, as the performance obligation to deliver reagents is satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices or fair values. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

For contracts with distributors, no sales are recognised when goods are physically transferred to the distributor under a consignment arrangement, or if the distributor acts as an agent. In such cases, sales are recognised when control over the goods transfers to the end-customer, and distributor's commissions are presented within selling, general and administration costs. Commissions and similar payments to distributors acting as principals are deducted from sales unless such payments are in exchange for a distinct service.

The consideration received by the Group in exchange for its goods and services may be fixed or variable. Variable consideration is only recognised when it is considered highly probable that a significant revenue reversal will not occur once the underlying uncertainty related to variable consideration is subsequently resolved. The most common elements of variable consideration in the Pharmaceuticals Division are listed below:

- Government and regulatory mandatory price reductions. The major elements of these mandatory price reductions are the 340B Drug Discount Program, Medicaid and other plans in the US.
- Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume based and performance based.
- Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.
- Customer returns reserves. These are allowances established for expected product returns.

Revenues from product sales are recorded net of allowances for estimated rebates, chargebacks, cash discounts and estimates of product returns, all of which are established at the time of sale. All product sales allowances are based on estimates of the amounts earned or to be claimed on the related sales. These estimates take into consideration historical experience, current contractual and statutory requirements, specific known market events and trends such as competitive pricing and new product introductions, estimated inventory levels, and the shelf life of products. If actual future results vary, these estimates need to be adjusted, with an effect on sales and earnings in the period of the adjustment. Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables. Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities. Provisions for sales returns are recorded in the balance sheet as other provisions.

The Group recognises a deferred income (contract liability) if consideration has been received (or has become receivable) before the Group transfers the promised goods or services to the customer. Deferred income mainly relates to remaining performance obligations for goods free of charge under certain patient access or similar programmes, reagents and other consumables and services.

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts with minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Other revenue. Other revenue includes royalty income, profit-share income, other income from collaboration and out-licensing agreements and other items, including interest income from finance leases.

Royalty income earned through a licence is recognised as the underlying sales are recorded by the licensee. Income from profit-sharing agreements with collaboration partners is recognised as underlying sales and cost of sales are recorded by the collaboration partners.

Income from out-licensing agreements typically arises from the receipt of upfront, milestone and other similar payments from third parties for granting a licence to product- or technology-related intellectual property (IP). Collaboration and out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. Licences granted are usually rights to use IP and are generally unique. Therefore the basis of allocating revenue to performance obligations makes use of the residual approach. Upfront payments and other licensing fees are usually recognised upon granting the licence unless some of the income shall be deferred for other performance obligations using the residual approach. Such deferred income is released and recognised as revenue when other performance obligations are satisfied. Milestone payments are typically received upon reaching a specific scientific milestone (development milestone) or upon achieving a certain annual sales milestone (commercial milestone). Development milestone income is recognised at the point in time when it is highly probable that the respective milestone event criterion is achieved, and the risk of revenue reversal is considered remote. Commercial milestone income is accrued and recognised as revenue when it is highly probable that the annual sales milestone is reached during the period.

Also included is income from other services rendered which are usually not part of the Group's primary business activities, to the extent that such revenue is not recorded under 'Sales', and is recognised when control transfers and performance obligations are satisfied.

Cost of sales

Cost of sales includes the corresponding direct production costs and related production overheads of goods sold and services rendered. Royalties, alliance and collaboration expenses, including all collaboration profit-sharing agreements, are also reported as part of cost of sales. Start-up costs between validation and the achievement of normal production capacity are expensed as incurred.

Research and development

Internal research and development activities are expensed as incurred for the following:

- Internal research costs incurred for the purpose of gaining new scientific or technical knowledge and understanding.
- Internal development costs incurred for the application of research findings or other knowledge to plan and develop new products for commercial production. The development projects undertaken by the Group are subject to technical, regulatory and other uncertainties, such that, in the opinion of management, the criteria for capitalisation as intangible assets are not met prior to obtaining marketing approval by the regulatory authorities in major markets.
- Post-marketing studies after regulatory approval, such as phase IV costs in the pharmaceuticals business, generally involve safety surveillance and ongoing technical support of a drug after it receives marketing approval to be sold. They may be required by regulatory authorities or may be undertaken for safety or commercial reasons. The costs of such post-marketing studies are not capitalised as intangible assets as, in the opinion of management, they do not generate separately identifiable incremental future economic benefits that can be reliably measured.

Acquired in-process research and development resources obtained through in-licensing arrangements, business combinations or separate asset purchases, including asset acquisitions, are capitalised as intangible assets. The acquired asset must be controlled by the Group, be separately identifiable and expected to generate future economic benefits, even if uncertainty exists as to whether the research and development will ultimately result in a marketable product. Consequently, upfront and milestone payments to third parties for pharmaceutical products or compounds before regulatory marketing approval are recognised as intangible assets. Assets acquired through such arrangements are measured on the basis set out in the 'Intangible assets' policy. Subsequent internal research and development costs incurred post-acquisition are treated in the same way as other internal research and development costs. If research and development are embedded in contracts for strategic alliances, the Group carefully assesses whether upfront or milestone payments constitute funding of research and development work or acquisition of an asset.

Other operating income (expense)

Other operating income (expense) includes non-revenue income and expenses that do not fall into the regular functional costs. Amongst others, it includes impairment charges related to goodwill and income from disposal of product rights. Payments received for the disposal of products and similar rights are recognised as income upon transfer of control over such rights.

Employee benefits

Short-term employee benefits include wages, salaries, social security contributions, paid annual leave and sick leave, profit sharing and bonuses, and non-monetary benefits for current employees. The costs are recognised within the operating results when the employee has rendered the associated service. The Group recognises a liability for profit sharing and bonuses where contractually obliged or where there is a past practice that has created a constructive obligation.

Long-term employee benefits include long-service or sabbatical leave, long-service benefits and long-term disability benefits. The expected costs of these benefits are accrued over the period of employment. Any changes in the carrying value of other long-term employee benefit liabilities are recognised within the operating results.

Termination benefits are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Termination costs are recognised at the earlier of when the Group can no longer withdraw the offer of the benefits or when the Group recognises any related restructuring costs.

Pensions and other post-employment benefits

For defined contribution plans the Group contributions are recognised within the operating results when the employee has rendered the associated service. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in future payments is available.

For defined benefit plans the liability recognised in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets. All changes in the net defined benefit liability are recognised as they occur as follows:

Recognised in the income statement:
- Current service cost is charged to the appropriate income statement heading within the operating results.
- Past service cost, including curtailment gains or losses, is recognised immediately in other operating income (expense) within the operating results.
- Settlement gains or losses are recognised in other operating income (expense) within the operating results.
- Net interest on the net defined benefit liability is recognised in financing costs.

Recognised in other comprehensive income:
- Actuarial gains and losses arising from experience adjustments (the difference between previous assumptions and what has actually occurred) and changes in actuarial assumptions.
- The return on plan assets, excluding amounts included in net interest on the net defined benefit liability.
- Any change in the limit on the recognition of plan assets, excluding amounts included in net interest on the net defined benefit liability.

Net interest on the net defined benefit liability is comprised of interest income on plan assets, interest cost on the defined benefit obligation and interest on the effect of the limit on the recognition of pension assets. The net interest is calculated using the same discount rate that is used in calculating the defined benefit obligation, applied to the net defined liability at the start of the period, taking into account any changes from contribution or benefit payments.

Pension assets and liabilities in different defined benefit plans are not offset unless the Group has a legally enforceable right to use the surplus in one plan to settle obligations in the other plan.

Equity compensation plans

The fair value of all equity compensation awards granted to employees is estimated at the grant date and recorded as an expense over the vesting period. The expense is charged to the appropriate income statement heading within the operating results. For equity-settled plans, an increase in equity is recorded for this expense and any subsequent cash flows from exercises of vested awards are recorded as changes in equity.

Property, plant and equipment

Property, plant and equipment are initially recorded at cost of purchase or construction, and include all costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. These include items such as costs of site preparation, installation and assembly costs, and professional fees. The net costs of testing whether the asset is functioning properly, including validation costs, are also included in the initially recorded cost of construction. Interest and other borrowing costs incurred with respect to qualifying assets are capitalised and included in the carrying value of the assets. Property, plant and equipment are depreciated on a straight-line basis, except for land, which is not depreciated. The estimated useful lives of major classes of depreciable assets are as follows:

Land improvements	40 years
Buildings	10–50 years
Machinery and equipment:	
• Diagnostic instruments	3–5 years
• Office equipment	3–6 years
• Motor vehicles	5–8 years
• Other machinery and equipment	4–15 years

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate components. The estimated useful lives of the assets are regularly reviewed and, if necessary, the future depreciation charges are accelerated. Repairs and maintenance costs are expensed as incurred.

Leases

Where the Group is the lessee. At inception of a contract the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset and a corresponding lease liability for each contract that is, or contains, a lease at the lease commencement date, except for short-term leases and leases of low-value assets. Payments for short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the term of the respective lease. The lease liability is initially measured at the present value of the future lease payments that are not paid at the lease commencement date. The lease payments are discounted using the interest rate implicit in the lease or, if not readily determinable, the Group's incremental borrowing rate in the respective markets. Lease payments include fixed payments, variable payments that depend on an index or rate known at the lease commencement date and payments from exercising extension or purchase options if the Group is reasonably certain to exercise. The lease liability is subsequently measured at amortised costs using the effective interest method. It is remeasured, with a corresponding adjustment to the related right-of-use asset, when there is a change in future lease payments following a contract renegotiation, a change of an index or rate or a reassessment of options. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any payments made at or before the lease commencement date and which includes any initial direct costs incurred and expected costs of obligations to dismantle, remove or refurbish the underlying asset, less any incentives received. Right-of-use assets are depreciated on a straight-line basis from the lease commencement date over the shorter of the lease term or the useful life of the underlying asset. Right-of-use assets are assessed for impairment whenever there is an indication for impairment.

Where the Group is the lessor. Certain assets, mainly diagnostics instruments, are leased to third-party customers through both finance and operating lease arrangements. Such transactions may be entered into in separate contracts or in combined contracts including reagents and other consumables and services. The treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. If this is the case, then the lease is a finance lease. If not, then it is an operating lease. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

- Finance leases: Finance lease assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as sales at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in other revenue.
- Operating leases: Income from operating leases is recognised as sales on a straight-line basis over the lease term at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. When lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, it is recognised as the performance obligations for reagents are satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

Mergers and acquisitions

Business combinations. Business combinations are accounted for using the acquisition method of accounting. At the date of the acquisition the Group initially recognises the fair value of the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquired business. The consideration transferred is measured at fair value at the date of acquisition. Where the Group does not acquire 100% ownership of the acquired business, non-controlling interests are recorded either at fair value or as the proportion of the fair value of the acquired net assets attributable to the non-controlling interest. Directly attributable acquisition-related costs are expensed as incurred within other operating income (expense).

Asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations. At the date of the acquisition the Group initially recognises the individual identifiable assets acquired and liabilities assumed. The cost to the Group at the date of the acquisition is allocated to the individual identifiable assets and liabilities on the basis of their relative fair values at the date of the acquisition. Subsequent consideration for performance-related development milestones is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met. Such transactions do not give rise to goodwill. Material directly attributable acquisition-related costs are included in the cost of the acquired assets.

Goodwill

Goodwill arises in a business combination and is the excess of the consideration transferred to acquire the business over the underlying fair value of the net identified assets acquired. Goodwill is not amortised but is tested for impairment at least annually and upon the occurrence of an indication of impairment.

Intangible assets

Purchased patents, licences, trademarks and other intangible assets are initially recorded at cost. Assets that have been acquired through a business combination are initially recorded at fair value. Commercial software development costs are capitalised when certain recognition criteria such as technical feasibility and commercial viability are met. Once available for use, intangible assets are amortised on a straight-line basis over their useful lives. Intangible assets are reviewed for impairment at each reporting date. The estimated useful life is the lower of the legal duration and the economic useful life. The estimated useful lives of intangible assets are regularly reviewed. Estimated useful lives of major classes of amortisable intangible assets are as follows:

Product intangibles in use	up to 20 years
Other intangible assets:	
• Marketing intangibles in use	up to 15 years
• Technology intangibles in use	up to 20 years

Impairment of property, plant and equipment, right-of-use assets and intangible assets

An impairment assessment is carried out when there is evidence that an asset may be impaired. In addition, intangible assets that are not yet available for use are tested for impairment annually. When the recoverable amount of an asset, being the higher of its fair value less costs of disposal and its value in use, is less than its carrying value, then the carrying value is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. Value in use is calculated using estimated cash flows, generally over a five-year period, with extrapolating projections for subsequent years. These are discounted using an appropriate long-term interest rate. Fair value less costs of disposal is calculated using a discounted cash flow approach and reflects estimates of the assumptions that market participants would be expected to use when pricing the assets using often unobservable market inputs. When an impairment loss arises, the useful life of the asset is reviewed and, if necessary, the future depreciation/amortisation charge is accelerated. If the amount of impairment loss subsequently decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, then the previously recognised impairment loss is reversed through the income statement as an impairment reversal.

Impairment of goodwill

Goodwill is assessed for impairment at each reporting date and is additionally tested annually for impairment. Goodwill is allocated to cash-generating units and when the recoverable amount of the cash-generating unit, being the higher of its fair value less costs of disposal or its value in use, is less than its carrying value, then the carrying value of the goodwill is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. When an acquired business that is included within a cash-generating unit permanently ceases to operate, then it is treated as a disposal of that business. For separately identifiable goodwill that was generated on the initial acquisition of that business and where all of the factors that made up that goodwill are entirely unrelated to the continuing operations of the cash-generating unit, then the goodwill is deemed to have been disposed of and is fully impaired. As described in Note 9, this also applies if acquired products permanently cease to generate economic benefits or if acquired technologies permanently cease to operate. The impairment testing methodology is further described in Note 9.

Inventories

Inventories are stated at the lower of cost and net realisable value. The cost of finished goods, work in process and intermediates includes raw materials, direct labour and other directly attributable costs and overheads based upon the normal capacity of production facilities. Cost is determined using the weighted average method. Net realisable value is the estimated selling price less cost to completion and selling expenses.

Receivables, including accounts receivable

Receivables are carried at the original invoice amount less allowances made for doubtful accounts, trade discounts, cash discounts, volume rebates and similar allowances. A receivable represents a right to consideration that is unconditional and excludes contract assets. An allowance for doubtful accounts is recorded for expected credit losses over the term of the receivables. These estimates are based on specific indicators, such as the ageing of customer balances, specific credit circumstances and the Group's historical loss rates for each category of customers, and adjusted for forward-looking macroeconomic data. Expenses for doubtful trade receivables are recognised within selling, general and administration costs. Trade discounts, cash discounts, volume rebates and similar allowances are recorded on an accrual basis consistent with the recognition of the related sales, using estimates based on existing contractual obligations, historical trends and the Group's experience.

Receivables are written off (either partly or in full) when there is no reasonable expectation of recovery. Where receivables have been written off, the Group continues to engage in enforcement activities to attempt to recover the receivable due. Where recoveries are made, these are recognised in profit or loss.

For trade and lease receivables, the Group applies the simplified approach prescribed by IFRS 9, which requires/permits the use of the lifetime expected loss provision from initial recognition of the receivables. The Group measures an allowance for doubtful accounts equal to the credit losses expected over the lifetime of the trade and lease receivables.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and time, call and current balances with banks and similar institutions. Such balances are only reported as cash equivalents if they are readily convertible to known amounts of cash, are subject to insignificant risk of changes in their fair value and have a maturity of three months or less from the date of acquisition.

Assets held for sale and liabilities directly associated with assets held for sale

Assets held for sale and the liabilities directly associated with assets held for sale are presented separately in the current section of the balance sheet where their carrying amounts are to be recovered principally through a sale transaction which is considered highly probable to be completed within 12 months. Immediately before the initial classification as held for sale, the carrying amounts of the assets and liabilities are measured in accordance with the applicable accounting policy. Assets held for sale and the directly associated liabilities are subsequently measured at the lower of their carrying amount and fair value less costs to sell. Assets held for sale are no longer amortised or depreciated.

Provisions and contingencies

Provisions are recognised where a legal or constructive obligation has been incurred which will probably lead to an outflow of resources that can be reliably estimated. In particular, restructuring provisions are recognised when the Group has a detailed formal plan that has either commenced implementation or has been announced. Provisions are recorded for the estimated ultimate liability that is expected to arise and are discounted when the time value of money is material. A contingent liability is disclosed where the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. Contingent assets are not recognised, but are disclosed where an inflow of economic benefits is probable.

Fair values

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It is determined by reference to quoted market prices or by the use of established valuation techniques such as option pricing models and the discounted cash flow method if quoted prices in an active market are not available.

Financial instruments

The Group classifies its financial instruments in the following measurement categories which are disclosed in Note 31: amortised cost; fair value through OCI; fair value through OCI – equity investments; or fair value through profit or loss (including hedging instruments).

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows. The Group reclassifies debt securities and financial assets at amortised cost when and only when its business model for managing those assets changes.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Amortised cost. Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost, less provision for impairment. A gain or loss on a debt security that is subsequently measured at amortised cost and is not part of a hedging relationship is recognised in profit or loss when the asset is derecognised or impaired. Interest income from these financial assets is included in other financial income using the effective interest rate method. Assets at amortised cost are mainly comprised of accounts receivable, cash and cash equivalents and time accounts over three months.

Fair value through other comprehensive income (fair value through OCI). These are financial assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest. Those are initially recorded and subsequently carried at fair value. Changes in the fair value are recorded in other comprehensive income, except for the recognition of impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognised in profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified from equity to profit or loss. Interest income from these financial assets is included in other financial income using the effective interest rate method. Fair value through other comprehensive income assets are mainly comprised of money market instruments and debt securities.

Equity investments at fair value through other comprehensive income (fair value through OCI). These are equity investments in private biotechnology companies, which are kept as part of the Group's strategic alliance efforts. These assets are subsequently measured at fair value. Dividends are recognised as other financial income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and included in the fair value reserve. When such an asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified within equity from the fair value reserve to retained earnings and never to profit or loss.

Fair value through profit or loss. These are financial assets whose performance is evaluated on a fair value basis. A gain or loss on a financial asset that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognised in profit or loss and presented within other financial income (expense) in the period in which it arises. Fair value through profit or loss assets are mainly comprised of equity investments/securities and debt investments. Contingent consideration liabilities are initially recorded and subsequently carried at fair value with changes in fair value recorded in other operating income (expense) within the operating results of the income statement.

Fair value through profit or loss – hedging instruments. These are derivative financial instruments that are used to manage the exposures to foreign currency, interest rate, equity market and credit risks. These instruments are initially recorded and subsequently carried at fair value. Apart from those derivatives designated as qualifying cash flow hedging instruments, all changes in fair value are recorded as other financial income (expense).

Other financial liabilities. These are non-derivative financial liabilities. Other financial liabilities are initially recorded at fair value, less transaction costs, and subsequently carried at amortised cost using the effective interest rate method. Other financial liabilities are mainly comprised of debt and trade payables.

Debt. Debt instruments are initially recorded at cost, which is the proceeds received, net of transaction costs. Subsequently they are reported at amortised cost. Any discount between the net proceeds received and the principal value due on redemption is amortised over the duration of the debt instrument and is recognised as part of financing costs using the effective interest rate method.

Derecognition. A financial asset is derecognised when the contractual cash flows from the asset expire or when the Group transfers the rights to receive the contractual cash flows from the financial assets in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. A financial liability is derecognised when the contractual obligations are discharged, cancelled or expire.

Impairment of financial assets

The Group recognises loss allowances for expected credit losses ('ECL') for financial assets measured at amortised cost and debt securities measured at fair value through OCI.

For trade and lease receivables the Group measures the allowance for doubtful accounts at an amount equal to lifetime ECL.

For debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost, which are determined to have low credit risk based on external credit ratings of the counterparties, the Group measures loss allowances at an amount equal to 12-month ECL. The Group considers debt securities to have low credit risk when their credit risk rating is equivalent to the globally understood definition of 'investment grade'. The Group considers this to be at least Baa3 from Moody's and BBB- from Standard & Poor's. When the credit risk of debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost has increased significantly since their initial recognition, the Group measures loss allowances at an amount equal to lifetime ECL. The Group assumes that the credit risk of such instruments have increased significantly if they are more than 30 days past due.

Financial assets are written off (either partially or in full) when there is no realistic prospect of recovery. This is generally the case when the Group determines that the customer does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off. However, financial assets that are written off are still subject to enforcement activities in order to comply with the Group's policy for recovery of amounts due.

Hedge accounting

The Group uses derivatives to manage its exposures to foreign currency, interest rate, equity market and credit risks. The instruments used may include interest rate swaps, forwards contracts and options. The Group generally limits the use of hedge accounting to certain significant transactions. To qualify for hedge accounting, the hedging relationship must meet several strict conditions on eligibility of hedging and hedged instruments, formal designation and documentation, as well as hedge effectiveness and reliability of measurement. While many of these transactions can be considered as hedges in economic terms, if the required conditions are not met, then the relationship does not qualify for hedge accounting. In this case the hedging instrument and the hedged item are reported independently as if there were no hedging relationship, which means that any derivatives are reported at fair value, with changes in fair value included in other financial income (expense).

Cash flow hedge. This is a hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset or liability or a highly probable forecasted transaction and could affect profit or loss. The hedging instrument is recorded at fair value. The effective portion of the hedge is included in other comprehensive income and any ineffective portion is reported in other financial income (expense). If the hedging relationship is the hedge of the foreign currency risk of a firm commitment or highly probable forecasted transaction that results in the recognition of a non-financial item, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in the initial carrying value of the non-financial item at the date of recognition. For all other cash flow hedges, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in other financial income (expense) when the forecasted transaction affects net income.

Fair value hedge. This is a hedge of the exposure to changes in fair value of a recognised asset or liability, or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. The hedging instrument is recorded at fair value and the hedged item is recorded at its previous carrying value, adjusted for any changes in fair value that are attributable to the hedged risk. Changes in the fair values are reported in other financial income (expense).

Taxation

Income taxes include all taxes based upon the taxable profits of the Group, including withholding taxes payable on the distribution of retained earnings within the Group. Other taxes not based on income, such as business taxes and capital taxes, are included within selling, general and administration costs.

Liabilities for income taxes, mainly withholding taxes, which could arise on the remittance of retained earnings, principally relating to subsidiaries, are only recognised where it is probable that such earnings will be remitted in the foreseeable future. Where the amount of tax liabilities is uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience.

Deferred tax assets and liabilities are recognised on temporary differences between the tax bases of assets and liabilities and their carrying values. Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the unused tax losses can be utilised.

Current and deferred tax assets and liabilities are offset when the income taxes are levied by the same taxation authority and when there is a legally enforceable right to offset them. Deferred taxes are determined based on the currently enacted tax rates applicable in each tax jurisdiction where the Group operates.

Own equity instruments

The Group's holdings in its own equity instruments are recorded as a deduction from equity. The original purchase cost, consideration received for subsequent resale of these equity instruments and other movements are reported as changes in equity. These instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans.

Changes in accounting policies

In 2023 the Group has implemented various minor amendments to existing standards and interpretations, which have no material impact on the Group's overall results and financial position. In addition, the Group has adopted the amendments to IAS 12 'Income Taxes' relating to 'International Tax Reform – Pillar Two Model Rules' issued by the International Accounting Standards Board (IASB) in May 2023. The Group has applied the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Presentational and cost allocation changes

Presentational and cost allocation changes applied in 2023. Effective 1 January 2023, the Group has made certain presentational and cost allocation changes to the income statement. This has been done to improve external comparability and to reflect changes in the internal reporting for functions with global accountability.

- The income statement now presents 'Selling, general and administration' costs, which is created from merging 'Marketing and distribution' costs and 'General and administration' costs.
- The income statement now presents 'Other revenue' in place of 'Royalties and other operating income'. Other revenue mainly includes royalty income, profit-share income, other income from collaboration and out-licensing agreements and interest income from finance leases.
- The income statement now presents 'Other operating income (expense)' for non-revenue income and for expenses that do not fall into the regular functional costs. Amongst others, it includes income from disposal of product rights.
- Allocations from functions with global accountability such as informatics, human resources and finance are no longer made to the Pharmaceuticals and Diagnostics Divisions.

These changes have no impact on sales, operating profit, net income and earnings per share and non-voting equity security of the Group as a whole. The cost allocation changes will reduce costs allocated to divisions.

Comparative 2022 information has been restated. A reconciliation to the previously published results is provided below.

Restated Roche Group consolidated income statement (selected items) in millions of CHF

	Year ended 31 December 2022			
	As originally published	Presentational changes	Cost allocation changes	Restated
Group				
Sales	63,281	–	–	63,281
Royalties and other operating income – until 2022	3,145	(3,145)	–	–
Other revenue – new from 2023	–	2,533	–	2,533
Cost of sales	(20,397)	–	660	(19,737)
Marketing and distribution – until 2022	(9,639)	9,639	–	–
Research and development	(16,023)	–	798	(15,225)
General and administration – until 2022	(2,891)	2,891	–	–
Selling, general and administration – new from 2023	–	(12,743)	(1,458)	(14,201)
Other operating income (expense) – new from 2023	–	825	–	825
Operating profit	**17,476**	**–**	**–**	**17,476**
Pharmaceuticals				
Sales	45,551	–	–	45,551
Royalties and other operating income – until 2022	3,077	(3,077)	–	–
Other revenue – new from 2023	–	2,465	–	2,465
Cost of sales	(11,397)	–	357	(11,040)
Marketing and distribution – until 2022	(6,725)	6,725	–	–
Research and development	(14,060)	–	676	(13,384)
General and administration – until 2022	(1,632)	1,632	–	–
Selling, general and administration – new from 2023	–	(8,517)	919	(7,598)
Other operating income (expense) – new from 2023	–	772	–	772
Operating profit	**14,814**	**–**	**1,952**	**16,766**
Diagnostics				
Sales	17,730	–	–	17,730
Royalties and other operating income – until 2022	68	(68)	–	–
Other revenue – new from 2023	–	68	–	68
Cost of sales	(9,000)	–	303	(8,697)
Marketing and distribution – until 2022	(2,914)	2,914	–	–
Research and development	(1,963)	–	122	(1,841)
General and administration – until 2022	(597)	597	–	–
Selling, general and administration – new from 2023	–	(3,570)	400	(3,170)
Other operating income (expense) – new from 2023	–	59	–	59
Operating profit	**3,324**	**–**	**825**	**4,149**
Corporate				
General and administration – until 2022	(662)	662	–	–
Selling, general and administration – new from 2023	–	(656)	(2,777)	(3,433)
Other operating income (expense) – new from 2023	–	(6)	–	(6)
Operating profit	**(662)**	**–**	**(2,777)**	**(3,439)**

Consequently, the income from the disposal of products is included in the cash flows from investing activities. Comparative 2022 information has been restated, and a reconciliation to the previously published statement of cash flows is provided below.

Restated Roche Group consolidated statement of cash flows (selected items) in millions of CHF

	Year ended 31 December 2022		
	As originally published	Presentational changes	Restated
Disposal of products – until 2022	612	(612)	–
Total cash flows from operating activities	**18,415**	**(612)**	**17,803**
Disposal of products – new from 2023	–	612	612
Total cash flows from investing activities	**(3,536)**	**612**	**(2,924)**

Presentational changes to be applied in 2024. In October 2023 the Group announced that, effective 1 January 2024, the Foundation Medicine business will be moved under the responsibility of the Diagnostics Division from the Pharmaceuticals Division, while retaining Foundation Medicine's independence in this new reporting set-up. Accordingly from 1 January 2024 the results of the Foundation Medicine business will be reported as part of the Diagnostics Division, and this represents a change in the Group's operating segments in its financial reporting. These changes will have no impact on sales, operating profit, net income and earnings per share and non-voting equity security of the Group as a whole. The operating results of the divisions will change. No restatements have been made in these Annual Financial Statements for these changes. The changes will be applied retrospectively from 1 January 2024, and accordingly the 2023 results will be restated in the Interim and Annual Financial Statements in 2024.

Future new and revised standards

The Group is currently assessing the potential impacts of the various new and revised standards and interpretations that will be mandatory from 1 January 2024 which the Group has not yet applied. Based on an analysis to date, the Group does not anticipate that these will have a material impact on the Group's overall results and financial position. The Group is also assessing other new and revised standards which are not mandatory until after 2024.

Report of Roche Management on Internal Control over Financial Reporting

Report of Roche Management on Internal Control over Financial Reporting

The Board of Directors and management of Roche Holding Ltd are responsible for establishing and maintaining adequate control over financial reporting. The internal control system was designed to provide reasonable assurance over the reliability of financial reporting and the preparation and fair presentation of consolidated financial statements in accordance with International Financial Reporting Standards (IFRS Accounting Standards).

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of its system of internal control over financial reporting as of 31 December 2023 based on the criteria for effective internal control over financial reporting described in *Internal Control – Integrated Framework 2013* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has concluded that the system of internal control over financial reporting was effective as of 31 December 2023.

The Statutory Auditor KPMG AG has audited the consolidated financial statements of Roche Holding Ltd for the year ended 31 December 2023 in accordance with Swiss Auditing Standards and with the International Standards on Auditing (ISA).

Severin Schwan
Chairman of the Board of Directors

Alan Hippe
Chief Financial Officer

Basel, 29 January 2024

Statutory Auditor's Report

To the General Meeting of Roche Holding Ltd, Basel

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Roche Holding Ltd and its subsidiaries (the Group), which comprise the consolidated income statement and consolidated statement of comprehensive income of the Group for the year ended 31 December 2023, the related consolidated balance sheet as at 31 December 2023, the consolidated statement of cash flows and changes in equity for the year then ended, and notes to the consolidated financial statements including material accounting policy information.

In our opinion, the consolidated financial statements (pages 46–161) give a true and fair view of the consolidated financial position of the Group as at 31 December 2023, its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with IFRS Accounting Standards and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements" section of our report. We are independent of the Group in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession, as well as those of the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Chargebacks and rebates in the US pharmaceuticals business

Carrying value of product intangible assets not available for use in the Pharmaceuticals Division

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

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Chargebacks and rebates in the US pharmaceuticals business

Key Audit Matter

The Group's pharmaceuticals business makes sales to various customers in the US that fall under certain government and regulatory as well as contractual price reductions. These create obligations for the Group to provide customers with chargebacks or rebate payments and result in deductions from gross amounts invoiced in arriving at sales. The estimated amounts are deducted from gross sales and recorded as accrued liabilities (rebates), or as a deduction from accounts receivable (chargebacks). These estimates are based on analyses of existing contractual or legislatively mandated obligations, recent trends and historical experience.

Management has determined the accruals relating to chargebacks and rebates in the US pharmaceuticals business, predominantly contractual price reductions and Medicaid, to be CHF 1,622 million as at 31 December 2023.

We focused on this area because the arrangements are complex and because establishing an appropriate year-end position requires judgement and estimation by management.

Our response

Our audit procedures included, amongst others, the evaluation of the Group's ability to accurately estimate the accrual for chargebacks and rebates in the US pharmaceutical business by comparing deductions from gross sales to actual claims received from third parties. We developed an independent estimate of accruals and chargebacks related to certain contractual price reductions and Medicaid using the terms of specific rebate programmes and/or contracts with customers, historical revenue data, market demand and market conditions in the US, and historical trends of actual chargebacks and rebate claims paid, and compared the result to the Group's estimates.

We also evaluated the appropriateness of the Group's revenue recognition accounting policies, including the recognition and measurement of deductions to gross sales relating to chargebacks and rebates and related disclosures.

For further information on chargebacks and rebates in the US pharmaceuticals business refer to the following:

Page 52 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions), pages 59, 83 and 86 (Note 3 Revenue, Note 12 Accounts receivable and Note 19 Other current liabilities) and page 148 (Note 34 Accounting policies).

Carrying value of product intangible assets not available for use in the Pharmaceuticals Division

Key Audit Matter

Product intangibles not available for use in the Pharmaceuticals Division (CHF 10,463 million) mostly represent in-process research and development assets. These were acquired through business combinations, asset acquisitions or in-licensing arrangements.

Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment. Risks include an inability to achieve successful trial results, obtain required clinical and/or regulatory approvals and a highly competitive business environment in the therapeutic areas where the Group has significant assets in research or development.

The impairment assessment requires management to make assumptions and judgements on the clinical, technical and commercial viability of the new products. Accordingly, we also focused our audit work on these areas.

Our response

Our audit procedures included, amongst others, on a sample basis, challenging the robustness of the key assumptions used to determine the recoverable amounts, including forecast revenues and the discount rate.

Our challenge was based on our understanding of the commercial prospects of the individual products, as well as the relevant therapeutic areas and the markets in which they will be launched. We used our valuation specialists to assist us in evaluating the assumptions and methodologies used by management in relation to the discount rate. We assessed the key inputs such as projected pricing and volumes and the products' projected share of the therapeutic area, by comparing relevant assumptions to industry forecasts and by reviewing analyst commentaries. We compared management's assumptions with external data where it was available. We performed sensitivity analyses over individual intangible asset impairment models to assess the levels of sensitivity to changes in key assumptions so we could focus our work on those areas and assess management's allowance for risk. In addition, we assessed the reasonableness of management's assumptions regarding the probability of obtaining regulatory approval through comparison to industry practice, history and consideration of the Group's internal governance and approval processes.

For further information on the carrying value of product intangible assets not available for use in the Pharmaceuticals Division refer to the following:

Page 52 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions), page 78 (Note 10 Intangible assets) and page 148 (Note 34 Accounting policies).

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Other Information

The Board of Directors is responsible for the other information. The other information comprises the information included in the finance report and the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the company, the remuneration report and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Board of Directors' Responsibilities for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS Accounting Standards and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Swiss law, ISAs and SA-CH, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.

— Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with Art. 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of the consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

François Rouiller
Licensed Audit Expert
Auditor in Charge

Paul Nichols

Basel, 29 January 2024

KPMG AG, Grosspeteranlage 5, CH-4002 Basel

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Roche Group Consolidated Financial Statements

Roche Group consolidated income statement for the year ended 31 December 2022 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	45,551	17,730	–	63,281
Royalties and other operating income [2, 3]	3,077	68	–	3,145
Revenue [2, 3]	**48,628**	**17,798**	**–**	**66,426**
Cost of sales	(11,397)	(9,000)	–	(20,397)
Marketing and distribution	(6,725)	(2,914)	–	(9,639)
Research and development [2]	(14,060)	(1,963)	–	(16,023)
General and administration	(1,632)	(597)	(662)	(2,891)
Operating profit [2]	**14,814**	**3,324**	**(662)**	**17,476**
Financing costs [4]				(665)
Other financial income (expense) [4]				(484)
Profit before taxes				**16,327**
Income taxes [5]				(2,796)
Net income				**13,531**
Attributable to				
– Roche shareholders [22]				12,421
– Non-controlling interests [24]				1,110
Earnings per share and non-voting equity security [29]				
Basic (CHF)				15.52
Diluted (CHF)				15.37

Roche Group consolidated income statement for the year ended 31 December 2021 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	45,041	17,760	–	62,801
Royalties and other operating income [2, 3]	2,969	80	–	3,049
Revenue [2, 3]	**48,010**	**17,840**	**–**	**65,850**
Cost of sales	(10,634)	(9,013)	–	(19,647)
Marketing and distribution	(6,874)	(3,046)	–	(9,920)
Research and development [2]	(12,993)	(1,806)	–	(14,799)
General and administration	(1,979)	(656)	(694)	(3,329)
Operating profit [2]	**15,530**	**3,319**	**(694)**	**18,155**
Financing costs [4]				(418)
Other financial income (expense) [4]				(339)
Profit before taxes				**17,398**
Income taxes [5]				(2,463)
Net income				**14,935**
Attributable to				
– Roche shareholders [22]				13,930
– Non-controlling interests [24]				1,005
Earnings per share and non-voting equity security [29]				
Basic (CHF)				16.38
Diluted (CHF)				16.20

Roche Group consolidated statement of comprehensive income in millions of CHF

	Year ended 31 December 2022	2021
Net income recognised in income statement	**13,531**	**14,935**
Other comprehensive income (OCI)		
Remeasurements of defined benefit plans [22]	546	1,873
Fair value changes on equity investments at fair value through OCI [22]	30	(155)
Items that will never be reclassified to the income statement	**576**	**1,718**
Fair value changes on debt securities at fair value through OCI [22]	(33)	(13)
Cash flow hedges [22]	(62)	(47)
Currency translation of foreign operations [22]	(1,703)	(476)
Items that are or may be reclassified to the income statement	**(1,798)**	**(536)**
Other comprehensive income, net of tax	**(1,222)**	**1,182**
Total comprehensive income	**12,309**	**16,117**
Attributable to		
– Roche shareholders [22]	11,738	15,359
– Non-controlling interests [24]	571	758
Total	**12,309**	**16,117**

Roche Group consolidated balance sheet in millions of CHF

	31 December 2022	31 December 2021	31 December 2020
Non-current assets			
Property, plant and equipment [8]	23,075	23,163	22,158
Right-of-use assets [28]	1,133	1,249	1,112
Goodwill [9]	10,820	10,809	9,249
Intangible assets [10]	9,685	12,117	12,017
Deferred tax assets [5]	6,427	5,583	5,459
Defined benefit plan assets [26]	957	1,498	967
Other non-current assets [15]	2,238	2,271	2,234
Total non-current assets	**54,335**	**56,690**	**53,196**
Current assets			
Inventories [11]	8,605	7,715	7,194
Accounts receivable [12]	11,606	10,806	10,154
Current income tax assets [5]	313	320	149
Other current assets [16]	3,525	3,755	3,111
Marketable securities [13]	4,776	6,181	6,607
Cash and cash equivalents [14]	4,991	6,850	5,727
Total current assets	**33,816**	**35,627**	**32,942**
Total assets	**88,151**	**92,317**	**86,138**
Non-current liabilities			
Long-term debt [21]	(21,391)	(16,076)	(10,220)
Deferred tax liabilities [5]	(645)	(628)	(353)
Defined benefit plan liabilities [26]	(4,561)	(6,103)	(7,831)
Provisions [20]	(1,111)	(1,442)	(1,453)
Other non-current liabilities [18]	(1,189)	(1,307)	(1,107)
Total non-current liabilities	**(28,897)**	**(25,556)**	**(20,964)**
Current liabilities			
Short-term debt [21]	(3,960)	(15,122)	(3,996)
Current income tax liabilities [5]	(3,187)	(3,002)	(3,679)
Provisions [20]	(2,248)	(2,526)	(1,836)
Accounts payable [17]	(4,556)	(4,637)	(4,121)
Other current liabilities [19]	(13,288)	(13,129)	(11,769)
Total current liabilities	**(27,239)**	**(38,416)**	**(25,401)**
Total liabilities	**(56,136)**	**(63,972)**	**(46,365)**
Total net assets	**32,015**	**28,345**	**39,773**
Equity			
Capital and reserves attributable to Roche shareholders [22]	27,992	24,489	36,341
Equity attributable to non-controlling interests [24]	4,023	3,856	3,432
Total equity	**32,015**	**28,345**	**39,773**

Roche Group consolidated statement of cash flows in millions of CHF

	Year ended 31 December 2022	2021
Cash flows from operating activities		
Cash generated from operations [30]	26,030	26,600
(Increase) decrease in net working capital	(2,418)	(994)
Payments made for defined benefit plans [26]	(655)	(619)
Utilisation of provisions [20]	(1,052)	(1,166)
Disposal of products	612	496
Other operating cash flows	0	2
Income taxes paid [5]	(4,102)	(3,343)
Total cash flows from operating activities	**18,415**	**20,976**
Cash flows from investing activities		
Purchase of property, plant and equipment	(3,449)	(3,693)
Purchase of intangible assets	(1,103)	(856)
Disposal of property, plant and equipment	82	61
Disposal of intangible assets	0	0
Business combinations [6]	0	(2,258)
Asset acquisitions [6]	(245)	(103)
Divestment of subsidiaries	1	7
Interest received (paid) and dividends received on marketable securities and other investments [30]	32	(2)
Sales of equity securities and debt securities	148	235
Purchases of equity securities and debt securities	(271)	(201)
Sales (purchases) of money market instruments and time accounts over three months, net	1,250	329
Other investing cash flows	19	(71)
Total cash flows from investing activities	**(3,536)**	**(6,552)**
Cash flows from financing activities		
Proceeds from issue of bonds and notes [21]	8,442	6,900
Redemption and repurchase of bonds and notes [21]	(1,750)	(2,448)
Increase (decrease) in commercial paper [21]	1,293	(1,134)
Increase (decrease) in other debt [21]	(13,683)	13,412
Hedging and collateral arrangements	(526)	(522)
Interest paid	(557)	(405)
Principal portion of lease liabilities paid [30]	(405)	(382)
Dividends paid [30]	(7,832)	(8,132)
Share repurchase [22]	0	(18,991)
Equity-settled equity compensation plans, net of transactions in own equity [27]	(1,257)	(1,406)
Other financing cash flows	0	0
Total cash flows from financing activities	**(16,275)**	**(13,108)**
Net effect of currency translation on cash and cash equivalents	(463)	(193)
Increase (decrease) in cash and cash equivalents	**(1,859)**	**1,123**
Cash and cash equivalents at 1 January	6,850	5,727
Cash and cash equivalents at 31 December [14]	**4,991**	**6,850**

Roche Group consolidated statement of changes in equity in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total	Non-controlling interests	Total equity
Year ended 31 December 2021								
At 1 January 2021	160	45,571	106	(16)	(9,480)	36,341	3,432	39,773
Net income recognised in income statement	–	13,930	–	–	–	13,930	1,005	14,935
Net change in fair value – financial assets at fair value through OCI	–	0	(167)	–	–	(167)	(1)	(168)
Cash flow hedges	–	–	–	(46)	–	(46)	(1)	(47)
Currency translation of foreign operations	–	–	1	2	(232)	(229)	(247)	(476)
Remeasurements of defined benefit plans	–	1,871	–	–	–	1,871	2	1,873
Total comprehensive income	**–**	**15,801**	**(166)**	**(44)**	**(232)**	**15,359**	**758**	**16,117**
Dividends	–	(7,773)	–	–	–	(7,773)	(338)	(8,111)
Share repurchase [22]	–	(18,991)	–	–	–	(18,991)	–	(18,991)
Equity compensation plans, net of transactions in own equity	–	(445)	–	–	–	(445)	2	(443)
Changes in non-controlling interests [24]	–	(2)	–	–	–	(2)	2	–
At 31 December 2021	**160**	**34,161**	**(60)**	**(60)**	**(9,712)**	**24,489**	**3,856**	**28,345**
Year ended 31 December 2022								
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489	3,856	28,345
Net income recognised in income statement	–	12,421	–	–	–	12,421	1,110	13,531
Net change in fair value – financial assets at fair value through OCI	–	0	(2)	–	–	(2)	(1)	(3)
Cash flow hedges	–	–	–	(37)	–	(37)	(25)	(62)
Currency translation of foreign operations	–	–	3	5	(1,189)	(1,181)	(522)	(1,703)
Remeasurements of defined benefit plans	–	537	–	–	–	537	9	546
Total comprehensive income	**–**	**12,958**	**1**	**(32)**	**(1,189)**	**11,738**	**571**	**12,309**
Dividends	–	(7,446)	–	–	–	(7,446)	(406)	(7,852)
Share capital reduction [22]	(53)	53	–	–	–	–	–	–
Equity compensation plans, net of transactions in own equity	–	(786)	–	–	–	(786)	(1)	(787)
Changes in non-controlling interests [24]	–	(3)	–	–	–	(3)	3	–
At 31 December 2022	**107**	**38,937**	**(59)**	**(92)**	**(10,901)**	**27,992**	**4,023**	**32,015**

Notes to the Roche Group Consolidated Financial Statements

1. General accounting principles

Basis of preparation

The consolidated financial statements (hereafter 'the Annual Financial Statements') of the Roche Group have been prepared in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law. They have been prepared using the historical cost convention except for items that are required to be accounted for at fair value. They were approved for issue by the Board of Directors on 31 January 2023 and are subject to approval by the Annual General Meeting of shareholders on 14 March 2023.

These financial statements are the Annual Financial Statements of Roche Holding Ltd, a company registered in Switzerland, and its subsidiaries ('the Group').

The Group's significant accounting policies and changes in accounting policies are disclosed in Note 34.

Key accounting judgements, estimates and assumptions

The preparation of the Annual Financial Statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities and contingent amounts. Actual outcomes could differ from those management estimates. The estimates and underlying assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors. Revisions to estimates are recognised in the period in which the estimate is revised. The following are considered to be the key accounting judgements, estimates and assumptions made and are believed to be appropriate based upon currently available information.

Revenue. The nature of the Group's business is such that many sales transactions do not have a simple structure and may consist of various performance obligations that are satisfied at different times. Contracts entered into in the Diagnostics Division typically include performance obligations for instruments (including those provided under leasing arrangements), reagents and other consumables, and services. Instruments may be sold in cash sales transactions at discounted prices. Where instruments are provided under operating lease arrangements, some or the entire lease revenue may be variable and subject to subsequent reagents sales. Major sources of estimation uncertainty are related to measurement of sales, net of discounts, for the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise. Out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. These may be settled by a combination of upfront payments, milestone payments, other licensing fees, and reimbursements for services provided. Whether to consider these commitments as a single performance obligation or separate ones, or even being in scope of IFRS 15 'Revenues from Contracts with Customers', is not straightforward and requires some judgement. Depending on the conclusion, this may result in all revenue being calculated at inception and either being recognised at once or spread over the term of a longer performance obligation.

Major sources of estimation uncertainty are related to the measurement of sales, which are recorded net of allowances for estimated rebates, chargebacks, cash discounts and estimates of product returns, all of which are established at the time of sale. All product sales allowances are based on estimates of the amounts earned or to be claimed on the related sales. At 31 December 2022 the Group had CHF 4,767 million in provisions and accruals for expected sales returns, chargebacks and other rebates, including Medicaid in the US and similar rebates in other countries (2021: CHF 4,720 million). The provisions and accruals relating to the US pharmaceuticals business amounted to CHF 2,120 million (2021: CHF 2,182 million), of which CHF 510 million (2021: CHF 432 million) were associated with expected sales returns. These estimates take into consideration historical experience, current contractual and statutory requirements, specific known market events and trends such as competitive pricing and new product introductions, estimated inventory levels, and the shelf life of products. If actual future results vary, these estimates need to be adjusted, with an effect on sales and earnings in the period of the adjustment.

Business combinations. The Group initially recognises the fair value of identifiable assets acquired, the liabilities assumed, any non-controlling interest and the consideration transferred in a business combination. Management judgement is particularly involved in the assessment of whether or not the net assets acquired constitute a business and in the recognition and fair value measurement of intellectual property, inventories, contingent liabilities and contingent consideration. In making this assessment, management applies judgement in considering the underlying economic substance of the items concerned in addition to the contractual terms. When considered appropriate as a result from its judgement, management also applies the optional 'concentration test' as set out in IFRS 3 'Business Combinations' to aid the assessment of whether a transaction represents a business combination or is simply in substance the purchase of a single asset or group of similar assets.

Impairment of property, plant and equipment, right-of-use assets, goodwill and intangible assets. At 31 December 2022 the Group had CHF 23,075 million in property, plant and equipment (see Note 8), CHF 1,133 million in right-of-use assets (see Note 28), CHF 10,820 million in goodwill (see Note 9) and CHF 9,685 million in intangible assets (see Note 10). Goodwill and intangible assets not yet available for use are reviewed annually for impairment. Property, plant and equipment, right-of-use assets and intangible assets in use are assessed for impairment when there is a triggering event that provides evidence that an asset may be impaired. To assess whether any impairment exists, estimates of expected future cash flows are used. Actual outcomes could vary significantly from such estimates. Other estimates relate to factors such as changes in discount rates, the planned use of buildings, machinery or equipment or closure of facilities, the presence of competition, technical obsolescence and lower-than-anticipated product sales, which could lead to shorter useful lives or impairment.

Impairment of financial assets. At 31 December 2022 the Group had CHF 490 million in allowance for doubtful accounts for trade and lease receivables (see Note 12). Key estimates for the allowance for doubtful accounts are mainly related to risk of default and expected loss rates. For making these estimates, inputs selected to calculate the allowance for doubtful accounts are based on the company's past experience, existing market conditions as well as forward-looking estimates at the end of each reporting period.

Pensions and other post-employment benefits. The Group operates a number of defined benefit plans, and the fair values of the recognised plan assets and liabilities are based upon statistical and actuarial calculations. Key estimates are required for the measurement of the net defined benefit obligation, which is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. At 31 December 2022 the present value of the Group's defined benefit obligation was CHF 18,734 million (see Note 26). The actuarial assumptions used for those estimates may differ materially from actual results due to changes in market and economic conditions, longer or shorter lifespans of participants, and other changes in the factors being assessed. These differences could impact the defined benefit plan assets and liabilities recognised in the balance sheet in future periods.

Legal provisions. The Group provides for anticipated legal settlement costs when there is a probable outflow of resources that can be reliably estimated. Where no reliable estimate can be made, no provision is recorded and contingent liabilities are disclosed where material. At 31 December 2022 the Group had CHF 316 million in legal provisions. The status of significant legal cases is disclosed in Note 20. These estimates consider the specific circumstances of each legal case, relevant legal advice and are inherently uncertain due to the highly complex nature of legal cases. The estimates could change substantially over time as new facts emerge and each legal case progresses.

Environmental provisions. The Group provides for anticipated environmental remediation costs when there is a probable outflow of resources that can be reasonably estimated. At 31 December 2022 the Group had CHF 374 million in environmental provisions (see Note 20). Environmental provisions consist primarily of costs to fully clean and refurbish contaminated sites, including landfills, and to treat and contain contamination at certain other sites. These estimates are inherently uncertain as assumptions are required related to the detection of previously unknown contamination, the method and extent of remediation, the percentage of the problematic materials attributable to the Group at the remediation sites, and the financial capabilities of other potentially responsible parties. The estimates could change substantially over time as new facts emerge and each environmental remediation progresses.

Contingent consideration provisions. The Group makes provision for the estimated fair value of contingent consideration arrangements arising from business combinations. At 31 December 2022 the Group had CHF 103 million in contingent consideration provisions (see Note 20) and the total potential payments under contingent consideration arrangements from business combinations could be up to CHF 353 million (see Note 31). Key estimates are required to determine the amounts of the expected payments to be provided for, by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario, and the probability of each scenario, which is then discounted to a net present value. These estimates could change substantially over time as new facts emerge and each scenario develops.

Income taxes. At 31 December 2022 the Group had a current income tax net liability of CHF 2,874 million and a deferred tax net asset of CHF 5,782 million (see Note 5). Major sources of estimation uncertainty are related to the calculation of current and deferred tax assets and liabilities. Some of these estimates are based on interpretations of existing tax laws or regulations. Where tax positions are uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience. Factors that may have an impact on the estimates of current and deferred tax balances include changes in tax laws, regulations or rates, changing interpretations of existing tax laws or regulations, future levels of research and development spending and changes in pre-tax earnings.

Leases. Where the Group is the lessee, key judgements include assessing whether arrangements contain a lease and determining the lease term. To assess whether a contract contains a lease requires judgement about whether it depends on a specified asset, whether the Group obtains substantially all the economic benefits from the use of that asset, and whether the Group has a right to direct the use of the asset. In order to determine the lease term, judgement is required as extension and termination options have to be assessed along with all facts and circumstances that may create an economic incentive to exercise an extension option, or not exercise a termination option. Estimates include calculating the discount rate which is based on the incremental borrowing rate. At 31 December 2022 the Group had CHF 1,133 million in right-of-use assets and CHF 1,193 million in lease liabilities (see Note 28).

Where the Group is the lessor, the treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

Consolidation. The Group periodically undertakes transactions that may involve obtaining control or significant influence over other companies. These transactions include equity acquisitions, asset purchases and alliance agreements. In all such cases it requires judgement for management to make an assessment as to whether the Group has control or significant influence over the other company, and whether it should be consolidated as a subsidiary or accounted for as an associated company. In making this judgemental assessment, management considers the underlying economic substance of the transaction in addition to the contractual terms.

Impact of the COVID-19 pandemic

The Group has assessed certain accounting matters that generally require consideration of forecast financial information taking into account the potential future impacts of the COVID-19 pandemic. The accounting matters assessed included, but were not limited to, the Group's provisions for product returns, allowances for doubtful accounts for trade and lease receivables, inventory allowances as well as the carrying value of goodwill, intangible assets and property, plant and equipment. Any continued negative impacts from the pandemic in 2023 may have an impact on these, or other, matters.

While there was no significant impact from the areas assessed on the Group's Annual Financial Statements, the Group will continue to monitor these areas of increased judgements and risk for material changes.

2. Operating segment information

The Group has two divisions, Pharmaceuticals and Diagnostics. Revenues are primarily generated from the sale of prescription pharmaceutical products and diagnostic instruments, reagents and consumables, respectively. Both divisions also derive revenues from the sale or licensing of products or technology to third parties. Residual operating activities from divested businesses and certain global activities are reported as 'Corporate'. These include the Corporate Executive Committee and global Group functions for communications, human resources, finance (including treasury and taxes), legal, safety and environmental services. Subdivisional information is also presented for the Roche Pharmaceuticals and Chugai operating segments within the Pharmaceuticals Division.

Divisional information in millions of CHF

	Pharmaceuticals		Diagnostics		Corporate		Group	
	2022	2021	2022	2021	2022	2021	2022	2021
Revenues from external customers								
Sales	45,551	45,041	17,730	17,760	–	–	63,281	62,801
Royalties and other operating income	3,077	2,969	68	80	–	–	3,145	3,049
Total	**48,628**	**48,010**	**17,798**	**17,840**	**–**	**–**	**66,426**	**65,850**
Revenues from other operating segments								
Sales	–	–	21	20	–	–	21	20
Royalties and other operating income	–	–	–	–	–	–	–	–
Elimination of interdivisional revenue							(21)	(20)
Total	**–**	**–**	**21**	**20**	**–**	**–**	**–**	**–**
Segment results								
Operating profit	14,814	15,530	3,324	3,319	(662)	(694)	17,476	18,155
Capital expenditure								
Business combinations	0	56	0	2,339	0	0	0	2,395
Asset acquisitions	240	36	51	0	0	0	291	36
Additions to property, plant and equipment	1,694	2,134	1,622	1,628	86	64	3,402	3,826
Additions to right-of-use assets	218	412	114	124	6	39	338	575
Additions to intangible assets	918	969	26	28	–	–	944	997
Total	**3,070**	**3,607**	**1,813**	**4,119**	**92**	**103**	**4,975**	**7,829**
Research and development								
Research and development costs	14,060	12,993	1,963	1,806	–	–	16,023	14,799
Other segment information								
Depreciation of property, plant and equipment	1,381	1,278	1,128	1,188	56	58	2,565	2,524
Depreciation of right-of-use assets	211	234	117	117	13	12	341	363
Amortisation of intangible assets	764	1,398	174	158	–	–	938	1,556
Impairment (reversal) of property, plant and equipment	108	(108)	15	105	0	0	123	(3)
Impairment (reversal) of right-of-use assets	5	5	0	0	0	0	5	5
Impairment of goodwill	0	0	0	0	–	–	0	0
Impairment of intangible assets	2,837	651	0	0	–	–	2,837	651
Inventory fair value adjustments	0	0	0	11	–	–	0	11
Equity compensation plan expenses	571	513	106	98	61	52	738	663

Pharmaceuticals subdivisional information in millions of CHF

	Roche Pharmaceuticals 2022	Roche Pharmaceuticals 2021	Chugai 2022	Chugai 2021	Pharmaceuticals Division 2022	Pharmaceuticals Division 2021
Revenues from external customers						
Sales	40,602	40,535	4,949	4,506	45,551	45,041
Royalties and other operating income	2,320	2,899	757	70	3,077	2,969
Total	**42,922**	**43,434**	**5,706**	**4,576**	**48,628**	**48,010**
Revenues from other operating segments						
Sales	3,384	2,190	2,602	2,179	5,986	4,369
Royalties and other operating income	47	85	964	1,603	1,011	1,688
Elimination of income within division					(6,997)	(6,057)
Total	**3,431**	**2,275**	**3,566**	**3,782**	**–**	**–**
Segment results						
Operating profit	11,323	12,601	3,988	3,525	15,311	16,126
Elimination of results within division					(497)	(596)
Operating profit	**11,323**	**12,601**	**3,988**	**3,525**	**14,814**	**15,530**
Capital expenditure						
Business combinations	0	56	0	0	0	56
Asset acquisitions	240	36	0	0	240	36
Additions to property, plant and equipment	1,245	1,535	449	599	1,694	2,134
Additions to right-of-use assets	168	293	50	119	218	412
Additions to intangible assets	885	960	33	9	918	969
Total	**2,538**	**2,880**	**532**	**727**	**3,070**	**3,607**
Research and development						
Research and development costs	13,007	11,909	1,096	1,162	14,103	13,071
Elimination of costs within division					(43)	(78)
Total	**13,007**	**11,909**	**1,096**	**1,162**	**14,060**	**12,993**
Other segment information						
Depreciation of property, plant and equipment	1,209	1,104	172	174	1,381	1,278
Depreciation of right-of-use assets	177	185	34	49	211	234
Amortisation of intangible assets	749	1,372	15	26	764	1,398
Impairment (reversal) of property, plant and equipment	108	(108)	0	0	108	(108)
Impairment (reversal) of right-of-use assets	5	5	0	0	5	5
Impairment of goodwill	0	0	0	0	0	0
Impairment of intangible assets	2,837	627	0	24	2,837	651
Inventory fair value adjustments	0	0	0	0	0	0
Equity compensation plan expenses	568	510	3	3	571	513

Net assets in millions of CHF

At 31 December	Assets 2022	Assets 2021	Assets 2020	Liabilities 2022	Liabilities 2021	Liabilities 2020	Net assets 2022	Net assets 2021	Net assets 2020
Net operating assets									
Pharmaceuticals	47,292	48,677	46,357	(14,736)	(15,262)	(12,886)	32,556	33,415	33,471
Diagnostics	21,593	21,459	18,751	(5,075)	(5,399)	(4,987)	16,518	16,060	13,764
Corporate	445	420	381	(600)	(618)	(567)	(155)	(198)	(186)
Total	**69,330**	**70,556**	**65,489**	**(20,411)**	**(21,279)**	**(18,440)**	**48,919**	**49,277**	**47,049**
Current income tax net assets (liabilities)							(2,874)	(2,682)	(3,530)
Deferred tax net assets (liabilities)							5,782	4,955	5,106
Defined benefit plan net assets (liabilities)							(3,604)	(4,605)	(6,864)
Lease liabilities							(1,193)	(1,354)	(1,195)
Marketable securities							4,776	6,181	6,607
Cash and cash equivalents							4,991	6,850	5,727
Debt							(25,351)	(31,198)	(14,216)
Other net assets (liabilities)							569	921	1,089
Total net assets							**32,015**	**28,345**	**39,773**

Net operating assets – Pharmaceuticals subdivisional information in millions of CHF

At 31 December	Assets 2022	Assets 2021	Assets 2020	Liabilities 2022	Liabilities 2021	Liabilities 2020	Net assets 2022	Net assets 2021	Net assets 2020
Roche Pharmaceuticals	43,036	44,860	42,387	(15,217)	(15,808)	(13,224)	27,819	29,052	29,163
Chugai	8,890	7,892	6,923	(1,910)	(1,700)	(1,325)	6,980	6,192	5,598
Elimination within division	(4,634)	(4,075)	(2,953)	2,391	2,246	1,663	(2,243)	(1,829)	(1,290)
Pharmaceuticals Division	**47,292**	**48,677**	**46,357**	**(14,736)**	**(15,262)**	**(12,886)**	**32,556**	**33,415**	**33,471**

Information by geographical area in millions of CHF

	Revenues from external customers				
	Sales	Royalties and other operating income	Property, plant and equipment	Right-of-use assets	Non-current assets Goodwill and intangible assets
2022					
Switzerland	683	988	6,394	47	2,535
Germany	3,295	23	4,032	28	1,262
Rest of Europe	10,326	2	913	194	741
Europe	**14,304**	**1,013**	**11,339**	**269**	**4,538**
United States	27,939	1,374	7,194	570	15,794
Rest of North America	1,101	1	15	16	20
North America	**29,040**	**1,375**	**7,209**	**586**	**15,814**
Latin America	2,870	0	322	42	4
Japan	5,695	757	2,697	91	138
Rest of Asia	9,852	0	1,410	105	11
Asia	**15,547**	**757**	**4,107**	**196**	**149**
Africa, Australia and Oceania	1,520	0	98	40	0
Total	**63,281**	**3,145**	**23,075**	**1,133**	**20,505**
2021					
Switzerland	731	1,386	6,351	91	2,670
Germany	4,292	27	3,980	36	1,339
Rest of Europe	11,375	6	975	210	886
Europe	**16,398**	**1,419**	**11,306**	**337**	**4,895**
United States	26,519	1,546	7,141	551	17,853
Rest of North America	915	1	20	18	20
North America	**27,434**	**1,547**	**7,161**	**569**	**17,873**
Latin America	2,746	0	284	44	5
Japan	4,999	70	2,798	127	138
Rest of Asia	9,749	13	1,518	123	15
Asia	**14,748**	**83**	**4,316**	**250**	**153**
Africa, Australia and Oceania	1,475	0	96	49	0
Total	**62,801**	**3,049**	**23,163**	**1,249**	**22,926**

Sales are allocated to geographical areas by destination according to the location of the customer. Royalties and other operating income are allocated according to the location of the Group company that receives the revenue.

Major customers

In total three US national wholesale distributors represent approximately a third of the Group's sales in 2022 and in 2021. The three US national wholesale distributors are McKesson Corp. with CHF 8 billion (2021: CHF 8 billion), AmerisourceBergen Corp. with CHF 7 billion (2021: CHF 7 billion) and Cardinal Health, Inc. with CHF 4 billion (2021: CHF 4 billion). Approximately 97% (2021: 97%) of these revenues were in the Roche Pharmaceuticals operating segment, with the residual in the Diagnostics operating segment.

3. Revenue

Disaggregated revenue information

Disaggregation of revenue in millions of CHF

	2022			2021		
	Revenue from contracts with customers	Revenue from other sources	Total	Revenue from contracts with customers	Revenue from other sources	Total
Pharmaceuticals Division						
Sales by therapeutic area						
Oncology	19,995	–	19,995	20,467	–	20,467
Neuroscience	7,817	–	7,817	6,275	–	6,275
Immunology	7,181	–	7,181	8,373	–	8,373
Haemophilia A	3,823	–	3,823	3,022	–	3,022
Infectious diseases	2,161	–	2,161	2,226	–	2,226
Ophthalmology	1,605	–	1,605	1,355	–	1,355
Other therapeutic areas	2,969	–	2,969	3,323	–	3,323
Sales	**45,551**	**–**	**45,551**	**45,041**	**–**	**45,041**
Royalty income	924	0	924	1,064	0	1,064
Income from out-licensing agreements	842	0	842	111	0	111
Income from disposal of products, profit-sharing agreements and other	622	689	1,311	512	1,282	1,794
Royalties and other operating income	**2,388**	**689**	**3,077**	**1,687**	**1,282**	**2,969**
Diagnostics Division						
Sales by customer area						
Core Lab[a)]	7,170	605	7,775	6,917	643	7,560
Point of Care[a)]	3,557	32	3,589	3,098	36	3,134
Molecular Lab[a)]	3,339	111	3,450	4,065	109	4,174
Diabetes Care	1,595	3	1,598	1,688	2	1,690
Pathology Lab	1,229	89	1,318	1,126	76	1,202
Sales	**16,890**	**840**	**17,730**	**16,894**	**866**	**17,760**
Royalty income	42	19	61	43	0	43
Income from out-licensing agreements	0	0	0	18	0	18
Income from disposal of products and other	1	6	7	0	19	19
Royalties and other operating income	**43**	**25**	**68**	**61**	**19**	**80**
Total	**64,872**	**1,554**	**66,426**	**63,683**	**2,167**	**65,850**

a) In 2022 sales in the Point of Care customer area included sales from the Liat business (POC molecular), and sales in the Core Lab customer area included sales from the Life Science Alliances business. These were both previously shown as part of the Molecular Lab customer area. The comparative information for 2021 has been restated accordingly. Sales for 2021 were: POC molecular CHF 551 million, Life Science Alliances CHF 87 million.

Revenue from other sources primarily relates to lease revenue and collaboration revenue for which the counterparty is not considered a customer, such as income from profit-sharing agreements.

Gross-to-net sales reconciliation for the Pharmaceuticals Division

The gross-to-net sales reconciliation for the Pharmaceuticals Division is shown in the table below. The companies in the Diagnostics Division have similar reconciling items, but at much lower amounts.

Pharmaceuticals Division sales gross-to-net reconciliation in millions of CHF

	2022	2021
Gross sales	56,799	56,132
Government and regulatory mandatory price reductions	(5,943)	(6,050)
Contractual price reductions	(4,108)	(3,996)
Cash discounts	(279)	(336)
Customer returns reserves	(366)	(316)
Others	(552)	(393)
Net sales	**45,551**	**45,041**

Government and regulatory mandatory price reductions. These consist of mandatory price reductions. The major elements are the 340B Drug Discount Program, Medicaid and other plans in the US, which totalled USD 4.9 billion, equivalent to CHF 4.7 billion (2021: USD 5.5 billion, equivalent to CHF 5.0 billion).

Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume based and performance based.

Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.

Customer returns reserves. These are allowances established for expected product returns.

Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables (see Note 12). Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities (see Note 19). Provisions for sales returns are recorded in the balance sheet as other provisions (see Note 20).

Contract balances

Receivables in millions of CHF

	2022	2021	2020
Accounts receivable [12]	11,606	10,806	10,154
Other current receivables – contracts with customers [16]	686	646	492
Other non-current receivables – contracts with customers [15]	26	36	37
Total receivables	**12,318**	**11,488**	**10,683**

Other current receivables mainly include royalty and licensing receivables. At 31 December 2022 total receivables included lease receivables of 2% (2021: 2%, 2020: 2%) which are not considered receivables from contracts with customers.

Contract assets in millions of CHF

	2022	2021	2020
Accrued income and contract costs	208	763	144
Total contract assets	**208**	**763**	**144**

Contract liabilities in millions of CHF

	2022	2021	2020
Deferred income – non-current	238	233	146
Deferred income – current	601	560	439
Total contract liabilities	**839**	**793**	**585**

Movement in contract liabilities in millions of CHF

	2022	2021
At 1 January	793	585
Business combinations	0	1
Revenue recognised that was included in the contract liability balance at the beginning of the year	(585)	(392)
Increases due to cash received or receivable, excluding amounts recognised as revenue during the year	669	579
Currency translation effects	(38)	20
At 31 December	**839**	**793**

Revenue recognised in relation to performance obligations satisfied in previous years

In 2022 there was an increase in revenue recognised of CHF 102 million (2021: decrease in revenue of CHF 28 million) relating to performance obligations that had been satisfied in previous periods, mainly due to adjustments of sales deduction provisions and accruals for expected sales returns, chargebacks and other allowances in respect of previous years.

Remaining performance obligations in (partially) unsatisfied long-term contracts

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts in the Diagnostics Division that have minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Transaction price allocated to contracts with (partially) unsatisfied performance obligations in millions of CHF

	2022	2021
No contract liability held	3,248	3,080
Contract liability held	839	793
Total	**4,087**	**3,873**
Thereof expected to be recognised as revenue		
– Within one year	1,895	1,780
– Between one and five years	2,084	2,006
– More than five years	108	87
Total	**4,087**	**3,873**

4. Net financial expense

Financing costs in millions of CHF

	2022	2021
Interest expense	(588)	(317)
Amortisation of debt discount [21]	(4)	(8)
Fair value loss on treasury locks designated as cash flow hedges – transferred from OCI	(2)	0
Net gains (losses) on redemption and repurchase of bonds and notes [21]	0	0
Discount unwind, including effects from discount rate changes [20]	27	(6)
Net interest cost of defined benefit plans [26]	(82)	(71)
Interest expense on lease liabilities [28]	(16)	(16)
Total financing costs	**(665)**	**(418)**

Other financial income (expense) in millions of CHF

	2022	2021
Net gains (losses) on equity investments/securities at fair value through profit or loss	(79)	(87)
Net income (expense) from equity investments/securities	**(79)**	**(87)**
Interest income (expense) from debt securities at fair value through OCI and at amortised cost	40	(1)
Net gains (losses) on sale of debt securities at fair value through OCI	0	0
Net gains (losses) on debt investments/securities at fair value through profit or loss	(6)	(2)
Net interest income (expense) and income from debt investments/securities	**34**	**(3)**
Net foreign exchange gains (losses)	230	261
Net gains (losses) on foreign currency derivatives	(508)	(493)
Foreign exchange gains (losses)	**(278)**	**(232)**
Gains (losses) on net monetary position in hyperinflationary economies	(70)	(20)
Net other financial income (expense)	(50)	5
Associates	(41)	(2)
Total other financial income (expense)	**(484)**	**(339)**

Net financial expense in millions of CHF

	2022	2021
Financing costs	(665)	(418)
Other financial income (expense)	(484)	(339)
Net financial expense	**(1,149)**	**(757)**
Financial result from Treasury management	(1,026)	(684)
Financial result from Pension management	(82)	(71)
Associates	(41)	(2)
Net financial expense	**(1,149)**	**(757)**

Hyperinflationary economies

The Group has considered Argentina (since 1 July 2018) and Türkiye (since 1 April 2022) to be hyperinflationary economies in the context of IAS 29 'Financial Reporting in Hyperinflationary Economies'. The cumulative inflation index exceeds 100% for Argentina over the last three years as measured by the National Wholesale Price Index (Sistema de Índices de Precios Mayoristas) and for Türkiye in 2022 as measured by the consumer price index published by the Turkish Statistical Institute.

Accordingly the Group has reviewed the reporting from its affiliates in Argentina and Türkiye, and where necessary restated them in line with IAS 29. The potential adjustments resulting from the application of IAS 29 do not have a significant impact on the Group's operating results and balance sheet. An adjustment is recorded for the gains (losses) on the net monetary positions, which is a loss of CHF 70 million resulting from the loss in purchasing power of the positive net monetary positions during 2022 of the Group's affiliates in Argentina and Türkiye (2021: loss of CHF 20 million for the Group's affiliates in Argentina).

5. Income taxes

Income tax expenses in millions of CHF

	2022	2021
Current income taxes	(4,454)	(2,619)
Deferred taxes	1,658	156
Total income tax (expense)	**(2,796)**	**(2,463)**

Since the Group operates internationally, it is subject to income taxes in many different tax jurisdictions. The Group calculates its average expected tax rate as a weighted average of the tax rates in the tax jurisdictions in which the Group operates. This rate changes from year to year due to changes in the mix of the Group's taxable income and changes in local tax rates.

The Group's average expected tax rate was stable at 18.7% in 2022 (2021: 18.7%). During 2022 there were no significant changes to local tax rates in the tax jurisdictions in which the Group operates.

The Group's effective tax rate increased to 17.1% in 2022 (2021: 14.2%). This was mainly due to the lower effect from the resolution of several tax disputes in 2022 compared to 2021 and the impairments of intangible assets that are not tax deductible.

The Group's effective tax rate can be reconciled to the Group's average expected tax rate as follows:

Reconciliation of the Group's effective tax rate

	2022	2021
Average expected tax rate	18.7%	18.7%
Tax effect of		
– Non-taxable income/non-deductible expenses	+1.8%	+0.7%
– Equity compensation plans	+0.4%	0.0%
– Research and development tax credits and other deductions	–3.0%	–2.1%
– US state tax impacts	+0.5%	+0.5%
– Tax on unremitted earnings	+0.1%	+0.2%
– Resolution of several tax disputes	–1.9%	–4.0%
– Prior-year and other differences	+0.5%	+0.2%
Group's effective tax rate	**17.1%**	**14.2%**

The income tax benefit recorded in respect of equity compensation plans, which varies according to the price of the underlying equity, was CHF 58 million (2021: CHF 117 million). Had the income tax benefits been recorded solely on the basis of the IFRS 2 expense multiplied by the applicable tax rate, then a benefit of approximately CHF 126 million (2021: CHF 113 million) would have been recorded.

Tax effects of other comprehensive income in millions of CHF

	2022			2021		
	Pre-tax amount	Tax	After-tax amount	Pre-tax amount	Tax	After-tax amount
Remeasurements of defined benefit plans	849	(303)	546	2,222	(349)	1,873
Equity investments at fair value through OCI	28	2	30	(179)	24	(155)
Debt securities at fair value through OCI	(35)	2	(33)	(13)	0	(13)
Cash flow hedges	(90)	28	(62)	(56)	9	(47)
Currency translation of foreign operations	(1,703)	–	(1,703)	(476)	–	(476)
Other comprehensive income	**(951)**	**(271)**	**(1,222)**	**1,498**	**(316)**	**1,182**

Income tax assets (liabilities) in millions of CHF

	2022	2021	2020
Current income taxes			
– Assets	313	320	149
– Liabilities	(3,187)	(3,002)	(3,679)
Net current income tax assets (liabilities)	**(2,874)**	**(2,682)**	**(3,530)**
Deferred taxes			
– Assets	6,427	5,583	5,459
– Liabilities	(645)	(628)	(353)
Net deferred tax assets (liabilities)	**5,782**	**4,955**	**5,106**

Current income tax liabilities include accruals for uncertain tax positions.

Current income taxes: movements in recognised net assets (liabilities) in millions of CHF

	2022	2021
Net current income tax asset (liability) at 1 January	(2,682)	(3,530)
Income taxes paid	4,102	3,343
(Charged) credited to the income statement	(4,454)	(2,619)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	59	121
Currency translation effects and other movements	101	3
Net current income tax asset (liability) at 31 December	**(2,874)**	**(2,682)**

Deferred taxes: movements in recognised net assets (liabilities) in millions of CHF

	Property, plant and equipment and right-of-use assets	Intangible assets	Defined benefit plans	Other temporary differences	Total
Year ended 31 December 2021					
At 1 January 2021	(816)	(258)	1,265	4,915	5,106
Business combinations	0	(244)	0	87	(157)
Asset acquisitions	0	0	0	0	0
(Charged) credited to the income statement	(145)	69	57	175	156
(Charged) credited to other comprehensive income [22]	–	–	(349)	33	(316)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	–	–	–	179	179
Currency translation effects and other movements	19	(15)	(33)	16	(13)
At 31 December 2021	**(942)**	**(448)**	**940**	**5,405**	**4,955**
Year ended 31 December 2022					
At 1 January 2022	(942)	(448)	940	5,405	4,955
Business combinations	0	0	0	0	0
Asset acquisitions [6]	0	0	0	6	6
(Charged) credited to the income statement	(16)	1,624	128	(78)	1,658
(Charged) credited to other comprehensive income [22]	–	–	(303)	32	(271)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	–	–	–	(327)	(327)
Currency translation effects and other movements	33	(62)	(45)	(165)	(239)
At 31 December 2022	**(925)**	**1,114**	**720**	**4,873**	**5,782**

The net deferred tax assets for other temporary differences mainly relate to accrued and other liabilities, including lease liabilities, provisions and unrealised profit in inventory.

Deferred tax assets are recognised for tax losses carried forward only to the extent that realisation of the related tax benefit is probable. The Group has unrecognised tax losses, including valuation allowances, as follows:

Unrecognised tax losses: expiry

	2022 Amount (CHF m)	2022 Applicable tax rate	2021 Amount (CHF m)	2021 Applicable tax rate
Within one year	279	12%	669	12%
Between one and five years	3,433	12%	2,696	12%
More than five years	7,134	6%	8,142	7%
Total unrecognised tax losses	**10,846**	**8%**	**11,507**	**8%**

The 'More than five years' category includes losses that cannot be used for US state income tax purposes in those states which only permit tax reporting on a separate entity basis.

Deferred tax liabilities have not been established for the withholding tax and other taxes that would be payable on the remittance of earnings of foreign subsidiaries, where such amounts are currently regarded as permanently reinvested for the purpose of these financial statements. The total unremitted earnings of the Group, regarded as permanently reinvested for the purpose of these financial statements, were CHF 28.3 billion at 31 December 2022 (2021: CHF 31.9 billion).

6. Mergers and acquisitions

This note includes both transactions accounted for as business combinations and asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations under IFRS 3 and include those acquisitions where the value in these acquired companies largely consists of the rights to a single asset, e.g. a product or technology, or to a group of similar assets. Cash consideration paid for asset acquisitions at the transaction date and subsequent additional contingent payments made upon the achievement of performance-related development milestones are presented in the line 'Cash flows from asset acquisitions' as disclosed separately below. Subsequent consideration for performance-related development milestones for transactions treated as asset acquisitions is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met.

Business combinations – 2022

The Group did not complete any business combinations in 2022.

Business combinations – 2021

GenMark Diagnostics, Inc. On 22 April 2021 the Group acquired a 100% controlling interest in GenMark Diagnostics, Inc. ('GenMark'), a publicly owned US company based in Carlsbad, California, that had been listed on Nasdaq. GenMark is reported in the Diagnostics Division. The total consideration was USD 1,865 million, which was paid in cash.

TIB Molbiol Group. On 1 December 2021 the Group acquired a 100% interest in TIB Molbiol Group ('TIB Molbiol'), a privately owned group based in Berlin, Germany. TIB Molbiol is reported in the Diagnostics Division. The total consideration was EUR 492 million, which was paid in cash.

Protocol First, Inc. On 14 December 2021 the Group acquired a 100% controlling interest in Protocol First, Inc. ('Protocol First'), a privately owned US company based in Salt Lake City, Utah. Protocol First is reported in the Pharmaceuticals Division. The total consideration was USD 55 million, which was paid in cash.

The identifiable assets acquired and liabilities assumed are set out in the table below.

Business combinations – 2021: net assets acquired in millions of CHF

	GenMark	TIB Molbiol	Protocol First	Total
Property, plant and equipment [8]	41	2	0	43
Right-of-use assets [28]	17	5	0	22
Intangible assets				
– Product intangibles: in use [10]	757	158	0	915
– Other intangibles [10]	37	9	30	76
Deferred tax assets	89	0	1	90
Inventories	38	2	0	40
Cash and cash equivalents	14	29	0	43
Marketable securities	43	0	0	43
Long-term debt	(55)	0	0	(55)
Deferred tax liabilities	(193)	(47)	(7)	(247)
Other non-current liabilities				
– Lease liabilities	(18)	(4)	0	(22)
– Other long-term liabilities	(1)	0	0	(1)
Other net assets (liabilities)	(25)	11	1	(13)
Net identifiable assets	**744**	**165**	**25**	**934**
Goodwill [9]	967	346	26	1,339
Total consideration	**1,711**	**511**	**51**	**2,273**
Cash	1,711	511	51	2,273
Total consideration	**1,711**	**511**	**51**	**2,273**

GenMark's intangible assets are mainly related to the ePlex systems that are designed to support a broad range of molecular diagnostics sample-to-answer tests with compact, easy-to-use workstations and self-contained, disposable test cartridges.

The fair value of the intangible assets was determined using an excess earnings method that is based on management forecasts and observable market data for discount rates, tax rates and foreign exchange rates. The present value of the product intangible asset for GenMark's ePlex technology was calculated using a risk-adjusted discount rate of 10.0%. The present value of TIB Molbiol's product intangible assets and Protocol First's other intangibles was calculated using a risk-adjusted discount rate of 7.8% and 10.0%, respectively. The valuations were performed by independent valuers.

The GenMark goodwill represents the technological capabilities in multiplex molecular diagnostic solutions. Furthermore, it represents a control premium, the acquired workforce and the expected synergies, notably in the areas of manufacturing as well as commercialisation. Both the TIB Molbiol and Protocol First goodwill represent a control premium, the acquired workforce and the expected synergies. The goodwill from the GenMark and TIB Molbiol transactions is allocated to the Diagnostics customer areas as cash-generating units. The goodwill from the Protocol First transaction is allocated to Roche Pharmaceuticals as cash-generating unit. None of the goodwill is expected to be deductible for income tax purposes.

The accounts receivable was comprised of gross contractual amounts due of CHF 18 million from the GenMark acquisition and CHF 7 million from the TIB Molbiol acquisition which were all expected to be collectable at the date of the acquisition.

Directly attributable transaction costs of CHF 8 million were reported in the Diagnostics operating segment and CHF 1 million in the Roche Pharmaceuticals operating segment, both within general and administration expenses.

In the eight months ended 31 December 2021 GenMark contributed revenue of CHF 114 million and a net loss (after tax) of CHF 75 million to the results reported for the Diagnostics Division, where it is reported in the Molecular Lab customer area, and the Group. The impact of the TIB Molbiol acquisition on the 2021 results for the Diagnostics Division, where it is reported in the Molecular Lab customer area, and the Group were not material. If both acquisitions had occurred on 1 January 2021 management estimates that GenMark and TIB Molbiol would have contributed revenue of approximately CHF 210 million and a net loss (including intangible asset amortisation and after tax) of approximately CHF 80 million in 2021. This information is provided for illustrative purposes only and is not necessarily indicative of the results of the combined Group that would have occurred had GenMark and TIB Molbiol actually been acquired at the beginning of the year, or indicative of the future results of the combined Group. The impact of the Protocol First acquisition on the 2021 results for the Pharmaceuticals Division and the Group were not material.

Cash flows from business combinations

Business combinations: net cash outflows in millions of CHF

	2022			2021		
	Pharmaceuticals	Diagnostics	Total	Pharmaceuticals	Diagnostics	Total
Cash consideration paid	0	0	0	(51)	(2,222)	(2,273)
Deferred consideration paid	0	0	0	0	(5)	(5)
Contingent consideration paid [20]	0	0	0	(23)	0	(23)
Cash in acquired company	0	0	0	0	43	43
Total net cash outflows	**0**	**0**	**0**	**(74)**	**(2,184)**	**(2,258)**

Asset acquisitions – 2022

Good Therapeutics, Inc. On 26 September 2022 the Group acquired a 100% controlling interest in Good Therapeutics, Inc. ('Good Therapeutics'), a privately owned US company based in Seattle, Washington. With the acquisition, the Group gained access to Good Therapeutics' PD-1-regulated IL-2 programme. Good Therapeutics is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was USD 197 million. Additional contingent payments may be made based upon the achievement of performance-related milestones.

Asset acquisitions – 2022: net assets acquired in millions of CHF

	Good Therapeutics
Intangible assets	
– Product intangibles: not available for use	240
Deferred tax assets[5]	6
Cash and cash equivalents	0
Other net assets (liabilities)	0
Net identifiable assets	**246**
Fair value of previously held equity interest	(52)
Total consideration	**194**
Cash	194
Total consideration	**194**

Asset acquisitions – 2021

The Group did not complete any asset acquisitions in 2021.

Cash flows from asset acquisitions

Asset acquisitions: net cash outflows in millions of CHF

	Pharmaceuticals	Diagnostics	2022 Total	Pharmaceuticals	Diagnostics	2021 Total
Cash consideration paid	(194)	0	(194)	0	0	0
Cash in acquired company	0	0	0	0	0	0
Contingent payments related to previous acquisitions	0	(51)	(51)	(36)	(67)	(103)
Total net cash outflows	**(194)**	**(51)**	**(245)**	**(36)**	**(67)**	**(103)**

For asset acquisitions previously closed, the Group recorded additions to product intangible assets related to contingent payments for the achievement of performance-related milestones of CHF 51 million in 2022 (2021: CHF 36 million). Furthermore, the Group made contingent payments of CHF 67 million in 2021 related to product intangible assets recognised already at 31 December 2020.

7. Global restructuring plans

During 2022 the Pharmaceuticals Division initiated a portfolio prioritisation programme and the Group continued the implementation of various global restructuring plans initiated in prior years.

Global restructuring plans: costs incurred in millions of CHF

	2022	2021
Global restructuring costs		
– Employee-related costs	127	876
– Site closure costs	323	276
– Divestment of products and businesses	0	0
– Other reorganisation expenses	519	210
Total global restructuring costs	**969**	**1,362**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	(2)	0
Total costs	**967**	**1,362**

The business process transformation to simplify system landscapes and streamline process complexity incurred employee-related costs of CHF 135 million (2021: CHF 85 million) and other reorganisation expenses of CHF 198 million (2021: CHF 116 million). The transformation is a multi-year cross-divisional programme to drive efficiency gains.

The manufacturing network strategy review in the Pharmaceuticals Division incurred site closure costs of CHF 178 million (2021: CHF 18 million) related to sites in the US, Switzerland and Germany. Additionally, the Pharmaceuticals Division's portfolio prioritisation programme incurred costs of CHF 221 million (2021: none) mainly related to the closure of studies.

In 2021 the major items of global restructuring costs were for employee-related costs from business transformation initiatives in the Pharmaceuticals Division, strategy plans in the Diagnostics Division, notably in Diabetes Care, and site development at the Basel/Kaiseraugst site in Switzerland.

Global restructuring plans: summary of costs incurred in millions of CHF

	2022	2021
Employee-related costs		
– Termination costs	(38)	742
– Defined benefit plans	(15)	(5)
– Other employee-related costs	180	139
Total employee-related costs	**127**	**876**
Site closure costs		
– Impairment (reversal) of property, plant and equipment and right-of-use assets	92	13
– Accelerated depreciation of property, plant and equipment and right-of-use assets	105	81
– (Gains) losses on disposal of property, plant and equipment and right-of-use assets	2	5
– Other site closure costs	124	177
Total site closure costs	**323**	**276**
Divestment of products and businesses		
– (Gains) losses on divestment of subsidiaries	0	0
– Other (gains) losses on divestment of products and businesses	0	0
Total costs on divestment of products and businesses	**0**	**0**
Other reorganisation expenses	519	210
Total global restructuring costs	**969**	**1,362**
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	(2)	0
Total costs	**967**	**1,362**

Global restructuring plans: classification of costs in millions of CHF

	2022			2021		
	Depreciation, amortisation and impairment	Other costs	Total	Depreciation, amortisation and impairment	Other costs	Total
Cost of sales						
– Pharmaceuticals	145	106	251	23	(22)	1
– Diagnostics	13	31	44	25	166	191
Marketing and distribution						
– Pharmaceuticals	0	55	55	0	324	324
– Diagnostics	0	4	4	0	100	100
Research and development						
– Pharmaceuticals	22	241	263	28	181	209
– Diagnostics	0	(2)	(2)	0	33	33
General and administration						
– Pharmaceuticals	17	195	212	18	308	326
– Diagnostics	0	29	29	0	63	63
– Corporate	0	111	111	0	115	115
Total costs	**197**	**770**	**967**	**94**	**1,268**	**1,362**
Total by operating segment						
– Roche Pharmaceuticals	162	570	732	36	778	814
– Chugai	22	27	49	33	13	46
– Diagnostics	13	62	75	25	362	387
– Corporate	0	111	111	0	115	115
Total costs	**197**	**770**	**967**	**94**	**1,268**	**1,362**

8. Property, plant and equipment

Property, plant and equipment: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Construction in progress	Total
At 1 January 2021					
Cost	1,350	17,456	21,127	4,052	43,985
Accumulated depreciation and impairment	0	(7,696)	(13,939)	(192)	(21,827)
Net book value	**1,350**	**9,760**	**7,188**	**3,860**	**22,158**
Year ended 31 December 2021					
At 1 January 2021	1,350	9,760	7,188	3,860	22,158
Business combinations[6]	0	0	36	7	43
Additions	4	56	1,037	2,729	3,826
Disposals	(12)	(12)	(71)	(2)	(97)
Transfers	(3)	861	1,089	(1,947)	–
Depreciation charge	–	(812)	(1,712)	–	(2,524)
Impairment reversal (charge)	0	0	(74)	77	3
Other	0	(7)	(81)	(3)	(91)
Currency translation effects	(23)	40	(105)	(67)	(155)
At 31 December 2021	**1,316**	**9,886**	**7,307**	**4,654**	**23,163**
Cost	1,316	18,175	21,998	4,756	46,245
Accumulated depreciation and impairment	0	(8,289)	(14,691)	(102)	(23,082)
Net book value	**1,316**	**9,886**	**7,307**	**4,654**	**23,163**
Year ended 31 December 2022					
At 1 January 2022	1,316	9,886	7,307	4,654	23,163
Business combinations	0	0	0	0	0
Additions	2	125	946	2,329	3,402
Disposals	(1)	(6)	(84)	(3)	(94)
Transfers	(9)	1,925	1,127	(3,043)	–
Depreciation charge	–	(869)	(1,696)	–	(2,565)
Impairment reversal (charge)	0	0	(35)	(88)	(123)
Other	0	(2)	(59)	(6)	(67)
Currency translation effects	(60)	(178)	(276)	(127)	(641)
At 31 December 2022	**1,248**	**10,881**	**7,230**	**3,716**	**23,075**
Cost	1,248	19,806	22,494	3,891	47,439
Accumulated depreciation and impairment	0	(8,925)	(15,264)	(175)	(24,364)
Net book value	**1,248**	**10,881**	**7,230**	**3,716**	**23,075**

Classification of impairment of property, plant and equipment in millions of CHF

	2022	2021
Cost of sales	(119)	5
Marketing and distribution	0	0
Research and development	(3)	(1)
General and administration	(1)	(1)
Total impairment reversal (charge)	**(123)**	**3**

In 2022 impairments for property, plant and equipment were mainly related to global restructuring plans (see Note 7).

In 2021 the Pharmaceuticals Division reported impairment reversals of property, plant and equipment of CHF 108 million, net. An idle-plant impairment was reversed in the first half of 2021, resulting in an income of CHF 184 million. This was partially offset by impairments of property, plant and equipment including AT-527-related assets of CHF 38 million. Impairment charges of CHF 105 million were incurred in the Diagnostics Division, mainly in connection with the at-risk manufacturing ramp-up and rollout of COVID-19-related products.

In 2022 no reimbursements were received from insurance companies in respect of impairments to property, plant and equipment (2021: none). In 2022 no borrowing costs were capitalised as property, plant and equipment (2021: none).

At 31 December 2022 machinery and equipment with an original cost of CHF 5.7 billion (2021: CHF 5.6 billion) and a net book value of CHF 1.6 billion (2021: CHF 1.6 billion) was being leased to third parties (see Note 28).

Capital commitments

The Group has non-cancellable capital commitments for the purchase or construction of property, plant and equipment totalling CHF 2.6 billion (2021: CHF 1.9 billion).

9. Goodwill

Goodwill: movements in carrying value of assets in millions of CHF

	2022	2021
At 1 January		
Cost	14,900	13,390
Accumulated impairment	(4,091)	(4,141)
Net book value	**10,809**	**9,249**
Year ended 31 December		
At 1 January	10,809	9,249
Business combinations [6]	0	1,339
Currency translation effects	11	221
At 31 December	**10,820**	**10,809**
Cost	14,942	14,900
Accumulated impairment	(4,122)	(4,091)
Net book value	**10,820**	**10,809**
Allocated to the following cash-generating units		
Roche Pharmaceuticals	5,388	5,345
Roche Pharmaceuticals product transactions	345	342
Chugai	77	88
Total Pharmaceuticals Division	**5,810**	**5,775**
Diagnostics customer areas	3,753	3,735
Diabetes Care customer area	85	89
Divisional goodwill	1,172	1,210
Total Diagnostics Division	**5,010**	**5,034**

Cash-generating units used for allocating goodwill

Pharmaceuticals Division. The basis for the use of the cash-generating units for allocating goodwill in the Pharmaceuticals Division is as follows:

- Within the Roche Pharmaceuticals operating segment, goodwill arises from three broad types of transactions:
  - Strategic transactions that have a transformative effect across the whole division.
  - Technology transactions, where the acquired technologies can have a range of areas of applications.
  - Product transactions, where the acquired products typically have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions is the Roche Pharmaceuticals operating segment.
- The cash-generating unit for the goodwill arising from technology transactions is also the Roche Pharmaceuticals operating segment. However, if the acquired technologies permanently cease to operate then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions is the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same therapeutic area, then the revenues, costs and corresponding assets of these other products are also taken into account. If the acquired products permanently cease to generate economic benefits then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- Chugai is a separate operating segment in the Group's financial reporting and a separate cash-generating unit to which goodwill is allocated.

The Group allocated the goodwill in the Roche Pharmaceuticals operating segment as listed below.
- Strategic transactions consist of Genentech (1990/1999), Foundation Medicine (2015), Flatiron Health (2018) and Spark Therapeutics (2019).
- Technology transactions consist of Therapeutic Human Polyclonals (2007), Dutalys (2014) and Santaris (2014).
- Product transactions consist of GlycArt (2005) and Tanox (2007).

Diagnostics Division. The basis for the use of the cash-generating units for allocating goodwill in the Diagnostics Division is as follows:
- Within the Diagnostics Division, goodwill arises from three broad types of transactions:
  - Strategic transactions that have a transformative effect across the whole division.
  - Technology transactions, where the acquired technologies can have a range of areas of applications.
  - Product transactions, where the acquired products either have synergistic benefits across the wider business or where they have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions will be the Diagnostics Division.
- The cash-generating unit for the goodwill arising from technology transactions will be either the Diagnostics customer areas or the Diabetes Care customer area. However, if the acquired technologies permanently cease to operate then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions will be the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same business, then the revenues, costs and corresponding assets of these other products will also be taken into account and the cash-generating unit will be either the Diagnostics customer areas or the Diabetes Care customer area. If the acquired products permanently cease to generate economic benefits then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.

The Group allocated the goodwill in the Roche Diagnostics operating segment as listed below.
- Strategic transactions consist of Corange/Boehringer Mannheim (1997).
- Technology transactions consist of Viewics (2017) in the Diagnostics customer areas and mySugr (2017) in the Diabetes Care customer area.
- Product transactions in the Diagnostics customer areas consist of Igen (2004), BioVeris (2007), Ventana (2008), PVT (2011), IQuum (2014), GenMark (2021) and TIB Molbiol (2021).
- Product transactions in the Diabetes Care customer area consist of Disetronic (2003) and Medingo (2010).

Impairment charge – 2022

There were no impairments of goodwill during 2022.

Impairment charge – 2021

There were no impairments of goodwill during 2021.

Value in use

Value in use is calculated using a discounted expected cash flow approach, with a post-tax discount rate applied to the projected risk-adjusted post-tax cash flows and terminal value. The discount rate is the Group's weighted average cost of capital as the cash-generating units have integrated operations across large parts of the Group. It is derived from a capital asset pricing model using data from capital markets, including government twenty-year bonds. For assessing value in use, the cash flow projections are based on the most recent long-term forecasts approved by management. The long-term forecasts include management's latest estimates on sales volume and pricing, as well as production and other operating costs and assume no significant changes in the organisation. Other key assumptions used in the calculations are the period of cash flow projections included in the long-term forecasts, the terminal value growth rate and the discount rate.

Key assumptions used in value-in-use calculations

	2022			2021		
	Period of cash flow projections	Terminal value growth rate	Discount rate (after tax)	Period of cash flow projections	Terminal value growth rate	Discount rate (after tax)
Pharmaceuticals Division	5 years	n/a	7.5%	5 years	n/a	5.8%
Diagnostics Division	5 years	1.5%	7.5%	5 years	1.5%	5.8%

For goodwill relating to Roche Pharmaceuticals product transactions, product-specific periods of cash flow projections are used. For cash-generating units with a terminal value growth, the respective rate does not exceed the long-term projected growth rate for the relevant market.

Fair value less costs of disposal

For goodwill arising from the Chugai acquisition, the fair value less costs of disposal is determined with reference to the publicly quoted price of Chugai shares.

Sensitivity analysis

Management has performed sensitivity analyses for Roche Pharmaceuticals and the Diagnostics Division, which increased the discount rate by 1% combined with decreasing the forecast cash flows by 5%, and for Chugai, which decreased the publicly quoted share prices by 5%. The results of the sensitivity analyses demonstrated that the above changes in the key assumptions would not cause the carrying values of goodwill to exceed the recoverable amounts at 31 December 2022.

10. Intangible assets

Intangible assets: movements in carrying value of assets in millions of CHF

	Product intangibles: in use	Product intangibles: not available for use	Other intangibles	Total
At 1 January 2021				
Cost	25,544	8,701	1,717	35,962
Accumulated amortisation and impairment	(19,875)	(2,803)	(1,267)	(23,945)
Net book value	**5,669**	**5,898**	**450**	**12,017**
Year ended 31 December 2021				
At 1 January 2021	5,669	5,898	450	12,017
Business combinations [6]	915	0	76	991
Asset acquisitions	0	36	0	36
Additions	304	515	178	997
Disposals	0	0	0	0
Transfers	525	(525)	0	–
Amortisation charge	(1,461)	–	(95)	(1,556)
Impairment charge	(125)	(510)	(16)	(651)
Currency translation effects	163	112	8	283
At 31 December 2021	**5,990**	**5,526**	**601**	**12,117**
Cost	27,202	8,029	2,001	37,232
Accumulated amortisation and impairment	(21,212)	(2,503)	(1,400)	(25,115)
Net book value	**5,990**	**5,526**	**601**	**12,117**
Allocated by operating segment				
Roche Pharmaceuticals	4,496	5,190	476	10,162
Chugai	5	21	24	50
Diagnostics	1,489	315	101	1,905
Total Group	**5,990**	**5,526**	**601**	**12,117**
Year ended 31 December 2022				
At 1 January 2022	5,990	5,526	601	12,117
Business combinations	0	0	0	0
Asset acquisitions	0	291	0	291
Additions	221	596	127	944
Disposals	0	0	0	0
Transfers	94	(94)	0	–
Amortisation charge	(847)	–	(91)	(938)
Impairment charge	(1,484)	(1,353)	0	(2,837)
Currency translation effects	96	13	(1)	108
At 31 December 2022	**4,070**	**4,979**	**636**	**9,685**
Cost	27,473	8,375	2,118	37,966
Accumulated amortisation and impairment	(23,403)	(3,396)	(1,482)	(28,281)
Net book value	**4,070**	**4,979**	**636**	**9,685**
Allocated by operating segment				
Roche Pharmaceuticals	2,705	4,571	529	7,805
Chugai	10	39	12	61
Diagnostics	1,355	369	95	1,819
Total Group	**4,070**	**4,979**	**636**	**9,685**

Significant intangible assets at 31 December 2022 in millions of CHF

	Operating segment	Net book value	Remaining amortisation period
Product intangibles in use			
Rozlytrek (Ignyta acquisition)	Roche Pharmaceuticals	882	9 years
GenMark acquisition	Diagnostics	670	12 years
Xofluza (Shionogi in-licensing transaction)	Roche Pharmaceuticals	423	13 years
Kapa acquisition	Diagnostics	153	8 years
Susvimo (ForSight VISION4 acquisition)	Roche Pharmaceuticals	153	9 years
Product intangibles not available for use			
Sarepta in-licensing transaction	Roche Pharmaceuticals	815	n/a
SPK-8011 haemophilia A gene therapy (Spark Therapeutics acquisition)	Roche Pharmaceuticals	530	n/a
Inflazome acquisition	Roche Pharmaceuticals	378	n/a
Stratos Genomics acquisition	Diagnostics	357	n/a
Good Therapeutics acquisition	Roche Pharmaceuticals	225	n/a
BioNTech in-licensing transaction	Roche Pharmaceuticals	214	n/a
Dicerna in-licensing transaction	Roche Pharmaceuticals	208	n/a
Other intangibles – Technology intangibles in use			
Adaptive in-licensing transaction	Roche Pharmaceuticals	222	16 years

Classification of intangible asset amortisation and impairment expenses in millions of CHF

	Amortisation		Impairment	
	2022	2021	2022	2021
Cost of sales				
– Pharmaceuticals	(415)	(1,083)	(1,472)	(101)
– Diagnostics	(145)	(122)	0	0
Marketing and distribution				
– Pharmaceuticals	(13)	(18)	0	(15)
– Diagnostics	(21)	(19)	0	0
Research and development				
– Pharmaceuticals	(336)	(297)	(1,365)	(535)
– Diagnostics	(8)	(17)	0	0
Total	**(938)**	**(1,556)**	**(2,837)**	**(651)**

Internally generated intangible assets

At 31 December 2022 internally generated intangible assets relating to commercial software amounted to CHF 32 million (2021: CHF 20 million) and are included in other intangibles. Other than that the Group has no internally generated intangible assets from development as the criteria for the recognition as an asset are not met.

Intangible assets with indefinite useful lives

The Group currently has no intangible assets with indefinite useful lives.

Intangible assets not available for use

These mostly represent in-process research and development assets acquired either through in-licensing arrangements, business combinations, asset acquisitions or separate purchases. On 31 December 2022 approximately 88% (2021: 74%) of the projects in the Pharmaceuticals Division had known decision points within the next twelve months which, under certain circumstances, could lead to impairment. Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment if the project is not expected to result in a commercialised product.

Intangible asset impairment

Impairment charges arise from changes in the estimates of the future cash flows expected to result from the use of the asset and its eventual disposal. Factors such as the presence or absence of competition, technical obsolescence or lower-than-anticipated sales for products with capitalised rights could result in shortened useful lives or impairment.

Impairment charges – 2022

Pharmaceuticals Division. Impairment charges totalling CHF 2,837 million were recorded. The major items related to:

- A charge of CHF 663 million for the full impairment of the in-licensed Gavreto product intangible asset due to lower sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 519 million for the partial impairment of the product intangible asset for SPK-8011, a novel gene therapy for the treatment of haemophilia A that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 530 million.
- A charge of CHF 362 million for the full impairment of the product intangible asset for PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition. The impairment was due to the decision to stop development following a data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 336 million for the partial impairment of the product intangible asset relating to the technology acquired as part of the Flatiron acquisition. The impairment is a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 56 million. The intangible asset continues to be amortised over its remaining estimated useful life of ten years.
- A charge of CHF 292 million for the partial impairment of the product intangible asset for Rozlytrek, acquired as part of the Ignyta acquisition, due to lower sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 882 million. The intangible asset in use continues to be amortised over its remaining estimated useful life of nine years.
- A charge of CHF 117 million for the full impairment of the product intangible asset relating to Foundation Medicine's technology. The impairment was a result of increased competition and reduced sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 107 million for the partial impairment of the product intangible asset for SPK-9001, a novel gene therapy for the treatment of haemophilia B that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 178 million.
- A charge of CHF 100 million following a clinical data assessment and the decision to stop the development of CD25, acquired as part of the Tusk Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 95 million due to the decision to stop the development of a compound and the related collaboration with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 86 million following a clinical data assessment and the decision to stop the development of NLRP3 inhibitors, acquired as part of the Jecure Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 60 million for the partial impairment of the product intangible asset for Luxturna, acquired as part of the Spark Therapeutics acquisition. The impairment was a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 76 million. The intangible asset continues to be amortised over its remaining estimated useful life of five years.
- A charge of CHF 54 million for the full impairment of the product intangible asset for SPK-3006, a novel gene therapy for the treatment of late-onset Pompe disease that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of a change in timelines of the underlying development programme leading to reduced sales expectations. The asset concerned, which was not yet being amortised, was fully written down.

Impairment charges – 2021

Pharmaceuticals Division. Impairment charges totalling CHF 651 million were recorded. The major items related to:

- A charge of CHF 364 million for the full impairment of the intangible asset following the planned return of the rights and licences on AT-527 to Atea Pharmaceuticals after the announcement of the termination of the strategic collaboration. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 107 million for the partial impairment of a compound developed together with an alliance partner, mainly driven by reduced sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 62 million.
- A charge of CHF 101 million for the partial impairment of the product intangible asset for Luxturna, acquired as part of the Spark Therapeutics acquisition. The impairment is a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 157 million. The intangible asset continues to be amortised over its remaining estimated useful life of six years.
- A charge of CHF 42 million for the partial impairment of the intangible asset for SPK-9001, acquired as part of the Spark Therapeutics acquisition. This impairment was a result of change in planned regulatory timelines and revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 279 million.
- A charge of CHF 37 million due to the decision to stop the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 29 million due to the decision to stop a collaboration project with an alliance partner following a data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 19 million due to the decision to stop a collaboration project with an alliance partner. The asset concerned, which was being amortised, was fully written down.
- The previously recorded impairment for a compound in development was partially reversed and an income of CHF 101 million was recorded for this. The asset concerned was written up to its estimated recoverable value of CHF 110 million following a clinical data assessment. The asset concerned is not yet being amortised.
- Following a clinical data assessment in the first half of 2021, an impairment charge of CHF 76 million was recorded for a compound in development. After a full review of the clinical data results in the second half of 2021 and its impact on the programme, this impairment was fully reversed.

Potential commitments from alliance collaborations and intangible asset purchase agreements within the next three years

The Group is party to in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements.

The Group's current estimate of future third-party commitments for such potential payments within the next three years is set out in the table below. These figures are undiscounted and are not risk-adjusted, meaning that they include all such potential payments that can arise assuming all projects currently in development are successful. The timing is based on the Group's current best estimate. These figures do not include any potential commitments within the Group, such as may arise between the Roche and Chugai businesses.

Potential future third-party collaboration and purchase payments at 31 December 2022 in millions of CHF

	Pharmaceuticals	Diagnostics	Group
Within one year	735	15	750
Between one and two years	1,402	90	1,492
Between two and three years	858	2	860
Total	**2,995**	**107**	**3,102**

11. Inventories

Inventories in millions of CHF

	2022	2021	2020
Raw materials and supplies	1,949	1,547	1,354
Work in process	118	100	90
Intermediates	6,273	5,738	4,369
Finished goods	1,138	1,202	1,956
Provision for slow-moving and obsolete inventory	(873)	(872)	(575)
Total inventories	**8,605**	**7,715**	**7,194**

Inventories expensed through cost of sales totalled CHF 14.4 billion (2021: CHF 14.7 billion). Inventory write-downs during the year resulted in an expense of CHF 509 million (2021: CHF 620 million).

12. Accounts receivable

Accounts receivable in millions of CHF

	2022	2021	2020
Trade receivables	12,613	11,965	11,023
Notes receivable	33	45	53
Other receivables	52	54	54
Allowances for doubtful accounts	(490)	(538)	(515)
Chargebacks and other allowances to be withheld upon settlement [3]	(602)	(720)	(461)
Total accounts receivable [3]	**11,606**	**10,806**	**10,154**

Allowances for doubtful accounts: movements in recognised allowance in millions of CHF

	2022	2021
At 1 January	(538)	(515)
Additional allowances created	(128)	(140)
Unused amounts reversed	156	93
Utilised during the year	11	11
Currency translation effects	9	13
At 31 December	**(490)**	**(538)**

Bad debt expenses recorded as marketing and distribution costs totalled CHF 3 million (2021: expense of CHF 44 million).

13. Marketable securities

Marketable securities in millions of CHF

	2022	2021	2020
Equity securities at fair value through profit or loss	1	2	11
Debt securities at fair value through OCI	583	494	590
Debt securities at fair value through profit or loss	0	71	0
Money market instruments at fair value through OCI	3,811	2,816	2,734
Time accounts over three months at amortised costs	381	2,798	3,272
Total marketable securities	**4,776**	**6,181**	**6,607**

Marketable securities are held for fund management purposes and are primarily denominated in US dollars, euros and in Swiss francs. Money market instruments are contracted to mature within one year of 31 December 2022.

Debt securities – contracted maturity in millions of CHF

	2022	2021	2020
Within one year	107	130	158
Between one and five years	453	358	403
More than five years	23	77	29
Total debt securities	**583**	**565**	**590**

14. Cash and cash equivalents

Cash and cash equivalents in millions of CHF

	2022	2021	2020
Cash – cash in hand and in current or call accounts	2,841	5,028	4,536
Cash equivalents – time accounts with a maturity of three months or less	2,150	1,822	1,191
Total cash and cash equivalents	**4,991**	**6,850**	**5,727**

15. Other non-current assets

Other non-current assets in millions of CHF

	2022	2021	2020
Equity investments at fair value through OCI [31]	356	328	506
Equity and debt investments at fair value through profit or loss [31]	315	410	768
Loans receivable	7	7	8
Restricted cash	1	1	2
Other receivables – contracts with customers [3]	26	36	37
Other receivables	92	90	80
Total financial non-current assets	**797**	**872**	**1,401**
Long-term employee benefits	193	234	214
Other assets	948	834	617
Total non-financial non-current assets	**1,141**	**1,068**	**831**
Associates	300	331	2
Total other non-current assets	**2,238**	**2,271**	**2,234**

Equity investments designated at fair value through OCI are mainly investments in private companies from the pharmaceutical sector, which are held as part of the Group's strategic alliance efforts.

16. Other current assets

Other current assets in millions of CHF

	2022	2021	2020
Accrued interest income	6	12	9
Derivative financial instruments [31]	167	189	398
Cash collateral receivables	198	23	41
Other receivables – contracts with customers [3]	686	646	492
Other receivables	192	211	145
Total financial current assets	**1,249**	**1,081**	**1,085**
Prepaid expenses and accrued income	1,202	1,869	1,153
Other taxes recoverable	865	633	750
Other assets	209	172	123
Total non-financial current assets	**2,276**	**2,674**	**2,026**
Total other current assets	**3,525**	**3,755**	**3,111**

17. Accounts payable

Accounts payable in millions of CHF

	2022	2021	2020
Trade payables	3,861	3,844	3,317
Other taxes payable	421	519	480
Dividends payable	3	3	3
Other payables	271	271	321
Total accounts payable	**4,556**	**4,637**	**4,121**

18. Other non-current liabilities

Other non-current liabilities in millions of CHF

	2022	2021	2020
Deferred income	254	246	156
Lease liabilities [28]	891	1,025	876
Other long-term liabilities	44	36	75
Total other non-current liabilities	**1,189**	**1,307**	**1,107**

19. Other current liabilities

Other current liabilities in millions of CHF

	2022	2021	2020
Deferred income	601	560	439
Lease liabilities [28]	302	329	319
Accrued payroll and related items	3,117	3,399	2,794
Interest payable	140	102	160
Derivative financial instruments [31]	626	262	286
Cash collateral payables	18	40	202
Accrued chargebacks and other allowances separately payable [3]	3,577	3,486	3,231
Accrued royalties and commissions	1,380	1,294	877
Other accrued liabilities	3,527	3,657	3,461
Total other current liabilities	**13,288**	**13,129**	**11,769**

20. Provisions and contingent liabilities

Provisions: movements in recognised liabilities in millions of CHF

	Legal provisions	Environmental provisions	Restructuring provisions	Contingent consideration provisions	Other provisions	Total
Year ended 31 December 2021						
At 1 January 2021	395	443	1,172	150	1,129	3,289
Additional provisions created	90	68	942	10	1,152	2,262
Unused amounts reversed	(12)	(1)	(147)	(2)	(232)	(394)
Utilised	(111)	(56)	(526)	(23)	(478)	(1,194)
Discount unwind, including effects from discount rate changes [4]	0	4	0	2	0	6
Business combinations						
– Acquired companies	1	0	1	0	0	2
– Deferred consideration	–	–	–	–	0	0
– Contingent consideration	–	–	–	0	–	0
Asset acquisitions	0	0	0	–	0	0
Currency translation effects	9	(11)	(15)	4	10	(3)
At 31 December 2021	**372**	**447**	**1,427**	**141**	**1,581**	**3,968**
Current	349	142	722	57	1,256	2,526
Non-current	23	305	705	84	325	1,442
At 31 December 2021	**372**	**447**	**1,427**	**141**	**1,581**	**3,968**
Year ended 31 December 2022						
At 1 January 2022	372	447	1,427	141	1,581	3,968
Additional provisions created	33	12	149	2	868	1,064
Unused amounts reversed	(67)	(1)	(221)	(41)	(215)	(545)
Utilised	(23)	(51)	(488)	0	(490)	(1,052)
Discount unwind, including effects from discount rate changes [4]	0	(20)	(7)	(1)	1	(27)
Business combinations						
– Acquired companies	0	0	0	0	0	0
– Deferred consideration	–	–	–	–	0	0
– Contingent consideration	–	–	–	0	–	0
Asset acquisitions	0	0	0	–	0	0
Currency translation effects	1	(13)	(16)	2	(23)	(49)
At 31 December 2022	**316**	**374**	**844**	**103**	**1,722**	**3,359**
Current	307	88	419	38	1,396	2,248
Non-current	9	286	425	65	326	1,111
At 31 December 2022	**316**	**374**	**844**	**103**	**1,722**	**3,359**
Expected outflow of resources						
Within one year	307	88	419	38	1,396	2,248
Between one and two years	3	100	222	43	105	473
Between two and three years	3	89	96	0	47	235
More than three years	3	97	107	22	174	403
At 31 December 2022	**316**	**374**	**844**	**103**	**1,722**	**3,359**

In 2022 CHF 1,052 million of provisions were utilised (2021: CHF 1,194 million). This amount is entirely included in the cash flows from operating activities (2021: CHF 1,166 million). In 2021 the remaining CHF 28 million were included in the cash flows from business combinations for payments made from deferred and contingent consideration arrangements (see Note 6).

Legal provisions

Legal provisions relate to a number of separate legal matters, including claims arising from trade, in various Group companies. By their nature the amounts and timings of any outflows are difficult to predict.

As part of the regular review of litigation matters, management has reassessed the provisions recorded for certain litigation matters. Based on the development of the various litigations, there was a net release of legal provisions of CHF 34 million in 2022 (2021: net increase of CHF 78 million). In 2022 the net income for legal cases included in general and administration were CHF 25 million (2021: net expenses of CHF 52 million). Details of the major legal cases outstanding are disclosed below.

Environmental provisions

Provisions for environmental matters relate to various separate environmental issues in a number of countries. By their nature the amounts and timings of any outflows are difficult to predict. At 31 December 2022 significant provisions were discounted by between 4% and 5% (2021: between 1% and 3%) where the time value of money was material. The effect from the increase in the discount rates in 2022 was higher than the discount unwind, which resulted in a decrease of provisions in 2022. The significant provisions relate to the US site in Nutley, New Jersey, which was divested in September 2016, the estimated remediation costs for a landfill site near Grenzach, Germany, which was used by manufacturing operations that were closed some years ago, and the estimated remediation costs for the manufacturing site at Clarecastle, Ireland, which was shut down in the meantime. In 2022 environmental provisions decreased by CHF 73 million, net, mainly due to utilisations and the effects from higher discount rates. In 2022 the net environmental expenses were CHF 3 million (2021: net expenses of CHF 66 million, mainly due to an increase of provisions following a reassessment of the expected costs of the environmental remediation at the Clarecastle site and other matters).

The Group's procedures on environmental protection are included in the Annual Report on pages 114 to 129. These include the actions taken by the Group with regard to climate change, notably the Group's commitment to reduce greenhouse gas emissions.

Restructuring provisions

These arise from planned programmes that materially change the scope of business undertaken by the Group or the manner in which business is conducted. Such provisions include only the costs necessarily entailed by the restructuring which are not associated with the recurring activities of the Group. The timings of these cash outflows are reasonably certain. These provisions are not discounted as the time value of money is not material in these matters.

In the Pharmaceuticals Division the significant provisions relate to various business transformation initiatives, including the resourcing flexibility plans and the site development plans at the Basel/Kaiseraugst site, as well as to the redesign and the strategic realignment of its manufacturing network. In the Diagnostics Division the significant provisions are associated with programmes to address long-term strategy, while in Corporate they relate to initiatives for the outsourcing of IT and other functions to shared service centres and external providers. Further details are given in Note 7.

Contingent consideration provisions

The Group is party to certain contingent consideration arrangements arising from business combinations. Significant non-current provisions are discounted using an average discount rate of 5.3% (2021: 2.7%) where the time value of money is material. Additional details on measurement and on the total potential payments under these arrangements are provided in Note 31.

Other provisions

Other provisions relate to the items shown in the table below. With the exception of employee provisions, the timing of cash outflows is by its nature uncertain.

Other provisions in millions of CHF

	2022	2021	2020
Sales returns [3]	588	514	473
Employee provisions	366	384	380
Other items	768	683	276
Total other provisions	**1,722**	**1,581**	**1,129**

Contingent liabilities

The operations and earnings of the Group continue, from time to time and in varying degrees, to be affected by political, legislative, fiscal and regulatory developments, including those relating to environmental protection, in the countries in which it operates. The industries in which the Group operates are also subject to other risks of various kinds. The nature and frequency of these developments and events, not all of which are covered by insurance, as well as their effect on future operations and earnings, are not predictable.

The Group has entered into in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions, in order to gain access to potential new products or to utilise other companies to help develop the Group's own potential new products. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements. The Group's current estimate of future third-party commitments for such potential payments within the next three years are given in Note 10.

Legal cases

At 31 December 2022 legal provisions included provisions for legal cases of CHF 235 million (2021: CHF 269 million), mainly related to legal cases in the Pharmaceuticals Division of CHF 21 million (2021: CHF 49 million) and in the Diagnostics Division of CHF 214 million (2021: CHF 220 million). Provisions have been recorded, and in some cases settled, mainly relating to Meso, a Diagnostics legal case, and to the Pharmaceuticals legal matters listed below.

Avastin/Lucentis investigations. On 14 February 2013 the Italian Antitrust Authority ('AGCM') announced an investigation to determine whether Roche, Genentech and Novartis had entered into an agreement to restrict competition in the Italian market for drugs, with reference in particular to Avastin (marketed by Roche) and Lucentis (marketed by Novartis). Avastin and Lucentis are two different drugs that were developed and approved for different therapeutic purposes and contain different active pharmaceutical ingredients. On 5 March 2014 the AGCM issued a verdict that alleges that Roche and Novartis colluded to artificially differentiate Avastin and Lucentis in order to foster the sales of Lucentis in Italy. The AGCM fined Roche EUR 90.5 million and Novartis EUR 92 million. Roche appealed the AGCM verdict to the Tribunale Amministrativo Regionale del Lazio ('TAR'). On 2 December 2014 the TAR upheld the decision by the AGCM. Roche appealed the verdict of the TAR to the Consiglio di Stato. In July 2014 Roche paid the EUR 90.5 million fine under protest to avoid additional penalty fees and recorded an expense within general and administration. On 23 January 2018 the European Court of Justice rendered its decision on five questions which had been referred to the European Court of Justice by the Consiglio di Stato. On 15 July 2019 the Consiglio di Stato issued the final verdict on the case and upheld the verdicts of both the AGCM and the TAR. Roche filed an appeal with the Corte Suprema di Cassazione, which was rejected on 5 October 2021. In addition, Roche filed a motion for revocation with the Consiglio di Stato which is still pending. The hearing will take place on 27 April 2023. The Italian Ministry of Health and some Italian regions notified the Group of their intention to seek damages related to this matter. On 24 January 2019 the French Competition Authority ('FCA') issued a Statement of Objections against Roche, Genentech and Novartis regarding anticompetitive practices concerning the commercialisation of Avastin and Lucentis in France. The FCA alleges that Roche, Genentech and Novartis abused their collective dominant position on the French market for the treatment of wet age-related macular degeneration between 2008 and 2013. On 9 September 2020 the FCA issued a decision finding that Roche, Genentech and Novartis had infringed competition law and imposed a fine of EUR 60 million against Roche and Genentech. Roche and Genentech appealed this decision. On 10 February 2022 there was a hearing before the Paris Court of Appeal. The ruling is expected to be issued on 16 February 2023. At 31 December 2020 a liability was held for the amount of the fine, which was included in accounts payable within the line item other payables (see Note 17). In January 2021 the fine was paid under protest to avoid additional penalty fees. In September 2021 Roche received an administrative fine letter from the Turkish Competition Authority ('TCA'). In its investigation the TCA alleges that Roche and Novartis entered into a cartel aiming at preventing off-label applications of Avastin in order to foster on-label applications of Lucentis. In October 2021 the fine of Turkish lira 85 million was paid under protest to avoid additional penalty fees. Roche filed an appeal against the decision. In addition, the Group is challenging policies and regulations allowing off-label/unlicensed use and reimbursement for economic reasons in various countries. The Group is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Average Wholesale Prices litigation. Hoffmann-La Roche, Inc. ('HLR') and Roche Laboratories Inc. ('RLI'), along with approximately 50 other brand and generic pharmaceutical companies, have been named as defendants in several legal actions in the US relating to the pricing of pharmaceutical drugs and state Medicaid reimbursement. The primary allegation in these litigations is that the pharmaceutical companies misrepresented or otherwise reported inaccurate Average Wholesale Prices ('AWP') and/or Wholesale Acquisition Costs ('WAC') for their drugs, which prices were allegedly relied upon by the states in calculating Medicaid reimbursements to entities such as retail pharmacies. The states, through their respective Attorney General, are seeking repayment of the amounts they claim were over-reimbursed. The time period associated with these cases is 1991 through 2005. At 31 December 2021 HLR and RLI were defending one AWP action filed in the state of New Jersey. In September 2022 this last case was dismissed following a settlement. This matter is now concluded.

Boniva litigation. Hoffmann-La Roche, Inc. ('HLR'), Genentech and various other Roche affiliates (collectively 'Roche') have been named as defendants in numerous legal actions in the US and one now dismissed case in Canada relating to the post-menopausal osteoporosis medication Boniva. In these litigations, the plaintiffs allege that Boniva caused either osteonecrosis of the jaw or atypical femoral fractures. At 31 December 2022 Roche was defending approximately 245 actions involving approximately 285 plaintiffs brought in federal and state courts throughout the US for personal injuries allegedly resulting from the use of Boniva. All of these cases are in the early discovery stages of litigation. Individual trial results depend on a variety of factors, including many that are unique to the particular case. Roche is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Meso litigation. In February 2017 Roche Diagnostics Corporation ('Roche') filed a lawsuit in the US District Court for the District of Delaware against Meso Scale Diagnostics, LLC ('Meso'). This is a patent infringement case involving certain US patents owned by BioVeris Corporation ('BioVeris'), a company acquired by the Group in 2007. Meso holds a limited exclusive licence to use certain aspects of the electrochemiluminescence ('ECL') detection technology. Roche and Meso disagree on the scope of the licence. The lawsuit is seeking a declaratory judgment to get judicial clarification that Roche is not infringing Meso's licence. On 25 November 2019 the jury found that Roche's use of the patents infringed the scope of Meso's licence. There was no injunction granted and the jury awarded Meso USD 137 million in damages. In 2020 post-trial motions were filed by both parties and Meso moved for enhancement, pre-judgment interest and post-judgment royalties. The court hearing took place on 6 May 2020. On 23 December 2020 the US District Court issued the final order of judgment in which the jury award was confirmed and Meso's request for enhanced damages was denied. The Group appealed this decision. On 8 April 2022 the US Court of Appeal issued its ruling. It reversed the induced infringement decision and vacated the damages award. The US Court of Appeal also affirmed that Roche directly infringed one patent and vacated the District Court's decision on 23 December 2020 of non-infringement of three other patents. The case was remanded back to the District Court for a new damages trial, which is ongoing. The Group is vigorously defending itself in this matter.

In addition, the Pharmaceuticals legal cases listed below do not currently have provisions recorded, but there are potential future obligations which will be confirmed only by the occurrence or non-occurrence of uncertain future events or where the obligation cannot be measured with sufficient reliability.

Hemlibra litigation. On 4 May 2017 Baxalta Inc. and Baxalta GmbH (both together 'Baxalta'), subsidiaries of Takeda Pharmaceutical Company Limited, filed a patent infringement and declaratory judgment of patent infringement suit in the US District Court for the District of Delaware, alleging that Genentech and Chugai Pharmaceutical Co., Ltd. ('Chugai') currently or imminently would manufacture, use, sell, offer for sale, or import into the US Hemlibra, which would infringe Baxalta's US Patent No. 7,033,590. Baxalta is seeking a judgment of infringement, injunctive and monetary relief, attorneys' fees, costs and expenses. On 11 May 2017 Genentech was served with the complaint. Genentech's response and counterclaims to the complaint were filed on 30 June 2017. On 19 June 2017 Chugai waived service. On 13 September 2017 Chugai filed a motion to dismiss the complaint for lack of personal jurisdiction. On 14 December 2017 Baxalta filed a request for a preliminary injunction against Genentech only, in which some inhibitor patients would not be subject to any injunction. A hearing was held in the US District Court for the District of Delaware on 13 and 14 June 2018 and during that hearing Baxalta withdrew its request for a preliminary injunction as to the inhibitor patients. On 25 June 2018 Baxalta submitted a new proposed preliminary injunction order, in which Genentech would be permitted to sell Hemlibra to all inhibitor patients, all non-inhibitor patients currently on Hemlibra whether through clinical trials or not, and selected non-inhibitor patients who have an additional 'medically diagnosed condition' which rendered factor VIII therapies impracticable. On 7 August 2018 the US District Court ruled against Baxalta, denying their request for an injunction. On 19 September 2018 Chugai was dismissed from this case. On 1 February 2019 the US District Court issued a final judgment in favour of Genentech stating that Hemlibra does not infringe Baxalta's patent based on the Court's definition of key terms related to the patent. On 8 February 2019 Baxalta appealed this decision. On 27 August 2020 the Appeals Court reversed the claim construction ruling of the US District Court in favour of Genentech and remanded the case back to the US District Court. On 3 September 2021 Genentech filed a motion for summary judgment on multiple grounds. On 19 November 2021 the US District Court heard Genentech's motions for summary judgment of invalidity, non-infringement under the doctrine of equivalence, and no wilful infringement. On 13 January 2022 the US District Court granted Genentech's motion for summary judgment of no enablement, which means that the previously scheduled trial will be cancelled. Baxalta appealed this ruling with a decision expected in 2023. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Iraqi Ministry of Health. In October 2017 F. Hoffmann-La Roche Ltd ('FHLR'), Hoffmann-La Roche, Inc. ('HLR') and Genentech and certain other pharmaceutical and/or medical device companies were named as defendants in a complaint filed in the Federal District Court for the District of Columbia, US, on behalf of US service members and their relatives who allege that they were killed or injured in Iraq between 2005 and 2009 (the 'Iraq lawsuit'). The complaint alleges that the defendants violated the US Anti-Terrorism Act and various state laws by providing funding for terrorist organisations through their sales practices pursuant to pharmaceutical and/or medical device contracts with the Iraqi Ministry of Health. In addition FHLR received an inquiry in July 2018 from the US Department of Justice in connection with an anti-corruption investigation relating to activities in Iraq, including interactions with the Iraqi government and certain of the same matters alleged in the Iraq lawsuit. On 29 October 2019 the US Department of Justice closed its inquiry against FHLR. On 17 July 2020 the Federal District Court granted the defendants' motions to dismiss. The plaintiffs appealed this decision. On 4 January 2022 the US Court of Appeals for the District of Columbia Circuit reversed the decision of the Federal District Court and remanded the case for further proceedings. Defendants filed petitions for rehearing en banc by the US Court of Appeals for the District of Columbia Circuit, which remain pending. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Tamiflu Qui tam litigation. In 2019, Roche Holding Ltd ('Roche Holding'), Hoffmann-La Roche, Inc. ('HLR') and Genentech, Inc. ('Genentech') were served with a lawsuit filed by a relator in the US District Court for the District of Maryland under the qui tam (whistleblower) provisions of the False Claims Act. The lawsuit was originally filed under seal years earlier on behalf of the US government and various US state governments. The lawsuit alleges certain improper conduct by the Group with respect to sales of Tamiflu to the US government and various US state governments. The US Department of Justice declined to intervene in the lawsuit. On 17 January 2020 the Group filed a motion to dismiss. On 28 September 2020 the plaintiff dismissed the complaint as to Roche Holding and Genentech and the District Court denied HLR's motion for summary judgment. On 4 November 2022 the US Department of Justice filed a motion to dismiss the claim. The motion has been stayed pending a decision from the US Supreme Court on a related matter. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Novartis litigation related to Cabilly royalties. On 25 May 2021 Novartis Vaccines and Diagnostics, Inc. and Novartis Pharma AG (collectively 'Novartis') filed a lawsuit against Genentech, Inc. ('Genentech') in California state court of San Mateo County. Novartis alleges that it mistakenly overpaid, and is entitled to the return of, certain Cabilly royalties for its products Cosentyx and Ilaris, totalling USD 210 million. Following the expiry of the Cabilly patent, Genentech and Novartis have had discussions regarding Cabilly royalties owed for Cosentyx and Ilaris manufactured in, or imported into, the US prior to patent expiry but sold after patent expiry. On 24 June 2021 Genentech filed a notice of removal, seeking to move the case from state court to federal court. On 1 July 2021 Genentech filed a motion to dismiss all the claims on various grounds. In response to Genentech's motion, Novartis filed an amended complaint on 20 August 2021. On 3 September 2021 Genentech filed a motion to dismiss the amended complaint on similar grounds. On 11 February 2022 Novartis and Genentech engaged in a voluntary mediation, which did not result in a settlement outcome. On 6 October 2022 there was a case management conference. The court unilaterally decided to re-calendar oral argument on Genentech's motion to dismiss which will be heard in February 2023. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Herceptin investigation. On 8 February 2022 the South African Competition Commission ('Commission') filed a referral with the Competition Tribunal for prosecution of Roche Holding Ltd, F. Hoffmann-La Roche Ltd and Roche Products (Pty) Ltd (together 'Roche') for alleged excessive pricing of trastuzumab (Herceptin) in contravention of the South African Competition Act. The Commission's referral affidavit also alleges that the excessive price of Herceptin constitutes a violation of basic human rights including the right of access to healthcare enshrined in South Africa's Bill of Rights as it denies access to life-saving medicine for women living with breast cancer. The alleged excessive pricing of Herceptin by Roche took place between January 2011 and November 2020 in the South African private healthcare sector and in the South African public healthcare sector during the period from November 2015 to July 2020. The Commission has asked the Competition Tribunal to impose a penalty against Roche. On 14 October 2022 Roche submitted its replies to the Competition Tribunal. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

University of Pennsylvania litigation. On 31 January 2022 the University of Pennsylvania filed a patent litigation action in the US against Genentech, Inc. ('Genentech') based on a claim that Herceptin, Perjeta, Phesgo and Herceptin Hylecta would infringe their US Patent No. 7,625,558 (the '558 patent). According to the complaint, the '558 patent generally relates to methods of treating ErbB (HER2) protein-mediated cancer tumours by administering a compound that inhibits the formation of ErbB (HER2) followed by radiation. Genentech filed a partial motion to dismiss the University of Pennsylvania's claims of wilfulness on 24 March 2022, which was granted on 2 December 2022. A jury trial is scheduled for September 2024. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

21. Debt

Debt: movements in carrying value of recognised liabilities in millions of CHF

	2022	2021
At 1 January	31,198	14,216
Proceeds from issue of bonds and notes	8,442	6,900
Redemption and repurchase of bonds and notes	(1,750)	(2,448)
Increase (decrease) in commercial paper	1,293	(1,134)
Increase (decrease) in other debt	(13,683)	13,412
Changes from financing cash flows	**(5,698)**	**16,730**
Net (gains) losses on redemption and repurchase of bonds and notes [4]	0	0
Amortisation of debt discount [4]	4	8
Financing costs	**4**	**8**
Business combinations	0	69
Asset acquisitions	0	0
Net foreign currency transaction (gains) losses	47	(17)
Currency translation effects	(64)	218
Changes in foreign exchange rates	**(17)**	**201**
Changes in fair values of hedging instruments	(136)	(27)
Other changes	0	1
At 31 December	**25,351**	**31,198**
Bonds and notes	23,158	16,579
Commercial paper	1,755	500
Amounts due to banks and other financial institutions	436	14,118
Other borrowings	2	1
Total debt	**25,351**	**31,198**
Long-term debt	21,391	16,076
Short-term debt	3,960	15,122
Total debt	**25,351**	**31,198**

There are no pledges on the Group's assets in connection with debt.

Bonds and notes

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF

	Effective interest rate Underlying instrument	Effective interest rate Including hedging	2022	2021	2020
US dollar notes – fixed rate					
2.875% notes due 29 September 2021, principal USD 1.3 billion (ISIN: US771196BB71)	2.98%	2.81%	–	–	569
1.75% notes due 28 January 2022, principal USD 0.65 billion (ISIN: US771196BM37)	1.87%	1.86%	–	–	572
3.25% notes due 17 September 2023, principal USD 0.75 billion, outstanding USD 0.39 billion (ISIN: US771196BN10)	3.32%	3.92%	349	354	343
0.45% notes due 5 March 2024, principal USD 0.5 billion (ISIN: US771196BQ41)	0.49%	2.47%	437	451	–
1.882% notes due 8 March 2024, principal USD 1.25 billion (ISIN: US771196BU52)	1.95%	n/a	1,153	–	–
3.35% notes due 30 September 2024, principal USD 1.65 billion, outstanding USD 0.59 billion (ISIN: US771196BE11)	3.40%	n/a	544	538	519
2.132% notes due 10 March 2025, principal USD 1.0 billion (ISIN: US771196BT89)	2.19%	n/a	922	–	–
3.0% notes due 10 November 2025, principal USD 1.0 billion, outstanding USD 0.51 billion (ISIN: US771196BJ08)	3.14%	n/a	466	461	444
0.991% notes due 5 March 2026, principal USD 0.65 billion (ISIN: US771196BS07)	1.03%	3.45%	539	582	–
2.625% notes due 15 May 2026, principal USD 1.0 billion (ISIN: US771196BK70)	2.78%	n/a	919	909	876
2.375% notes due 28 January 2027, principal USD 0.85 billion (ISIN: US771196BL53)	2.54%	n/a	781	771	743
2.314% notes due 10 March 2027, principal USD 1.25 billion (ISIN: US771196BV36)	2.37%	n/a	1,152	–	–
3.625% notes due 17 September 2028, principal USD 0.65 billion (ISIN: US771196BP67)	3.69%	n/a	599	593	572
1.93% notes due 13 December 2028, principal USD 2.0 billion (ISIN: US771196BW19)	1.97%	n/a	1,843	1,824	–
2.076% notes due 13 December 2031, principal USD 2.0 billion (ISIN: US771196BX91)	2.11%	2.16%	1,842	1,823	–
7.0% notes due 1 March 2039, principal USD 2.5 billion, outstanding USD 1.12 billion (ISIN: USU75000AN65 and US771196AU61)	7.43%	7.39%	1,001	990	954
4.0% notes due 28 November 2044, principal USD 0.65 billion (ISIN: US771196BH42)	4.16%	n/a	591	585	563
2.607% notes due 13 December 2051, principal USD 2.0 billion (ISIN: US771196BY74)	2.65%	2.74%	1,838	1,818	–
US dollar notes – floating rate					
Notes due 11 September 2023, principal USD 0.75 billion (ISIN: US771196BZ40)	3.43%	n/a	692	–	–
Notes due 5 March 2024, principal USD 0.35 billion (ISIN: US771196BR24)	2.51%	n/a	323	319	–
Notes due 10 March 2025, principal USD 0.75 billion (ISIN: US771196CA89)	4.28%	n/a	692	–	–
Euro Medium Term Note programme – fixed rate					
6.5% notes due 4 March 2021, principal EUR 1.75 billion (ISIN: XS0415624716)	6.66%	6.96%	–	–	1,236
0.5% notes due 27 February 2023, principal EUR 0.65 billion (ISIN: XS1371715118)	0.63%	0.67%	639	672	702
5.375% notes due 29 August 2023, principal GBP 0.25 billion, outstanding GBP 0.08 billion (ISIN: XS0175478873)	5.46%	n/a	85	95	92
0.875% notes due 25 February 2025, principal EUR 1.0 billion (ISIN: XS1195056079)	0.93%	1.04%	968	1,032	1,082
Swiss franc bonds – fixed rate					
1.625% bonds due 23 September 2022, principal CHF 0.5 billion (ISIN: CH0180513183)	1.64%	1.39%	–	501	502
0.0% bonds due 25 November 2022, principal CHF 1.25 billion (ISIN: CH1166151881)	–0.45%	n/a	–	–	–
0.1% bonds due 23 September 2024, principal CHF 0.75 billion (ISIN: CH0358654975)	0.11%	0.42%	721	748	751
0.25% bonds due 24 September 2025, principal CHF 0.5 billion (ISIN: CH0433761308)	0.25%	0.43%	486	500	500
1.5% bonds due 23 June 2026, principal CHF 0.425 billion (ISIN: CH1211713222)	1.48%	n/a	426	–	–
0.5% bonds due 25 February 2027, principal CHF 0.825 billion (ISIN: CH1166151899)	0.42%	n/a	828	–	–
0.45% bonds due 23 March 2029, principal CHF 0.35 billion (ISIN: CH0359915409)	0.46%	n/a	350	350	350
0.75% bonds due 24 September 2030, principal CHF 0.4 billion (ISIN: CH0433761316)	0.74%	n/a	400	400	400
0.75% bonds due 25 February 2031, principal CHF 0.625 billion (ISIN: CH1166151907)	0.71%	n/a	627	–	–
2.0% bonds due 23 September 2032, principal CHF 0.375 billion (ISIN: CH1211713230)	2.00%	n/a	375	–	–
1.0% bonds due 25 February 2037, principal CHF 0.3 billion (ISIN: CH1166151915)	0.91%	n/a	304	–	–

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF *(continued)*

	Effective interest rate Underlying instrument	Effective interest rate Including hedging	2022	2021	2020
Genentech Senior Notes					
5.25% Senior Notes due 15 July 2035, principal USD 0.5 billion, outstanding USD 0.29 billion (ISIN: US368710AC32)	5.39%	n/a	266	263	254
Total bonds and notes			**23,158**	**16,579**	**12,024**

Bonds and notes maturity in millions of CHF

	2022	2021	2020
Within one year	1,764	501	1,804
Between one and two years	3,179	1,121	1,074
Between two and three years	3,534	2,057	1,138
Between three and four years	1,883	1,993	1,270
Between four and five years	2,761	1,490	2,026
More than five years	10,037	9,417	4,712
Total bonds and notes	**23,158**	**16,579**	**12,024**

Unamortised discount included in carrying value of bonds and notes in millions of CHF

	2022	2021	2020
US dollar notes	69	72	56
Euro notes	1	3	4
Swiss franc bonds	(9)	0	0
Total unamortised discount	**61**	**75**	**60**

Issuance of bonds and notes – 2022

On 25 February 2022 the Group completed an offering of CHF 3.0 billion fixed rate bonds issued in four tranches, of which CHF 1.25 billion for bonds with a zero coupon, CHF 0.825 billion for bonds with a coupon of 0.5%, CHF 0.625 billion for bonds with a coupon of 0.75% and CHF 0.3 billion for bonds with a coupon of 1.0%. The zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion matured on 25 November 2022. The other bonds will mature on 25 February 2027, 25 February 2031 and 25 February 2037, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 3,014 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

On 10 March 2022 the Group completed an offering of USD 1.25 billion fixed rate notes with a coupon of 1.882%, USD 1.0 billion fixed rate notes with a coupon of 2.132% and USD 1.25 billion fixed rate notes with a coupon of 2.314%. The notes will mature on 8 March 2024, 10 March 2025 and 10 March 2027, respectively. The Group received CHF 3,237 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Also on 10 March 2022 the Group completed an offering of USD 0.75 billion floating rate notes at a rate equal to Secured Overnight Financing Rate (SOFR) plus a margin of 0.33% and USD 0.75 billion floating rate notes at a rate equal to SOFR plus a margin of 0.56%. The notes will mature on 11 September 2023 and 10 March 2025, respectively. The Group received CHF 1,391 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 23 September 2022 the Group completed an offering of CHF 0.8 billion fixed rate bonds issued in two tranches, of which CHF 0.425 billion for bonds with a coupon of 1.5% and CHF 0.375 billion for bonds with a coupon of 2.0%. The bonds will mature on 23 June 2026 and 23 September 2032, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 800 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Issuance of bonds and notes – 2021

On 5 March 2021 the Group completed an offering of USD 0.5 billion and USD 0.65 billion fixed rate notes with a coupon of 0.45% and 0.991%, respectively. The notes will mature on 5 March 2024 and 5 March 2026, respectively. The Group received CHF 1,066 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

On 5 March 2021 the Group completed an offering of USD 0.35 billion floating rate notes at a rate equal to Secured Overnight Financing Rate (SOFR) plus a margin of 0.24%. The notes will mature on 5 March 2024. The Group received CHF 325 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 13 December 2021 the Group completed an offering of USD 2.0 billion fixed rate notes with a coupon of 1.93%, USD 2.0 billion fixed rate notes with a coupon of 2.076%, and USD 2.0 billion fixed rate notes with a coupon of 2.607%. The notes will mature on 13 December 2028, 13 December 2031 and 13 December 2051, respectively. The Group received CHF 5,509 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Redemption and repurchase of bonds and notes – 2022

On the due date of 23 September 2022 the Group redeemed the 1.625% fixed rate bonds with a principal amount of CHF 0.5 billion. The cash outflow was CHF 500 million, plus accrued interest. The effective interest rate of these bonds was 1.64%.

On the due date of 25 November 2022 the Group redeemed the zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion. The cash outflow was CHF 1,250 million. The effective interest rate of these bonds was –0.45%.

Redemption and repurchase of bonds and notes – 2021

On the due date of 4 March 2021 the Group redeemed notes with an outstanding amount of EUR 1.14 billion. The effective interest rate of these notes was 6.66%. The cash outflow was CHF 1,266 million and there was no gain or loss recorded on the redemption.

On 29 July 2021 the Group resolved to exercise its option to call for early redemption of the 2.875% fixed rate notes with an outstanding amount of USD 0.64 billion at par, two months before the scheduled due date of 29 September 2021. The cash outflow was CHF 586 million, plus accrued interest, and there was no gain or loss recorded on the redemption. The effective interest rate of these notes was 2.98%.

On 28 December 2021 the Group resolved to exercise its option to call for early redemption of the 1.75% fixed rate notes with an outstanding amount of USD 0.65 billion at par, one month before the scheduled due date of 28 January 2022. The cash outflow was CHF 596 million, plus accrued interest, and there was no gain or loss recorded on the redemption. The effective interest rate of these notes was 1.87%.

Cash flows from issuance, redemption and repurchase of bonds and notes

Cash inflows from issuance of bonds and notes in millions of CHF

	2022	2021
US dollar notes	4,628	6,900
Swiss franc bonds	3,814	0
Total cash inflows from issuance of bonds and notes	**8,442**	**6,900**

Cash outflows from redemption and repurchase of bonds and notes in millions of CHF

	2022	2021
Euro Medium Term Note programme – Euro notes	0	(1,266)
US dollar notes	0	(1,182)
Swiss franc bonds	(1,750)	0
Total cash outflows from redemption and repurchase of bonds and notes	**(1,750)**	**(2,448)**

Commercial paper

Roche Holdings, Inc. commercial paper program. Roche Holdings, Inc. has an established commercial paper program under which it can issue up to USD 7.5 billion of unsecured commercial paper notes guaranteed by Roche Holding Ltd. The committed credit line that is available as a back-stop supporting the commercial paper program is USD 7.5 billion at 31 December 2022 (2021: USD 7.5 billion). On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026. The maturity of the notes under the program cannot exceed 365 days from the date of issuance.
At 31 December 2022 unsecured commercial paper notes with a principal amount of USD 1.9 billion (2021: USD 0.5 billion) and an average interest rate of 4.18% (2021: 0.08%) were outstanding.

Movements in commercial paper obligations in millions of CHF

	2022	2021
At 1 January	500	1,576
Net cash proceeds (payments)	1,293	(1,134)
Currency translation effects	(38)	58
At 31 December	**1,755**	**500**

Amounts due to banks and other financial institutions

At 31 December 2022 the amounts outstanding of CHF 436 million (2021: CHF 14,118 million) are due within one year. These amounts are denominated in various currencies and the average interest rate was 3.37% (2021: 0.25%). This position notably included the bridge loan facility drawn in December 2021 to finance the share repurchase transaction (see Note 22). The bridge loan facility was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. At 31 December 2021 the amount of the bridge loan facility outstanding was CHF 13.5 billion.

22. Equity attributable to Roche shareholders

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2021						
At 1 January 2021	160	45,571	106	(16)[b]	(9,480)	36,341
Net income recognised in income statement	–	13,930	–	–	–	13,930
Financial assets at fair value through OCI						
– Fair value gains (losses) – equity investments at fair value through OCI	–	–	(179)	–	–	(179)
– Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	–	0	0	–	–	–
– Fair value gains (losses) – debt securities at fair value through OCI	–	–	(13)	–	–	(13)
– Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	–	–	0	–	–	0
– Income taxes[5]	–	0	24	–	–	24
– Non-controlling interests	–	0	1	–	–	1
Cash flow hedges						
– Gains (losses) taken to equity	–	–	–	(56)	–	(56)
– Transferred to income statement[a]	–	–	–	0	–	0
– Income taxes[5]	–	–	–	9	–	9
– Non-controlling interests	–	–	–	1	–	1
Currency translation of foreign operations						
– Exchange differences	–	–	1	2	(479)	(476)
– Accumulated differences transferred to income statement on divestment of subsidiaries	–	–	–	–	0	0
– Non-controlling interests	–	–	–	–	247	247
Defined benefit plans						
– Remeasurement gains (losses)[26]	–	2,225	–	–	–	2,225
– Limit on asset recognition[26]	–	(3)	–	–	–	(3)
– Income taxes[5]	–	(349)	–	–	–	(349)
– Non-controlling interests	–	(2)	–	–	–	(2)
Other comprehensive income, net of tax	**–**	**1,871**	**(166)**	**(44)**	**(232)**	**1,429**
Total comprehensive income	**–**	**15,801**	**(166)**	**(44)**	**(232)**	**15,359**
Dividends	–	(7,773)	–	–	–	(7,773)
Share repurchase	–	(18,991)	–	–	–	(18,991)
Equity compensation plans, net of transactions in own equity	–	(445)	–	–	–	(445)
Changes in non-controlling interests	–	(2)	–	–	–	(2)
At 31 December 2021	**160**	**34,161**	**(60)**	**(60)[c]**	**(9,712)**	**24,489**

a) The entire amount transferred to the income statement was reported in other financial income (expense).
b) The cost of hedging reserve related to the EUR/USD cross-currency swaps included in the hedging reserve at 1 January 2021 amounted to CHF 3 million, net of tax.
c) The remaining cross-currency swaps expired on 4 March 2021 (see Note 31) and therefore the hedging reserves no longer included any costs for hedging instruments at 31 December 2021.

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2022						
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489
Net income recognised in income statement	–	12,421	–	–	–	12,421
Financial assets at fair value through OCI						
– Fair value gains (losses) – equity investments at fair value through OCI	–	–	28	–	–	28
– Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	–	0	0	–	–	–
– Fair value gains (losses) – debt securities at fair value through OCI	–	–	(35)	–	–	(35)
– Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	–	–	0	–	–	0
– Income taxes [5]	–	0	4	–	–	4
– Non-controlling interests	–	0	1	–	–	1
Cash flow hedges						
– Gains (losses) taken to equity	–	–	–	(92)	–	(92)
– Transferred to income statement [a)]	–	–	–	2	–	2
– Income taxes [5]	–	–	–	28	–	28
– Non-controlling interests	–	–	–	25	–	25
Currency translation of foreign operations						
– Exchange differences	–	–	3	5	(1,723)	(1,715)
– Accumulated differences transferred to income statement on divestment of subsidiaries	–	–	–	–	12	12
– Non-controlling interests	–	–	–	–	522	522
Defined benefit plans						
– Remeasurement gains (losses) [26]	–	2,372	–	–	–	2,372
– Limit on asset recognition [26]	–	(1,523)	–	–	–	(1,523)
– Income taxes [5]	–	(303)	–	–	–	(303)
– Non-controlling interests	–	(9)	–	–	–	(9)
Other comprehensive income, net of tax	**–**	**537**	**1**	**(32)**	**(1,189)**	**(683)**
Total comprehensive income	**–**	**12,958**	**1**	**(32)**	**(1,189)**	**11,738**
Dividends	–	(7,446)	–	–	–	(7,446)
Share capital reduction	(53)	53	–	–	–	–
Equity compensation plans, net of transactions in own equity	–	(786)	–	–	–	(786)
Changes in non-controlling interests	–	(3)	–	–	–	(3)
At 31 December 2022	**107**	**38,937**	**(59)**	**(92)**	**(10,901)**	**27,992**

a) The entire amount transferred to the income statement was reported in financing costs (see Note 4) and related to the fair value loss on treasury locks designated as cash flow hedges.

Share repurchase and share capital reduction

On 26 November 2021, an Extraordinary General Meeting of Roche shareholders approved a reduction of the share capital of Roche Holding Ltd, which is the Group's parent company, by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million through the cancellation of all such shares to be repurchased from Novartis. On 6 December 2021, the Roche Group repurchased 53.3 million Roche shares held by Novartis for a total consideration of CHF 19.0 billion. The repurchased shares were reported as treasury shares as at 31 December 2021. These shares were cancelled in February 2022 when the necessary legal procedures had been completed. Upon cancellation of these shares, the share capital of Roche Holding Ltd decreased by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million. The reduction in the share capital became effective at the beginning of February 2022, with the entry of the share capital reduction in the commercial register of the Canton of Basel-Stadt on 3 February 2022 and the publication of the share capital reduction in the Swiss Official Gazette of Commerce on 8 February 2022. The CHF 19.0 billion credit facility from banks drawn in 2021 to finance the share repurchase was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation (see Note 21).

Share capital

Following the share capital reduction described above, at 31 December 2022 the authorised and issued share capital of Roche Holding Ltd, which is the Group's parent company, consisted of 106,691,000 shares with a nominal value of CHF 1.00 each (31 December 2021: 160,000,000 shares, thereof 53,309,000 shares held by the Group as treasury shares that were cancelled in February 2022). The shares are bearer shares and the Group does not maintain a register of shareholders. At 31 December 2022, based on information supplied to the Group, a shareholder group with pooled voting rights owned 72,018,000 shares representing 67.50% of the issued shares (31 December 2021: 72,018,000 shares representing 45.01% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 67.50% of the voting power). These figures do not include any shares without pooled voting rights that are held outside this group by individual members of the group. On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement existing since 1948 with a modified shareholder composition. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2022, based on information supplied to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2021: 8,091,900 shares representing 5.057% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 7.58% of the voting power). This is further described in Note 32.

Non-voting equity securities (*Genussscheine*)

At 31 December 2022, 702,562,700 non-voting equity securities had been authorised and were in issue as in the preceding year. Under Swiss company law these non-voting equity securities have no nominal value, are not part of the share capital and cannot be issued against a contribution which would be shown as an asset in the balance sheet of Roche Holding Ltd. Each non-voting equity security confers the same rights as any of the shares to participate in the net profit and any remaining proceeds from liquidation following repayment of the nominal value of the shares and, if any, participation certificates. In accordance with the law and the Articles of Incorporation of Roche Holding Ltd, the Company is entitled at all times to exchange shares or participation certificates for all or some of the non-voting equity securities without the consent of the bearers thereof.

Dividends

On 15 March 2022 the shareholders approved the distribution of a dividend of CHF 9.30 per share and non-voting equity security (2021: CHF 9.10) in respect of the 2021 business year. The distribution to holders of outstanding shares and non-voting equity securities totalled CHF 7,446 million (2021: CHF 7,773 million) and has been recorded against retained earnings in 2022. The Board of Directors has proposed dividends for the 2022 business year of CHF 9.50 per share and non-voting equity security. This dividend proposal is subject to approval at the Annual General Meeting on 14 March 2023. If approved, this would result in a total distribution to shareholders of CHF 7,688 million.

Own equity instruments

Holdings of own equity instruments in equivalent number of non-voting equity securities

	2022 (millions)	2021 (millions)
Shares	0	53.3
Non-voting equity securities	10.1	8.8
Total	**10.1**	**62.1**

Own equity instruments are recorded within equity at original purchase cost. At 31 December 2022 the fair value of shares was CHF 7.1 million (2021: CHF 21,802 million) and the fair value of non-voting equity securities was CHF 2.9 billion (2021: CHF 3.3 billion). Own equity instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 27). In addition, as described above, 53.3 million repurchased shares were reported as treasury shares as at 31 December 2021 and cancelled in February 2022.

Reserves

Fair value reserve. At 31 December 2022 and 2021 the fair value reserve represents the cumulative net change in the fair value of financial assets at fair value through OCI until the asset is sold, impaired or otherwise disposed of.

Hedging reserve. The hedging reserve represents the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged transactions that have not yet occurred.

Translation reserve. The translation reserve represents the cumulative currency translation differences relating to the consolidation of Group companies that use functional currencies other than Swiss francs.

23. Subsidiaries and associates

Chugai

Effective 1 October 2002 the Roche Group and Chugai completed an alliance to create a leading research-driven Japanese pharmaceutical company, which was formed by the merger of Chugai and Roche's Japanese pharmaceuticals subsidiary, Nippon Roche. The merged company is known as Chugai.

Consolidated subsidiary. Chugai is a fully consolidated subsidiary of the Group. This is based on the Group's interest in Chugai at 31 December 2022 of 61.1% (2021: 61.2%) and the Roche relationship with Chugai that is founded on the Basic Alliance, Licensing and Research Collaboration Agreements.

The common stock of Chugai is publicly traded and is listed on the Tokyo Stock Exchange under the stock code 'TSE:4519'. Chugai prepares financial statements in accordance with International Financial Reporting Standards (IFRS) that are filed on a quarterly basis with the Tokyo Stock Exchange. Due to certain consolidation entries there are minor differences between Chugai's stand-alone IFRS results and the results of Chugai as consolidated by the Roche Group in accordance with IFRS.

Chugai summarised financial information in millions of CHF

	2022	2021
Income statement		
Sales [2]	7,551	6,685
Royalties and other operating income [2]	1,721	1,673
Total revenues	**9,272**	**8,358**
Operating profit [2]	3,988	3,525
Balance sheet		
Non-current assets	3,720	3,718
Current assets	9,329	8,584
Non-current liabilities	(171)	(208)
Current liabilities	(2,937)	(2,596)
Total net assets	**9,941**	**9,498**
Cash flows		
Cash flows from operating activities	1,774	2,328
Cash flows from investing activities	(1,061)	(990)
Cash flows from financing activities	(1,058)	(894)

Dividends. The dividends distributed to third parties holding Chugai shares during 2022 totalled CHF 390 million (2021: CHF 319 million) and have been recorded against non-controlling interests (see Note 24). Dividends paid by Chugai to Roche are eliminated on consolidation as intercompany items.

Roche's relationship with Chugai. Chugai has entered into certain agreements with Roche, which are discussed below:

(1) Basic Alliance Agreement – As part of the Basic Alliance Agreement signed in December 2001 and partially revised in July 2022, Roche and Chugai entered into certain arrangements covering the future operation and governance of Chugai. Amongst other matters these cover the following areas:
- The structuring of the alliance.
- Roche's rights as a shareholder.
- Roche's rights to nominate members of Chugai's Board of Directors.
- Certain limitations to Roche's ability to buy or sell Chugai's common stock.

Chugai issues additional shares of common stock in connection with its convertible debt and equity compensation plans, and may issue additional shares for other purposes. If this occurs, Chugai will guarantee Roche's right to maintain its shareholding percentage in Chugai by allowing Roche to exercise its pre-emptive right or other rights.

(2) Licensing Agreements – Under the Japan Umbrella Rights Agreement signed in December 2001, Chugai has exclusive rights to market Roche's pharmaceutical products in Japan. Chugai has the right of first refusal on the development and marketing in Japan of all development compounds advanced by Roche.

The Rest of the World Umbrella Rights Agreement (excluding Japan and South Korea) signed in May 2002 was revised and the Amended and Restated Rest of the World Umbrella Rights Agreement (excluding Japan, South Korea and Taiwan) was signed in August 2014. Under this Agreement Chugai shall offer and Roche has the right of first refusal on the development and marketing of Chugai's development compounds in markets outside Japan, excluding South Korea and Taiwan.

Further to these agreements, Roche and Chugai have signed a series of separate agreements for certain specific products. Depending on the specific circumstances and the terms of the agreement, this may result in payments on an arm's length basis between Roche and Chugai, for any or all of the following matters:
- Upfront payments, if a right of first refusal to license a product is exercised.
- Milestone payments, dependent upon the achievement of agreed performance targets.
- Royalties on future product sales.

These specific product agreements may also cover the manufacture and supply of the respective products to meet the other party's clinical and/or commercial requirements on an arm's length basis.

(3) Research Collaboration Agreements – Roche and Chugai have entered into research collaboration agreements in the areas of small-molecule synthetic drug research and biotechnology-based drug discovery.

Associates

On 21 December 2021 the Group acquired an interest in Freenome Holdings, Inc. ('Freenome'), a privately owned US company based in South San Francisco, California. At 31 December 2022 the Group's interest in Freenome was 16.4% (31 December 2021: 16.3%). This investment has been assessed and is treated as an associate of the Group. The Group accounts for Freenome using the equity method based on Freenome's financial statements that are made available to the Group. The carrying value of the Group's share of Freenome's net assets, an asset of CHF 299 million (31 December 2021: CHF 329 million), is included in other non-current assets (see Note 15). The Group's share of Freenome's results, a loss of CHF 40 million (2021: nil), is included in other financial income (expense) (see Note 4).

24. Non-controlling interests

Changes in equity attributable to non-controlling interests in millions of CHF

	2022	2021
At 1 January	3,856	3,432
Net income recognised in income statement		
– Chugai	1,093	985
– Other non-controlling interests	17	20
Total net income recognised in income statement	**1,110**	**1,005**
Equity investments at fair value through OCI	(1)	(1)
Debt securities at fair value through OCI	0	0
Cash flow hedges	(25)	(1)
Currency translation of foreign operations	(522)	(247)
Remeasurements of defined benefit plans	9	2
Other comprehensive income, net of tax	**(539)**	**(247)**
Total comprehensive income	**571**	**758**
Business combinations	0	0
Dividends to non-controlling shareholders		
– Chugai [23]	(390)	(319)
– Other non-controlling interests	(16)	(19)
Equity compensation plans, net of transactions in own equity	(1)	2
Changes in non-controlling interests	3	2
At 31 December	**4,023**	**3,856**
Chugai	3,816	3,634
Other non-controlling interests	207	222
Total non-controlling interests	**4,023**	**3,856**

25. Employee benefits

Employee remuneration in millions of CHF

	2022	2021
Wages and salaries	11,778	12,144
Social security costs	1,184	1,202
Defined contribution plans [26]	452	419
Operating expenses for defined benefit plans [26]	611	678
Equity compensation plans [27]	738	663
Termination costs [7]	(38)	742
Other employee benefits	1,307	875
Employee remuneration included in operating results	**16,032**	**16,723**
Net interest cost of defined benefit plans [26]	82	71
Total employee remuneration	**16,114**	**16,794**

Other employee benefits consist mainly of life insurance schemes and certain other insurance schemes providing medical coverage and other long-term and short-term disability benefits.

26. Pensions and other post-employment benefits

The Group's objective is to provide attractive and competitive post-employment benefits to employees, while at the same time ensuring that the various plans are appropriately financed and managing any potential impacts on the Group's long-term financial position. Most employees are covered by pension plans sponsored by Group companies. The nature of such plans varies according to legal regulations, fiscal requirements and market practice in the countries in which the employees are employed. Post-employment benefit plans are classified for IFRS as 'defined contribution plans' if the Group pays fixed contributions into a separate fund or to a third-party financial institution and will have no further legal or constructive obligation to pay further contributions. All other plans are classified as 'defined benefit plans'.

Defined contribution plans

Defined contribution plans are funded through payments by employees and by the Group to funds administered by third parties. The Group's expenses for these plans were CHF 452 million (2021: CHF 419 million). No assets or liabilities are recognised in the Group's balance sheet in respect of such plans, apart from regular prepayments and accruals of the contributions withheld from employees' wages and salaries and of the Group's contributions. The Group's major defined contribution plan is the US Roche 401(k) Savings Plan.

Defined benefit plans

Plans are usually established as trusts independent of the Group and are funded by payments from Group companies and by employees. In some cases, notably for the major defined benefit plans in Germany, the plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. Plans are usually governed by a senior governing body, such as a Board of Trustees, which is typically composed of both employee and employer representatives. Funding of these plans is determined by local regulations using independent actuarial valuations. Separate independent actuarial valuations are prepared in accordance with the requirements of IAS 19 for use in the Group's financial statements. The Group's major pension plans are located in Switzerland, the US and Germany, which in total account for 87% of the Group's defined benefit obligation (2021: 85%).

Pension plans in Switzerland. Current pension arrangements for employees in Switzerland are made through plans governed by the Swiss Federal Occupational Old Age, Survivors and Disability Pension Act ('BVG'). The Group's pension plans are administered by separate legal foundations, which are funded by regular employee and company contributions. The final benefit is contribution based with certain minimum guarantees. Due to these minimum guarantees, the Swiss plans are treated as defined benefit plans for the purposes of these IFRS financial statements, although they have many of the characteristics of defined contribution plans. Where there is an underfunding, this may be remedied by various measures such as increasing employee and company contributions, lowering the interest rate on retirement account balances, reducing prospective benefits and a suspension of the early withdrawal facility.

Pension plans in the US. The Group's major defined benefit plans in the US have been closed to new members since 2007. New employees in the US now join the defined contribution plan. The largest of the remaining defined benefit plans are funded pension plans together with smaller unfunded supplementary retirement plans. The benefits are based on the highest average annual rate of earnings during a specified period and length of employment. The plans are non-contributory for employees, with the Group making periodic contributions to the plans. Where there is an underfunding, this would normally be remedied by additional company contributions. In 2022 and 2021 no such contributions were made by the Group.

Pension plans in Germany. The Group's major pension arrangements in Germany are governed by the Occupational Pensions Act ('BetrAVG'). These plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. These plans are non-contributory for employees. The benefits are based on final salary and length of employment. These plans have been closed to new members since 2007. They have been replaced by a new plan which is funded by regular employee and company contributions and administered through a contractual trust agreement. The final benefit of the unfunded plan is contribution based with a minimum guarantee. Due to this minimum guarantee, this plan is treated as a defined benefit plan for the purposes of these IFRS financial statements, although it has many of the characteristics of a defined contribution plan.

Pension plans in the Rest of the World. These represent approximately 9% of the Group's defined benefit obligation (2021: 10%) and consist of a number of smaller plans in various countries. Of these the largest are the pension plans at Chugai, which are independently managed by Chugai, and the main pension plan in the United Kingdom. In 2022 Chugai has made additional voluntary contributions of JPY 1.3 billion to its pension plans (2021: JPY 1.2 billion). The Chugai plans are fully described in Chugai's own IFRS financial statements. The UK pension plan is funded by regular employee and company contributions, with benefits based on final salary and length of employment. This plan has been closed to new members since 2003 and has been replaced with a defined contribution plan.

Other post-employment benefit ('OPEB') plans. These represent approximately 4% of the Group's defined benefit obligation (2021: 5%) and consist of post-employment healthcare and life insurance schemes, mainly in the US. These plans are mainly unfunded and/or are contributory for employees, with the Group reimbursing retired employees directly from its own financial resources. The Group's major OPEB plans in the US have been closed to new members since 2011. Part of the costs of these plans is reimbursable under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. There is no statutory funding requirement for these plans. The Group is funding these plans to the extent that it is tax efficient. In 2022 contributions of USD 33 million were made by the Group to these plans (2021: none). At 31 December 2022 the IFRS funding status was 62% (2021: 65%), including reimbursement rights, for the funded OPEB plans in the US.

Defined benefit plans: income statement in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total expense	Pension plans	Other post-employment benefit plans	Total expense
Current service cost	618	12	630	695	13	708
Past service (income) cost	(19)	0	(19)	(30)	0	(30)
Settlement (gain) loss	0	0	0	0	0	0
Total operating expenses	**599**	**12**	**611**	**665**	**13**	**678**
Net interest cost of defined benefit plans	64	18	82	53	18	71
Total expense recognised in income statement	**663**	**30**	**693**	**718**	**31**	**749**

Funding status

The funding of the Group's various defined benefit plans is the responsibility of the respective senior governing body, such as a Board of Trustees, and the sponsoring employer, and is managed based on local statutory valuations, which follow the legislation and requirements of the respective jurisdiction in which the plan is established. Qualified independent actuaries carry out statutory actuarial valuations on a regular basis. The actuarial assumptions determining the funding status on the statutory basis are regularly assessed by the local senior governing body. The funding status is closely monitored at a corporate level. The unfunded plans are mainly those in the Group's German affiliates, where the fully reserved pension obligations are used for self-financing of the local affiliate's operations.

The IFRS funding status of the funded defined benefit plans increased to 113% (2021: 105%).

Reimbursement rights are linked to the post-employment medical plans in the US and represent the expected reimbursement of the medical expenditure provided under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

Defined benefit plans: funding status in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
Funded plans						
– Fair value of plan assets	16,317	281	16,598	18,817	347	19,164
– Defined benefit obligation	(14,202)	(531)	(14,733)	(17,609)	(683)	(18,292)
Over (under) funding	**2,115**	**(250)**	**1,865**	**1,208**	**(336)**	**872**
Unfunded plans						
– Defined benefit obligation	(3,705)	(296)	(4,001)	(5,211)	(371)	(5,582)
Total funding status	**(1,590)**	**(546)**	**(2,136)**	**(4,003)**	**(707)**	**(4,710)**
Limit on asset recognition	(1,526)	0	(1,526)	(3)	0	(3)
Reimbursement rights	–	58	58	–	108	108
Net recognised asset (liability)	**(3,116)**	**(488)**	**(3,604)**	**(4,006)**	**(599)**	**(4,605)**
Reported in balance sheet						
– Defined benefit plan assets	899	58	957	1,390	108	1,498
– Defined benefit plan liabilities	(4,015)	(546)	(4,561)	(5,396)	(707)	(6,103)

Plan assets

The responsibility for the investment strategies of funded plans is with the respective senior governance body, such as the Board of Trustees. Asset-liability studies are performed regularly for all major pension plans. These studies examine the obligations from post-employment benefit plans and evaluate various investment strategies with respect to key financial measures such as expected returns, expected risks, expected contributions, and expected funded status of the plan in an interdependent way. The goal of an asset-liability study is to select an appropriate asset allocation for the funds held within the plan. The investment strategy is developed to optimise expected returns, to manage risks and to contain fluctuations in the statutory funded status. Asset-liability studies include strategies to match the cash flows of the assets with the plan obligations. The Group currently does not use longevity swaps to manage longevity risk.

Plan assets are managed using internal and external asset managers. The actual performance is continually monitored by the pension fund governance bodies as well as being closely monitored at a corporate level. In these financial statements the difference between the interest income and actual return on plan assets is a remeasurement that is recorded directly to other comprehensive income. In 2022 the actual return on plan assets was a loss of CHF 2,256 million (2021: gain of CHF 1,264 million), which excludes the actual return on reimbursement rights.

The recognition of plan assets is limited to the present value of any economic benefits available from refunds from the plans or reductions in future contributions to the plans. A limit on asset recognition arose during 2022 as a result of a surplus, based on current market assumptions, in certain Swiss pension plans that was not recognisable under IFRS. The adjustment arising from the limit on the recognition of assets for defined benefit plans is recorded in other comprehensive income within equity. In 2022, this adjustment was CHF 1,523 million (2021: CHF 3 million).

Defined benefit plans: fair value of plan assets and reimbursement rights in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	18,817	455	19,272	17,639	446	18,085
Interest income on plan assets and reimbursement rights	175	13	188	124	11	135
Remeasurements on plan assets and reimbursement rights	(2,364)	(131)	(2,495)	1,088	30	1,118
Currency translation effects	(140)	(32)	(172)	83	13	96
Employer contributions	429	32	461	413	0	413
Employee contributions	181	9	190	161	7	168
Benefits paid – funded plans	(776)	(5)	(781)	(687)	(50)	(737)
Benefits paid – settlements	0	0	0	0	0	0
Administration costs	(5)	(2)	(7)	(4)	(2)	(6)
At 31 December	**16,317**	**339**	**16,656**	**18,817**	**455**	**19,272**

Defined benefit plans: limit on asset recognition in millions of CHF

	2022	2021
Limit on asset recognition		
At 1 January	(3)	0
Movement recorded in other comprehensive income	(1,523)	(3)
At 31 December	**(1,526)**	**(3)**
Fair value of plan assets at 31 December		
Excluding limit on asset recognition	16,598	19,164
Limit on asset recognition	(1,526)	(3)
Including limit on asset recognition	15,072	19,161

Defined benefit plans: composition of plan assets in millions of CHF

	2022	2021
Equity securities	4,833	6,036
Debt securities	6,217	7,642
Property	2,799	2,587
Cash and money market instruments	312	282
Other investments	2,437	2,617
At 31 December	**16,598**	**19,164**

Assets are invested in a variety of different classes in order to maintain a balance between risk and return as follows:

- Equity and debt securities which mainly have quoted market prices (Level 1 fair value hierarchy).
- Property which is primarily in private and commercial property funds which mainly have other observable inputs (Level 2 fair value hierarchy).
- Cash and money market instruments which are mainly invested with financial institutions with a credit rating no lower than A.
- Other investments which mainly consist of alternatives, mortgages, commodities and insurance contracts. These are used for risk management purposes and mainly have other observable inputs (Level 2 fair value hierarchy) and unobservable inputs (Level 3 fair value hierarchy).

Included within the fair value of plan assets are the Group's shares and non-voting securities with a fair value of CHF 147 million (2021: CHF 191 million) and debt instruments issued by the Group with a fair value of CHF 15 million (2021: CHF 13 million).

Defined benefit obligation

The defined benefit obligation is calculated using the projected unit credit method. This reflects service rendered by employees to the dates of valuation and incorporates actuarial assumptions primarily regarding discount rates used in determining the present value of benefits, projected rates of remuneration growth and mortality rates. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. The corporate or government bonds are denominated in the currency in which the benefits will be paid, and have maturity terms approximating to the terms of the related pension obligation.

The Group's final salary-based defined benefit pension plans in the US, Germany and the United Kingdom have been closed to new participants. Active employees that had been members of these pension plans at the time these were closed to new participants continue to accrue benefits in the final salary-based defined benefit pension plans. New employees in the US and UK now join the Group's defined contribution plans, while new employees in Germany join the contribution-based plan with a minimum guarantee. As a result, the proportion of the defined benefit obligation which relates to these closed plans is expected to decrease in the future. The defined benefit pension plans in Switzerland, where the final benefit is contribution based with a minimum guarantee, remain open to new employees.

Defined benefit plans: defined benefit obligation in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	22,820	1,054	23,874	23,796	1,153	24,949
Current service cost	618	12	630	695	13	708
Interest cost	239	31	270	177	29	206
Remeasurements:						
– Demographic assumptions	266	0	266	(452)	(14)	(466)
– Financial assumptions	(5,385)	(252)	(5,637)	(725)	(134)	(859)
– Experience adjustments	488	12	500	203	18	221
Currency translation effects	(342)	(23)	(365)	(122)	42	(80)
Employee contributions	181	9	190	161	7	168
Benefits paid – funded plans	(776)	(5)	(781)	(687)	(50)	(737)
Benefits paid – unfunded plans	(183)	(11)	(194)	(196)	(10)	(206)
Benefits paid – settlements	0	0	0	0	0	0
Past service (income) cost	(19)	0	(19)	(30)	0	(30)
Settlement (gain) loss	0	0	0	0	0	0
At 31 December	**17,907**	**827**	**18,734**	**22,820**	**1,054**	**23,874**
Composition of plan						
Active members	9,149	206	9,355	11,841	282	12,123
Deferred vested members	1,320	4	1,324	1,942	7	1,949
Retired members	7,438	617	8,055	9,037	765	9,802
At 31 December	**17,907**	**827**	**18,734**	**22,820**	**1,054**	**23,874**
Plans by geography						
Switzerland	9,304	–	9,304	11,195	–	11,195
United States	3,467	796	4,263	4,233	1,013	5,246
Germany	3,517	–	3,517	4,920	–	4,920
Rest of the World	1,619	31	1,650	2,472	41	2,513
At 31 December	**17,907**	**827**	**18,734**	**22,820**	**1,054**	**23,874**
Duration in years	12.6	10.0	12.4	14.7	12.2	14,6

Actuarial assumptions

The actuarial assumptions used in these financial statements are based on the requirements set out in IAS 19 'Employee Benefits'. They are unbiased and mutually compatible estimates of variables that determine the ultimate cost of providing post-employment benefits. They are set on an annual basis by local management, based on advice from actuaries, and are subject to approval by corporate management and the Group's actuaries. Actuarial assumptions consist of demographic assumptions on matters such as mortality and employee turnover, and financial assumptions on matters such as interest rates, salary and benefit levels, inflation rates and costs of medical benefits. The actuarial assumptions vary based upon local economic and social conditions. The actuarial assumptions used in the various statutory valuations may differ from these based on local legal and regulatory requirements.

Demographic assumptions. The most significant demographic assumptions relate to mortality rates. The Group's actuaries use mortality tables which take into account historic patterns and expected changes, such as further increases in longevity. Rates of employee turnover, disability and early retirement are based on historical behaviour. The average life expectancy assumed now for an individual at the age of 65 is as follows:

Defined benefit plans: average life expectancy at the age of 65 for major schemes in years

Country	Mortality table	Male 2022	Male 2021	Female 2022	Female 2021
Switzerland	BVG 2020 projected with CMI model	21.7	21.7	23.5	23.4
United States	Pri-2012 projected with MP-2021	21.9	21.8	23.3	23.2
Germany	Heubeck tables 2018 G projected with CMI model	19.6	19.6	23.0	23.0

In 2022 the mortality assumptions used for the pension plans in Switzerland were based on BVG 2020 (2021: BVG 2020) applying the Continuous Mortality Investigation ('CMI') model. A long-term rate of 1.25% (2021: 1.25%) was used for longevity improvements.

The Group used as mortality assumptions for the pension plans in Germany Heubeck tables 2018 G applying the CMI model with a long-term rate of 1.25% for longevity improvements (2021: 1.25%).

Financial assumptions. These are based on market expectations for the period over which the obligations are to be settled. The assumptions used in the actuarial valuations are shown below.

Defined benefit plans: financial actuarial assumptions

	2022 Weighted average	2022 Range	2021 Weighted average	2021 Range
Discount rates	3.20%	1.23% – 5.30%	1.14%	0.20% – 3.40%
Expected rates of salary increases	2.69%	0.00% – 4.25%	2.41%	0.00% – 4.25%
Expected rates of pension increases	0.71%	0.00% – 3.00%	0.69%	0.00% – 3.00%
Expected inflation rates	2.26%	0.00% – 3.10%	2.24%	2.00% – 3.20%
Immediate medical cost trend rate	5.69%	5.49% – 5.70%	5.79%	5.54% – 5.80%
Ultimate medical cost trend rate (in 2040)	4.00%	4.00% – 4.00%	4.00%	4.00% – 4.00%

Discount rates are determined with reference to interest rates on high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. Expected rates of salary increases are based on expected inflation rates with an adjustment to reflect the Group's latest expectation of long-term real salary increases taking into account expected inflation rates, amongst other factors. Expected rates of pension increases are generally linked to the expected inflation rate or the funding status of the plan. Expected inflation rates are derived by looking at the level of inflation implied by the financial markets in conjunction with the economists' price inflation forecasts, historic price inflation as well as other economic variables and circumstances. Medical cost trend rates take into account the benefits set out in the plan terms and expected future changes in medical costs. Since the Group's major post-employment medical plans are for US employees, these rates are driven by developments in the US.

Sensitivity analysis. The measurement of the net defined benefit obligation is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. The following table summarises the impact of a change in those assumptions on the present value of the defined benefit obligation.

Defined benefit plans: sensitivity of defined benefit obligation to actuarial assumptions in millions of CHF

	2022	2021
Increase (decrease) in defined benefit obligation		
Life expectancy		
– 1 year increase	464	735
Discount rates		
– 0.25% increase	(550)	(817)
– 0.25% decrease	567	869
Expected inflation rates		
– 0.25% increase	122	247
– 0.25% decrease	(168)	(235)
Immediate medical cost trend rate		
– 1.00% increase	72	109
– 1.00% decrease	(61)	(91)

Each sensitivity analysis considers the change in one assumption at a time leaving the other assumptions unchanged. This approach shows the isolated effect of changing one individual assumption but does not take into account that some assumptions are related. The method used to carry out the sensitivity analysis is the same as in the prior year.

Cash flows

The Group incurred cash flows from its defined benefit plans as shown in the table below.

Defined benefit plans: cash flows in millions of CHF

	2022	2021
Employer contributions, net of reimbursements – funded plans	(461)	(413)
Benefits paid – unfunded plans	(194)	(206)
Total cash inflows (outflows)	**(655)**	**(619)**

Based on the most recent actuarial valuations, the Group expects that employer contributions for funded plans in 2023 will be approximately CHF 426 million. No additional voluntary contributions are planned. Benefits paid for unfunded plans in 2023 are estimated to be approximately CHF 213 million, which mostly relate to the German defined benefit plans.

27. Equity compensation plans

The Group operates several equity compensation plans, including separate plans at Chugai. IFRS 2 'Share-based Payment' requires that the fair value of all equity compensation plan awards granted to employees be estimated at grant date and recorded as an expense over the vesting period.

Expenses for equity compensation plans in millions of CHF

	2022	2021
Cost of sales	106	106
Marketing and distribution	155	140
Research and development	330	277
General and administration	147	140
Total operating expenses	**738**	**663**
Equity compensation plans		
Roche Stock-settled Stock Appreciation Rights	150	122
Roche Restricted Stock Unit Plan	538	494
Roche Connect	38	36
Roche Option Plan	1	1
Bonus Stock Awards	8	7
Chugai plans	3	3
Total operating expenses	**738**	**663**
Of which		
– Equity-settled	738	663
– Cash-settled	–	–

Cash inflows (outflows) from equity compensation plans in millions of CHF

	2022	2021
Roche Option Plan exercises	13	43
Chugai plans' exercises	4	3
Roche Connect costs	(38)	(36)
Transactions in own equity	(1,236)	(1,416)
Total cash inflows (outflows) from equity-settled equity compensation plans, net of transactions in own equity	**(1,257)**	**(1,406)**

The net cash outflows from transactions in own equity mainly arise from sales and purchases of equity instruments which are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 22).

Equity compensation plans

Roche Stock-settled Stock Appreciation Rights. The Group issues Stock-settled Stock Appreciation Rights (S-SARs) to certain directors, management and employees selected at the discretion of the Group. The S-SARs give employees the right to receive non-voting equity securities reflecting the value of any appreciation in the market price of the non-voting equity securities between the grant date and the exercise date. Under the Roche S-SAR Plan 180 million S-SARs were available for issuance over a ten-year period from 2013 to 2022. The Roche S-SAR Plan was renewed effective 1 January 2023 and 150 million S-SARs will be available for issuance over another ten-year period, starting from 2023. The rights, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Rights granted before 2019 have a seven-year duration and vested on a phased basis over three years. The provisions of the renewed Roche S-SAR Plan are consistent with the terms of applicable California securities laws. Within the meaning of Section 25102(o) of Title 4 of the California Corporations Code and Sections 260.140.41 and 260.140.42 of Title 10 of the California Code of Regulations, approval of these Annual Financial Statements constitutes approval of the Roche S-SAR Plan, which is described in these Annual Financial Statements, by a majority of Roche Holding Ltd's outstanding securities entitled to vote.

Roche S-SARs – movement in number of rights outstanding

	2022		2021	
	Number of rights (thousands)	Weighted average exercise price (CHF)	Number of rights (thousands)	Weighted average exercise price (CHF)
Outstanding at 1 January	28,535	277.00	31,480	263.31
Granted	6,308	358.53	7,737	308.09
Forfeited	(1,147)	318.63	(1,683)	296.80
Exercised	(3,807)	265.18	(8,965)	252.08
Expired	(24)	258.44	(34)	263.90
Outstanding at 31 December	**29,865**	**294.14**	**28,535**	**277.00**
– of which exercisable	14,270	261.91	13,433	249.79

Roche S-SARs – terms of rights outstanding at 31 December 2022

			Rights outstanding		Rights exercisable
Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)
2016	1,478	0.27	250.86	1,478	250.86
2017	2,637	1.26	251.48	2,637	251.48
2018	3,940	2.26	221.31	3,940	221.31
2019	4,016	6.27	272.28	2,442	272.37
2020	5,582	7.27	308.31	2,353	308.37
2021	6,244	8.27	308.27	1,368	308.65
2022	5,968	9.27	358.46	52	359.58
Total	**29,865**	**6.21**	**294.14**	**14,270**	**261.91**

Roche Restricted Stock Unit Plan. The Group issues Restricted Stock Units (RSUs) awards to certain directors, management and employees selected at the discretion of the Group. The RSUs, which are non-tradable, represent the right to receive non-voting equity securities. RSUs vest on a phased basis over four years, subject to performance conditions, if any. RSUs granted before 2019 vested after a three-year period. There are currently no performance conditions on outstanding RSUs at 31 December 2022. Under the Roche RSU Plan 20 million non-voting equity securities were available for issuance over a ten-year period from 2013 to 2022. The Roche RSU Plan was renewed effective 1 January 2023 and 30 million non-voting equity securities will be available for issuance over another ten-year period, starting from 2023. The Roche RSU Plan also includes a value adjustment which will be an amount equivalent to the sum of shareholder distributions made by the Group during the vesting period attributable to the number of non-voting equity securities for which an individual award has been granted. The provisions of the renewed Roche RSU Plan are consistent with the terms of applicable California securities laws. Within the meaning of Section 25102(o) of Title 4 of the California Corporations Code and Sections 260.140.41 and 260.140.42 of Title 10 of the California Code of Regulations, approval of these Annual Financial Statements constitutes approval of the Roche RSU Plan, which is described in these Annual Financial Statements, by a majority of Roche Holding Ltd's outstanding securities entitled to vote.

Roche RSUs – movement in number of awards outstanding

	2022 Number of awards (thousands)	2021 Number of awards (thousands)
Outstanding at 1 January	3,613	4,245
Granted	1,943	2,125
Forfeited	(353)	(541)
Transferred to participants	(1,391)	(2,216)
Outstanding at 31 December	**3,812**	**3,613**
– of which vested and transferable	1	1

Roche Connect. This programme enables all employees worldwide, except for those in the US and certain other countries, to make regular deductions from their salaries to purchase non-voting equity securities. It is administered by independent third parties. The Group contributes to the programme, which allows the employees to purchase non-voting equity securities at a discount (usually 20%). The administrator purchases the necessary non-voting equity securities directly from the market. At 31 December 2022 the administrator held 3.7 million non-voting equity securities (2021: 3.4 million). In 2022 the cost of the plan was CHF 38 million (2021: CHF 36 million).

Roche Option Plan. This programme is used in countries where S-SARs are not used. Awards under this plan give employees the right to purchase non-voting equity securities at an exercise price specified at the grant date. The options, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Options granted before 2019 have a seven-year duration and vested on a phased basis over three years.

Roche Option Plan – movement in number of options outstanding

	2022 Number of options (thousands)	2022 Weighted average exercise price (CHF)	2021 Number of options (thousands)	2021 Weighted average exercise price (CHF)
Outstanding at 1 January	294	258.47	446	251.14
Granted	20	359.29	28	311.03
Forfeited	(3)	316.70	(6)	270.75
Exercised	(52)	252.59	(173)	247.71
Expired	0	256.10	(1)	263.20
Outstanding at 31 December	**259**	**266.66**	**294**	**258.47**
– of which exercisable	191	250.32	208	244.45

Roche Option Plan – terms of options outstanding at 31 December 2022

	Options outstanding			Options exercisable	
Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)
2016	26	0.26	250.12	26	250.12
2017	40	1.28	250.95	40	250.95
2018	69	2.28	222.87	69	222.87
2019	57	6.25	271.65	38	271.65
2020	22	7.25	308.01	10	308.02
2021	26	8.29	311.48	7	311.34
2022	19	9.25	359.27	1	359.70
Total	**259**	**4.33**	**266.66**	**191**	**250.32**

The weighted average share price of Roche non-voting equity securities during the year was CHF 333.29 (2021: CHF 336.79).

Bonus Stock Awards. The Chairman of the Board of Directors and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2022. These are subject to approval by the 2023 Annual General Meeting in March 2023 and will be issued in March 2023. The number of awards and fair value per award will be calculated at the grant date.

Fair value measurement

The inputs used in the measurement of the fair values at grant date of the equity compensation plans were as follows:

Fair value measurement in 2022

	Roche Stock-settled Stock Appreciation Rights	Roche Restricted Stock Unit Plan	Roche Option Plan
Vesting period	Progressively over 4 years	Progressively over 4 years	Progressively over 4 years
Contractual life	10 years	n/a	10 years
Number granted during year (thousands)	6,308	1,943	20
Weighted average fair value (CHF)	34	357	34
Model used	Binomial	Market price[a)]	Binomial
Inputs to option pricing model			
– Share price at grant date (CHF)	359	357	359
– Exercise price (CHF)	359	–	359
– Expected volatility[b)]	19.12%	n/a	19.12%
– Expected dividend yield	5.10%	n/a	5.10%
– Early exercise factor[c)]	1.328	n/a	1.328
– Expected exit rate	11.30%	n/a	11.30%

a) The fair value of the Roche RSUs is equivalent to the share price on the date of grant.
b) Volatility was determined primarily by reference to historically observed prices of the underlying equity. Risk-free interest rates are derived from zero coupon swap rates at the grant date taken from Datastream.
c) The early exercise factor describes the ratio between the expected market price at the exercise date and the exercise price at which early exercises can be expected, based on historically observed behaviour.

28. Leases

The Group as a lessee

The Group enters into leasing transaction as a lessee mainly for reasons of convenience and flexibility. The Group has good cash generation ability and it enjoys strong long-term investment grade credit ratings. Therefore it typically does not enter into leasing arrangements for financing considerations. The main areas of leases that the Group has entered into are for:

- Property – offices and apartments. These are a small number of leases, but represent most of the value.
- Cars – mostly for sales representatives.
- Office equipment – photocopiers and similar.

The right-of-use assets reported for the Group's leases are shown in the table below.

Right-of-use assets: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Total
Year ended 31 December 2021				
At 1 January 2021	42	904	166	1,112
Business combinations [6]	0	21	1	22
Additions	3	471	101	575
Disposals	0	(32)	(15)	(47)
Depreciation	(3)	(270)	(90)	(363)
Impairment reversal (charge)	0	(5)	0	(5)
Other	7	(50)	1	(42)
Currency translation effects	0	1	(4)	(3)
At 31 December 2021	**49**	**1,040**	**160**	**1,249**
Cost	63	1,587	310	1,960
Accumulated depreciation and impairment	(14)	(547)	(150)	(711)
Net book value	**49**	**1,040**	**160**	**1,249**
Year ended 31 December 2022				
At 1 January 2022	49	1,040	160	1,249
Business combinations	0	0	0	0
Additions	40	179	119	338
Disposals	0	(35)	(12)	(47)
Depreciation	(3)	(248)	(90)	(341)
Impairment reversal (charge)	0	(5)	0	(5)
Other	1	(28)	0	(27)
Currency translation effects	(2)	(23)	(9)	(34)
At 31 December 2022	**85**	**880**	**168**	**1,133**
Cost	101	1,543	325	1,969
Accumulated depreciation and impairment	(16)	(663)	(157)	(836)
Net book value	**85**	**880**	**168**	**1,133**

Classification of impairment reversal (charge) of right-of-use assets in millions of CHF

	2022	2021
Cost of sales	0	0
Marketing and distribution	0	0
Research and development	0	0
General and administration	(5)	(5)
Total impairment reversal (charge)	**(5)**	**(5)**

Impairment charges for right-of-use assets were mainly related to global restructuring plans (see Note 7) and in 2021 also to office closures.

Liabilities reported for the Group's leases are shown in the table below.

Leases: movements in carrying value of recognised liabilities in millions of CHF

	2022	2021
At 1 January	1,354	1,195
Increase from new lease arrangements	335	570
Repayment of lease liabilities	(419)	(396)
Business combinations	0	26
Asset acquisitions	0	0
Disposals	(57)	(53)
Interest expense on lease liabilities [4]	16	16
Other	(2)	0
Currency translation effects	(34)	(4)
At 31 December	**1,193**	**1,354**
Non-current lease liabilities [18]	891	1,025
Current lease liabilities [19]	302	329
Total lease liabilities	**1,193**	**1,354**

The maturity analysis of lease liabilities is given in Note 31 in the 'Liquidity risk' section.

Short-term leases and leases of low-value assets are accounted for using the recognition exemption permitted by IFRS 16. Expenses for short-term leases are recognised on a straight-line basis. These mainly include short-term property leases for employee apartments. The amount reported in 2022 was CHF 36 million (2021: CHF 37 million). Expenses for leases of low-value assets are recognised on a straight-line basis. These mainly include certain office equipment. The amount reported in 2022 was CHF 13 million (2021: CHF 15 million).

Expenses for variable lease payments not included in the measurement of lease liabilities was CHF 38 million in 2022 (2021: CHF 35 million). In 2022 income from subleasing right-of-use assets was CHF 3 million (2021: no income). In 2022 and 2021 the Group did not enter into any sale and leaseback transactions.

The major cash flows in respect of leases where the Group is the lessee are shown in the table below.

Leases: cash flows in millions of CHF

	2022	2021
Included in cash flows from operating activities	(87)	(87)
Included in cash flows from financing activities	(422)	(398)
Total lease payments	**(509)**	**(485)**

Cash flows from operating activities include cash flows from short-term lease, leases of low-value assets and variable lease payments. Cash flows from financing activities include the payment of interest and the principal portion of lease liabilities as well as prepayments made before the lease commencement date.

Leases committed and not yet commenced. In July 2019 Foundation Medicine, Inc. ('FMI') entered into a binding lease agreement with a third party for the lease of laboratory and office space in a building in Boston, US, which is to be constructed by the landlord at the location currently known as 'Boston Seaport'. According to the agreement FMI is committed to lease the building for 15 years. The commencement date of the lease is currently expected to be in the second half of 2023. The committed future cash outflows related to this agreement are estimated to be approximately USD 561 million based on current assumptions.

In November 2021 Genentech, Inc. ('Genentech') entered into a binding lease agreement with a third party for the lease of laboratory and office space in a building in South San Francisco, US, which is to be constructed by the landlord at the location currently known as '751 Gateway'. According to the agreement Genentech is committed to lease the building for seven years. The commencement date of the lease is currently expected to be in the first half of 2024. The committed future cash outflows related to this agreement are estimated to be approximately USD 117 million based on current assumptions.

The Group as a lessor

In the Diagnostics Division the Group enters into certain contracts which include placement of diagnostics instruments, supply of reagents and other consumables, and servicing arrangements. Depending upon the term of the agreement, the instrument placement may result in either a finance lease or an operating lease. The Group performs a thorough customer assessment before new leasing agreements are signed. Usually the Group also retains rights to terminate or modify contracts if certain conditions are not met.

Finance leases. Certain assets, mainly diagnostics instruments, are leased to third parties through finance lease arrangements. Such assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as revenue at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in royalty and other operating income.

The following amounts were recorded as income in respect of finance leases.

Finance leases: selected items of income in millions of CHF

	2022	2021
Selling profit as the difference between sales and cost of sales	7	6
Finance income on the net investment in the lease	6	6

Currently the Group does not have any income from the variable lease payments of finance leases. The carrying amount of the net investment in finance leases reported as receivables was CHF 144 million (2021: CHF 144 million).

Finance leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	Gross investment in lease		Present value of minimum lease receipts	
	2022	2021	2022	2021
Within one year	58	61	52	54
Between one and two years	39	37	37	35
Between two and three years	29	27	26	25
Between three and four years	17	19	16	18
Between four and five years	9	9	9	8
More than five years	5	4	5	4
Total	**157**	**157**	**145**	**144**
Unearned finance income	(13)	(13)	n/a	n/a
Unguaranteed residual value	n/a	n/a	(1)	0
Net investment in lease	**144**	**144**	**144**	**144**

Operating leases. Certain assets, mainly diagnostics instruments, are leased to third parties through operating lease arrangements. Income from operating leases is recognised as revenue on a straight-line basis over the lease term or, when lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, as the performance obligations for reagents are satisfied.

Lease income in 2022 was CHF 787 million (2021: CHF 817 million) and was included in sales. Of this CHF 588 million (2021: CHF 584 million) relates to variable lease payments not depending upon an index or rate.

Leased assets are reported within property, plant and equipment, as shown in the table below.

Machinery and equipment subject to operating leases: movements in carrying value of assets in millions of CHF

	2022			2021		
	Leased out	Own use	Total	Leased out	Own use	Total
At 1 January						
Cost	5,641	16,357	21,998	5,508	15,619	21,127
Accumulated depreciation and impairment	(4,014)	(10,677)	(14,691)	(3,827)	(10,112)	(13,939)
Net book value	**1,627**	**5,680**	**7,307**	**1,681**	**5,507**	**7,188**
Year ended 31 December						
At 1 January	1,627	5,680	7,307	1,681	5,507	7,188
Business combinations	0	0	0	0	36	36
Asset acquisitions	0	0	0	0	0	0
Additions	711	235	946	714	323	1,037
Disposals	(43)	(41)	(84)	(42)	(29)	(71)
Transfers	3	1,124	1,127	0	1,089	1,089
Depreciation charge	(662)	(1,034)	(1,696)	(697)	(1,015)	(1,712)
Impairment reversal (charge)	0	(35)	(35)	0	(74)	(74)
Other	1	(60)	(59)	11	(92)	(81)
Currency translation effects	(83)	(193)	(276)	(40)	(65)	(105)
At 31 December	**1,554**	**5,676**	**7,230**	**1,627**	**5,680**	**7,307**
Cost	5,717	16,777	22,494	5,641	16,357	21,998
Accumulated depreciation and impairment	(4,163)	(11,101)	(15,264)	(4,014)	(10,677)	(14,691)
Net book value	**1,554**	**5,676**	**7,230**	**1,627**	**5,680**	**7,307**

The undiscounted amounts expected to be received from non-cancellable operating leases are shown in the table below.

Operating leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	2022	2021
Within one year	172	160
Between one and two years	131	118
Between two and three years	99	92
Between three and four years	57	59
Between four and five years	28	24
More than five years	12	9
Total minimum receipts	**499**	**462**

29. Earnings per share and non-voting equity security

Basic earnings per share and non-voting equity security

	2022	2021
Net income attributable to Roche shareholders (CHF millions)	**12,421**	**13,930**
Weighted average number of outstanding shares (millions)	112	160
Number of outstanding non-voting equity securities (millions)[22]	703	703
Weighted average number of own shares and non-voting equity securities held (millions)	(15)	(13)
Weighted average number of outstanding shares and non-voting equity securities used to calculate basic earnings per share (millions)	**800**	**850**
Basic earnings per share and non-voting equity security (CHF)	**15.52**	**16.38**

Diluted earnings per share and non-voting equity security

	2022	2021
Net income attributable to Roche shareholders (CHF millions)	12,421	13,930
Increase in non-controlling interests' share of Group net income, assuming all outstanding Chugai stock options exercised (CHF millions)	(1)	(1)
Net income used to calculate diluted earnings per share (CHF millions)	**12,420**	**13,929**
Weighted average number of outstanding shares and non-voting equity securities (millions)	800	850
Adjustment for assumed exercise of equity compensation plans, where dilutive (millions)	8	10
Weighted average number of outstanding shares and non-voting equity securities used to calculate diluted earnings per share (millions)	**808**	**860**
Diluted earnings per share and non-voting equity security (CHF)	**15.37**	**16.20**

30. Statement of cash flows

Cash flows from operating activities

Cash flows from operating activities arise from the Group's primary activities in the Pharmaceuticals and Diagnostics Divisions. These are calculated using the indirect method by adjusting the Group's operating profit for any operating income and expenses that are not cash flows (for example depreciation, amortisation and impairment) in order to derive the cash generated from operations. This and other operating cash flows are shown in the statement of cash flows. Operating cash flows also include income taxes paid on all activities.

Cash generated from operations in millions of CHF

	2022	2021
Net income	13,531	14,935
Add back non-operating (income) expense		
– Financing costs [4]	665	418
– Other financial (income) expense [4]	484	339
– Income taxes [5]	2,796	2,463
Operating profit	**17,476**	**18,155**
Depreciation of property, plant and equipment [8]	2,565	2,524
Depreciation of right-of-use assets [28]	341	363
Amortisation of intangible assets [10]	938	1,556
Impairment of goodwill [9]	0	0
Impairment of intangible assets [10]	2,837	651
Impairment (reversal) of property, plant and equipment [8]	123	(3)
Impairment (reversal) of right-of-use assets [28]	5	5
Operating (income) expense for defined benefit plans [26]	611	678
Operating expense for equity-settled equity compensation plans [27]	738	663
Net (income) expense for provisions	514	1,864
Bad debt (reversal) expense	3	44
Inventory write-downs	509	620
Inventory fair value adjustments	0	11
Net (gain) loss on disposal of products	(612)	(496)
Other adjustments	(18)	(35)
Cash generated from operations	**26,030**	**26,600**

Cash flows from investing activities

Cash flows from investing activities are principally those arising from the Group's investments in property, plant and equipment and intangible assets, and from the acquisition and divestment of subsidiaries, associates and businesses. Cash flows connected with the Group's portfolio of marketable securities and other investments are also included, as are any interest and dividend payments received in respect of these securities and investments. These cash flows indicate the Group's net reinvestment in its operating assets and the cash flow effects of business combinations and divestments, as well as the cash generated by the Group's other investments.

Interest received (paid) and dividends received on marketable securities and other investments in millions of CHF

	2022	2021
Interest received (paid)	32	(2)
Dividends received	0	0
Total	**32**	**(2)**

Cash flows from financing activities

Cash flows from financing activities are primarily the proceeds from the issuance and repayment of the Group's equity and debt instruments. They also include interest payments and dividend payments on these instruments. Cash flows from short-term financing are also included. These cash flows indicate the Group's transactions with the providers of its equity and debt financing. Cash flows from lease payments are also included within financing activities. Cash flows from short-term borrowings are shown as a net movement, as these consist of a large number of transactions with short maturity.

Dividends paid in millions of CHF

	2022	2021
Dividends to Roche shareholders	(7,446)	(7,773)
Dividends to non-controlling shareholders		
– Chugai	(390)	(319)
– Other non-controlling interests	(16)	(19)
Dividend withholding tax	20	(21)
Total	**(7,832)**	**(8,132)**

Liabilities arising from financing activities

Movements in carrying value of recognised assets (liabilities) in millions of CHF

	Debt [21]	Interest payable [19]	Principal portion of lease liabilities	Derivative financial instruments, net [16, 19, 31]	Cash collateral receivables (payables), net [16, 19, 31]	Total
Year ended 31 December 2021						
At 1 January 2021	(14,216)	(160)	(1,193)	112	(161)	(15,618)
Cash flows						
– Outflows (inflows)	(16,730)	405	382	374	148	(15,421)
Non-cash changes						
– Financing costs	(8)	(317)	(16)	0	0	(341)
– Business combinations	(69)	(1)	(26)	0	0	(96)
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	26	(25)	(502)	(567)	(1)	(1,069)
– Foreign exchange rates	(201)	(4)	2	8	(3)	(198)
At 31 December 2021	**(31,198)**	**(102)**	**(1,353)**	**(73)**	**(17)**	**(32,743)**
Year ended 31 December 2022						
At 1 January 2022	(31,198)	(102)	(1,353)	(73)	(17)	(32,743)
Cash flows						
– Outflows (inflows)	5,698	557	405	327	199	7,186
Non-cash changes						
– Financing costs	(4)	(588)	(16)	0	0	(608)
– Business combinations	0	0	0	0	0	0
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	136	(8)	(262)	(735)	0	(869)
– Foreign exchange rates	17	1	35	22	(2)	73
At 31 December 2022	**(25,351)**	**(140)**	**(1,191)**	**(459)**	**180**	**(26,961)**

Significant non-cash transactions

In 2022 there were no significant non-cash transactions (2021: none) except for the leasing transactions where the Group is a lessee (see Note 28).

31. Risk management

Group risk management

Risk management is a fundamental element of the Group's business practice on all levels and encompasses different types of risks. At Group level, risk management is an integral part of the long-term forecasting and controlling processes. Material risks are monitored and regularly discussed with the Corporate Executive Committee and the Audit Committee of the Board of Directors.

Financial risk management

The Group is exposed to various financial risks arising from its underlying operations and corporate finance activities. The Group's financial risk exposures are predominantly related to changes in foreign exchange rates, interest rates and equity prices as well as the creditworthiness and the solvency of the Group's counterparties.

Financial risk management within the Group is governed by policies reviewed by the boards of directors of Roche and Chugai as appropriate to their areas of statutory responsibility. These policies cover credit risk, liquidity risk and market risk. The policies provide guidance on risk limits, types of authorised financial instruments and monitoring procedures. As a general principle, the policies prohibit the use of derivative financial instruments for speculative trading purposes. Policy implementation and day-to-day risk management are carried out by the relevant treasury functions and regular reporting on these risks is performed by the relevant accounting and controlling functions within Roche and Chugai.

Credit risk

Credit risk arises from the possibility that counterparties to transactions may default on their obligations, causing financial losses for the Group. The objective of managing counterparty credit risk is to prevent losses of liquid funds deposited with or invested in such counterparties. The maximum exposure to credit risk resulting from financial activities, without considering netting agreements and without taking account of any collateral held or other credit enhancements, is equal to the carrying value of the Group's financial assets.

The Group considers a financial asset to be in default when the counterparty is unlikely to pay its obligations to the Group in full. In assessing whether a counterparty is in default, the Group considers both qualitative and quantitative indicators (e.g. overdue status) that are based on data developed internally and for certain financial assets are also obtained from external sources. A major part of the Group's receivables which are past due more than 90 days relate to public customers. Risk of default of public customers is considered low. The Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate for this particular customer segment.

Accounts receivable. At 31 December 2022 the Group had trade receivables of CHF 12.6 billion (2021: CHF 12.0 billion). These are subject to a policy of active credit risk management which focuses on the assessment of country risk, credit availability, ongoing credit evaluation and account monitoring procedures. The objective of trade receivables management is to maximise the collection of unpaid amounts.

The Group uses an allowance matrix to estimate the allowance for doubtful accounts for all trade receivables. The expected credit loss ('ECL') rate is based on the Group's historical experience and the Group's expectation of economic conditions over the period until receivables are expected to be paid.

Customer credit risk exposure based on accounts receivable days overdue in millions of CHF

	Total	Current	Overdue 1–3 months	Overdue 3–12 months	Overdue more than 1 year	Credit impaired
At 31 December 2022						
Gross carrying amount	12,096	10,373	708	369	604	42
Group's expected credit loss rate	4%	0%	1%	8%	64%	100%
Allowance for doubtful accounts	(490)	(27)	(6)	(31)	(384)	(42)
At 31 December 2021						
Gross carrying amount	11,344	9,405	786	386	716	51
Group's expected credit loss rate	5%	0%	1%	6%	58%	100%
Allowance for doubtful accounts	(538)	(38)	(10)	(25)	(414)	(51)

At 31 December 2022 the Group's combined trade receivables balance with three US national wholesale distributors, McKesson Corp., AmerisourceBergen Corp. and Cardinal Health, Inc., was equivalent to CHF 3.1 billion representing 25% of the Group's consolidated trade receivables (2021: CHF 2.8 billion representing 23%). There is no other significant concentration of counterparty credit risk due to the Group's large number of customers and their wide geographical spread. Risk limits and exposures are continuously monitored by country and by the nature of counterparties. The Group obtains credit insurance and similar enhancements when appropriate to protect the collection of trade receivables. At 31 December 2022 no collateral was considered to measure expected credit losses for trade receivables (2021: none).

The nature and geographic location of counterparties to accounts receivable that are not overdue or impaired are shown in the table below. These include the balances with US national wholesalers described above.

Accounts receivable (not overdue), net of allowances for doubtful accounts and other allowances: nature and geographical location of counterparties in millions of CHF

	2022				2021			
Regions	Total	Public	Whole-salers/ distributors	Private	Total	Public	Whole-salers/ distributors	Private
Switzerland	291	69	167	55	291	109	134	48
Europe	1,609	594	376	639	1,680	548	396	736
North America	3,904	130	3,272	502	3,409	135	2,893	381
Latin America	584	122	233	229	543	143	187	213
Japan	2,236	1,091	1,135	10	1,505	306	1,187	12
Asia, Australia and Oceania	1,221	212	888	121	1,493	248	1,105	140
Rest of the World	501	125	199	177	446	33	227	186
Total	**10,346**	**2,343**	**6,270**	**1,733**	**9,367**	**1,522**	**6,129**	**1,716**

Cash and marketable securities (excluding equity securities). At 31 December 2022 the Group had cash and marketable securities (excluding equity securities) of CHF 9.8 billion (2021: CHF 13.0 billion). These are subject to a policy of restricting exposures to high-quality counterparties and setting defined limits for individual counterparties. These limits and counterparty credit ratings are reviewed regularly.

Cash and cash equivalents are held with banks and financial institutions, which are predominantly rated as investment grade (95% in 2022 and 98% in 2021), based on Moody's and Standard & Poor's ratings. Cash and short-term time deposits are subject to rules which limit the Group's exposure to individual financial institutions.

Impairment on cash and cash equivalents is measured on a 12-month expected credit losses ('ECL') basis with a reference to external credit ratings of the counterparties. This reflects the short maturities of the exposures in cash and cash equivalents. The Group considers that its cash and cash equivalents have low credit risk based on these external credit ratings.

Investments in marketable securities (excluding equity securities) are entered into on the basis of guidelines with regard to liquidity, quality and maximum amount. As a general rule, the Group invests only in high-quality securities with adequate liquidity and with counterparties that have a credit rating of at least Baa3 from Moody's and BBB- from Standard & Poor's.

The credit risk of the counterparties with external ratings below investment grade or with no rating is closely monitored and reviewed on an individual basis.

Rating analysis of cash and marketable securities (excluding equity securities) – market values in millions of CHF

	2022			2021		
	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)
AAA range	2,123	2,123	0	1,051	457	594
AA range	1,021	121	900	2,122	444	1,678
A range	5,946	1,754	4,192	9,136	1,946	7,190
BBB range	400	390	10	557	527	30
Total investment grade	**9,490**	**4,388**	**5,102**	**12,866**	**3,374**	**9,492**
Below BBB range (below investment grade)	77	5	72	70	6	64
Unrated	199	1	198	93	1	92
Total gross carrying amounts	**9,766**	**4,394**	**5,372**	**13,029**	**3,381**	**9,648**
Loss allowance [a)]	**1**	**0**	**1**	**1**	**0**	**1**

a) The loss allowance related to fair value through OCI does not affect the carrying amount of marketable securities (excluding equity securities) but is booked against corresponding OCI reserve instead.

Debt securities at amortised cost and those at fair value through OCI are investment grade and therefore considered to be low risk, and thus the impairment allowance is determined at 12-month expected credit losses ('ECL') with a reference to external credit ratings of the counterparties. There were no debt securities for which the Group observed a significant increase in the credit risk which would require the application of the lifetime expected credit losses impairment model. In addition, there were no material movements in the loss allowance in 2022 and 2021, respectively.

Master netting agreements. The Group enters into derivative transactions and collateral agreements under International Swaps and Derivatives Association (ISDA) master netting agreements with the respective counterparties in order to mitigate counterparty risk. Under such agreements the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. The ISDA agreements do not meet the criteria for offsetting in the balance sheet as the Group does not have a currently enforceable right to offset recognised amounts, because the right to offset is only enforceable on the occurrence of future events, such as a default or other credit events.

Contract terms. At 31 December 2022 there were no significant financial assets whose terms had been renegotiated (2021: none).

Impairment losses on financial assets excluding equity investments/securities. During 2022 there were no impairment losses (2021: none).

Liquidity risk

Liquidity risk arises through a surplus of financial obligations over available financial assets due at any point in time. The Group's approach to liquidity risk is to maintain sufficient readily available reserves in order to meet its liquidity requirements at any point in time. Roche and Chugai enjoy strong credit quality and are rated by at least one major credit rating agency. The ratings will permit efficient access to the international capital markets in the event of major financing requirements. At 31 December 2022 the Group had an unused committed credit line with various financial institutions totalling CHF 7.2 billion (2021: CHF 7.2 billion), of which CHF 6.9 billion (2021: CHF 6.9 billion) serve as a back-stop line for the commercial paper program. On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026.

The remaining undiscounted cash flow contractual maturities of financial liabilities, including estimated interest payments, are shown in the table below.

Contractual maturities of financial liabilities in millions of CHF

	Carrying value	Total	Less than 1 year	1–2 years	2–5 years	Over 5 years
At 31 December 2022						
Debt [21]						
– Bonds and notes	23,158	28,153	2,264	3,671	9,319	12,899
– Other debt	2,193	2,193	2,193	0	0	0
Contingent consideration [20]	103	116	38	47	9	22
Accounts payable [17]	4,556	4,556	4,556	–	–	–
Other non-current liabilities [18]	1,189	1,258	–	530	386	342
– *of which lease liabilities*	*891*	*960*	–	*249*	*383*	*328*
Other current liabilities [19]	13,288	13,301	13,150	61	90	0
– *of which lease liabilities*	*302*	*315*	*315*	–	–	–
– *of which derivative financial instruments*	*626*	*626*	*475*	*61*	*90*	*0*
Total financial liabilities	**44,487**	**49,577**	**22,201**	**4,309**	**9,804**	**13,263**
At 31 December 2021						
Debt [21]						
– Bonds and notes	16,579	21,348	876	1,494	6,535	12,443
– Other debt	14,619	14,619	14,619	0	0	0
Contingent consideration [20]	141	149	58	48	34	9
Accounts payable [17]	4,637	4,637	4,637	–	–	–
Other non-current liabilities [18]	1,307	1,388	–	526	438	424
– *of which lease liabilities*	*1,025*	*1,106*	–	*270*	*435*	*401*
Other current liabilities [19]	13,129	13,136	13,084	33	19	0
– *of which lease liabilities*	*329*	*336*	*336*	–	–	–
– *of which derivative financial instruments*	*262*	*262*	*210*	*33*	*19*	*0*
Total financial liabilities	**50,412**	**55,277**	**33,274**	**2,101**	**7,026**	**12,876**

Take-or-pay commitments. The Group has entered into contract manufacturing agreements with various companies to further develop manufacturing capacity and flexibility, mainly in the Pharmaceuticals Division. There are future minimum take-or-pay commitments within some of these agreements with a total potential commitment from the Group of CHF 1.9 billion at 31 December 2022 (2021: CHF 1.4 billion).

Commitments for capital calls. The Group holds investments in funds reported as debt investment at fair value through profit or loss in which it has committed to invest further upon future capital calls. As of 31 December 2022 the total uncalled capital commitments for the Group's investments in funds amounted to CHF 89 million.

Market risk

Market risk arises from changing market prices, mainly foreign exchange rates and interest rates, of the Group's financial assets or financial liabilities which affect the Group's financial result and equity.

Value-at-Risk. The Group uses Value-at-Risk (VaR) to measure the impact of market risk on its financial instruments. VaR indicates the value range within which a given financial instrument will fluctuate with a pre-set probability as a result of movements in market prices. VaR is calculated using a historical simulation approach and for each scenario, all financial instruments are fully valued and the total change in value and earnings is determined. VaR calculations are based on a 95% confidence level and a holding period of 20 trading days over the past ten years. This holding period reflects the time required to change the corresponding risk exposure, should this be deemed appropriate.

Actual future gains and losses associated with our treasury activities may differ materially from the VaR analyses due to the inherent limitations associated with predicting the timing and amount of changes to interest rates, foreign exchange rates and equity investment prices, particularly in periods of high market volatilities. Furthermore, VaR does not include the effect of changes in credit spreads.

Market risk of financial instruments in millions of CHF

	2022	2021
VaR – Interest rate component	234	191
VaR – Foreign exchange component	40	43
VaR – Other price component	54	48
Diversification	(67)	(100)
VaR – Total market risk	**261**	**182**

The interest rate component increased due to the bond issuances in February, March and September 2022. The foreign exchange component and the other price component remained largely stable.

Foreign exchange risk

The Group uses the Swiss franc as its reporting currency and as a result is exposed to movements in foreign currencies, mainly the US dollar, Japanese yen and euro. The Group's foreign exchange risk management strategy is to preserve the economic value of its current and future assets and to minimise the volatility of the Group's financial result. The primary focus of the Group's foreign exchange risk management activities is on hedging transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies. The Group uses forward contracts, foreign exchange options and cross-currency swaps to hedge transaction exposures. Application of these instruments intends to continuously immunise against unfavourable developments of foreign exchange rates.

Interest rate risk

The Group mainly raises debt on a fixed rate basis for bonds and notes. The Group is exposed to movements in interest rates, mainly for its US dollar, Swiss franc and euro floating rate financial instruments and short-term debt. The Group's interest rate risk management strategy is to optimise the net interest result. The Group may use forward contracts, options and interest rate swaps to hedge its interest rate exposures. Depending on the interest rate environment of major currencies, the Group will use these instruments to generate an appropriate mix of fixed and floating rate exposures.

Other price risk

Other price risk arises mainly from movements in the prices of equity securities. The Group manages the price risk through placing limits on individual and total equity investments. These limits are defined both as a percentage of total liquid funds and as an absolute number for individual equity investments.

Capital management

The Group defines the capital that it manages as the Group's total capitalisation, being the sum of debt plus equity, including non-controlling interests. The Group's objectives when managing capital are:

- To safeguard the Group's ability to continue as a going concern, so that it can continue to provide benefits for patients and returns to investors.
- To provide an adequate return to investors based on the level of risk undertaken.
- To have available the necessary financial resources to allow the Group to invest in areas that may deliver future benefits for patients and returns to investors.
- To maintain sufficient financial resources to mitigate against risks and unforeseen events.

The capitalisation is reported to senior management as part of the Group's regular internal management reporting and is shown in the table below.

Capital in millions of CHF

	2022	2021	2020
Capital and reserves attributable to Roche shareholders [22]	27,992	24,489	36,341
Equity attributable to non-controlling interests [24]	4,023	3,856	3,432
Total equity	**32,015**	**28,345**	**39,773**
Total debt [21]	**25,351**	**31,198**	**14,216**
Capitalisation	**57,366**	**59,543**	**53,989**

The Group's net equity was significantly impacted by the share repurchase in 2021 (see Note 22).

The Group is not subject to regulatory capital adequacy requirements as known in the financial services industry. The Group has a majority shareholding in Chugai (see Note 23). Chugai is a public company and its objectives, policies and processes for managing its own capital are determined by Chugai management.

Financial instrument accounting classifications and fair values

The fair values of financial assets and liabilities, together with the carrying value shown in the consolidated balance sheet, are as follows:

Carrying value and fair value of financial instruments – 2022 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2022							
Other non-current assets [15]							
– Equity and debt investments	315	356	–	–	–	671	671
– Other financial non-current assets	–	–	–	126	–	126	126
Accounts receivable [12]	–	–	–	11,606	–	11,606	11,606
Marketable securities [13]							
– Equity securities	1	–	–	–	–	1	1
– Debt securities	0	583	–	–	–	583	583
– Money market instruments	–	3,811	–	–	–	3,811	3,811
– Time accounts over three months	–	–	–	381	–	381	381
Cash and cash equivalents [14]	–	–	–	4,991	–	4,991	4,991
Other current assets [16]							
– Derivative financial instruments	–	–	167	–	–	167	167
– Other financial current assets	–	–	–	1,082	–	1,082	1,082
Total financial assets	**316**	**4,750**	**167**	**18,186**	**–**	**23,419**	**23,419**
Debt [21]							
– Bonds and notes	–	–	–	–	(23,158)	(23,158)	(21,443)
– Other debt	–	–	–	–	(2,193)	(2,193)	(2,193)
Contingent consideration [20]	(103)	–	–	–	–	(103)	(103)
Accounts payable [17]	–	–	–	–	(4,556)	(4,556)	(4,556)
Other non-current liabilities [18]	–	–	–	–	(1,189)	(1,189)	(1,189)
Other current liabilities [19]	–	–	(626)	–	(12,662)	(13,288)	(13,288)
Total financial liabilities	**(103)**	**–**	**(626)**	**–**	**(43,758)**	**(44,487)**	**(42,772)**

Carrying value and fair value of financial instruments – 2021 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2021							
Other non-current assets [15]							
– Equity and debt investments	410	328	–	–	–	738	738
– Other financial non-current assets	–	–	–	134	–	134	134
Accounts receivable [12]	–	–	–	10,806	–	10,806	10,806
Marketable securities [13]							
– Equity securities	2	–	–	–	–	2	2
– Debt securities	71	494	–	–	–	565	565
– Money market instruments	–	2,816	–	–	–	2,816	2,816
– Time accounts over three months	–	–	–	2,798	–	2,798	2,798
Cash and cash equivalents [14]	–	–	–	6,850	–	6,850	6,850
Other current assets [16]							
– Derivative financial instruments	–	–	189	–	–	189	189
– Other financial current assets	–	–	–	892	–	892	892
Total financial assets	**483**	**3,638**	**189**	**21,480**	**–**	**25,790**	**25,790**
Debt [21]							
– Bonds and notes	–	–	–	–	(16,579)	(16,579)	(17,714)
– Other debt	–	–	–	–	(14,619)	(14,619)	(14,619)
Contingent consideration [20]	(141)	–	–	–	–	(141)	(141)
Accounts payable [17]	–	–	–	–	(4,637)	(4,637)	(4,637)
Other non-current liabilities [18]	–	–	–	–	(1,307)	(1,307)	(1,307)
Other current liabilities [19]	–	–	(262)	–	(12,867)	(13,129)	(13,129)
Total financial liabilities	**(141)**	**–**	**(262)**	**–**	**(50,009)**	**(50,412)**	**(51,547)**

The fair value of bonds and notes is Level 1 and is calculated based on the observable market prices of the debt instruments or the present value of the future cash flows on the instrument, discounted at a market rate of interest for instruments with similar credit status, cash flows and maturity periods.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2 – observable inputs other than quoted prices in active markets for identical assets and liabilities.
- Level 3 – unobservable inputs.

Fair value hierarchy of financial instruments in millions of CHF

	Level 1	Level 2	Level 3	Total
At 31 December 2022				
Marketable securities [13]				
– Equity securities at fair value through profit or loss	1	–	–	1
– Debt securities at fair value through OCI	518	65	–	583
– Debt securities at fair value through profit or loss	0	0	–	0
– Money market instruments at fair value through OCI	0	3,811	–	3,811
Derivative financial instruments [16]	–	167	–	167
Equity investments at fair value through OCI [15]	356	0	–	356
Equity and debt investments at fair value through profit or loss [15]	114	179	22	315
Financial assets recognised at fair value	**989**	**4,222**	**22**	**5,233**
Derivative financial instruments [19]	–	(626)	–	(626)
Contingent consideration [20]	–	–	(103)	(103)
Financial liabilities recognised at fair value	**–**	**(626)**	**(103)**	**(729)**
At 31 December 2021				
Marketable securities [13]				
– Equity securities at fair value through profit or loss	2	–	–	2
– Debt securities at fair value through OCI	494	0	–	494
– Debt securities at fair value through profit or loss	0	71	–	71
– Money market instruments at fair value through OCI	0	2,816	–	2,816
Derivative financial instruments [16]	–	189	–	189
Equity investments at fair value through OCI [15]	309	19	–	328
Equity and debt investments at fair value through profit or loss [15]	228	182	–	410
Financial assets recognised at fair value	**1,033**	**3,277**	**–**	**4,310**
Derivative financial instruments [19]	–	(262)	–	(262)
Contingent consideration [20]	–	–	(141)	(141)
Financial liabilities recognised at fair value	**–**	**(262)**	**(141)**	**(403)**

Level 1 financial assets consist of treasury bills, bonds and quoted shares. Level 2 financial assets consist primarily of commercial paper, certificates of deposit and derivative financial instruments.

The Group determines Level 2 fair values using the following valuation techniques:

- Marketable securities and derivative financial instruments are based on valuation models that use observable market data for interest rates, yield curves, foreign exchange rates and implied volatilities for similar instruments at the measurement date.
- Equity and debt investments at fair value through OCI and at fair value through profit or loss are based on a valuation model that uses the most recently published observable market data.

The Group recognises transfers between levels of the fair value hierarchy as at the end of the reporting period during which the transfer has occurred. There were no significant transfers between Level 1 and Level 2 and vice versa during the year (2021: none).

Level 3 fair values

Details of the determination of Level 3 fair value measurements are set out below.

Contingent consideration arrangements in millions of CHF

	2022	2021
At 1 January	(141)	(150)
Arising from business combinations	0	0
Utilised for settlements [6]	0	23
Total gains and losses included in the income statement		
– Unused amounts reversed – recorded within general and administration	41	2
– Additional amount created – recorded within general and administration	(2)	(10)
– Discount unwind included in financing costs	1	(2)
Total gains and losses included in other comprehensive income		
– Currency translation effects	(2)	(4)
At 31 December	**(103)**	**(141)**

Contingent consideration arrangements

The Group is party to certain contingent consideration arrangements, including those from business combinations. The fair values of contingent consideration from business combinations are determined considering the expected payments and, where payments are expected to be made beyond the next 12 months, discounted to present value using a risk-adjusted average discount rate of 5.3% (2021: 2.7%). The expected payments are determined by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario, and the probability of each scenario. The significant unobservable inputs are the forecast sales, other performance criteria and the risk-adjusted discount rate. The estimated fair value would increase if the forecast sales or other performance criteria rates were higher or the risk-adjusted discount rate was lower. At 31 December 2022 the total potential payments under contingent consideration arrangements arising from business combinations could be up to CHF 0.4 billion (2021: CHF 0.4 billion) as follows:

Potential payments under contingent consideration arrangements in millions of CHF

Acquisition	Year acquired	Operating segment	2022	2021
Dutalys	2014	Roche Pharmaceuticals	203	201
Genia	2014	Diagnostics	150	149
Others	Various	Diagnostics	0	9
At 31 December			**353**	**359**

Derivative financial instruments

Cash collateral agreements are in place with the counterparties to certain derivative financial instruments to mitigate counterparty risk. The following table sets out the carrying value of derivative financial instruments and the amounts that are subject to master netting agreements.

Derivative financial instruments in millions of CHF

	Assets			Liabilities		
	2022	2021	2020	2022	2021	2020
Foreign currency derivatives						
– Forward exchange contracts	167	187	389	(471)	(242)	(249)
– Cross-currency swaps	0	0	0	0	0	(37)
– Other	0	0	0	0	0	0
Interest rate derivatives						
– Swaps	0	2	9	(155)	(20)	0
– Other	0	0	0	0	0	0
Other derivatives	0	0	0	0	0	0
Carrying value of derivative financial instruments [16, 19]	**167**	**189**	**398**	**(626)**	**(262)**	**(286)**
Derivatives subject to master netting agreements	(92)	(54)	(140)	92	54	140
Collateral arrangements	(12)	(32)	(184)	192	15	23
Net amount	**63**	**103**	**74**	**(342)**	**(193)**	**(123)**

Collateral arrangements

Movements in cash collateral other receivable (accrued liability) in millions of CHF

	2022	2021
At 1 January	(17)	(161)
Net cash delivered by (to) the Group	199	148
Fair value and other	0	(1)
Currency translation effects	(2)	(3)
At 31 December	**180**	**(17)**

Hedge accounting

As described above the Group's risk management strategy is to hedge the transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies as well as to generate an appropriate mix of fixed and floating rate exposures. The level of hedging depends on market conditions and business requirements of the Group. The Group designates a specific interest rate risk management objective to ensure that a predetermined level of its interest rate risk exposure is at a floating rate.

Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments at each reporting date to ensure that an economic relationship exists between the hedged item and the hedging instrument. The Group performs a qualitative assessment of the hedge effectiveness using a critical terms match method. As the critical terms of the hedged items and the hedging instruments match, the Group concludes that risks being hedged for the hedged items and the hedging instruments are sufficiently aligned, that there is no inherent mismatch in the hedging relationship and that a 100% hedge ratio applies both for the actual quantities hedged and for the hedge accounting.

Accounting treatment, sources of ineffectiveness and prospective effectiveness assessment method by risk category

	Accounting treatment	Potential sources of ineffectiveness	Prospective effectiveness assessment method
Interest rate and/or foreign exchange rate fluctuations	Cash flow hedge	Counterparty credit risk	Critical terms match
Foreign exchange rate fluctuations	Cash flow hedge	Lower volume of hedged items / counterparty credit risk	Critical terms match
Interest rate fluctuations	Fair value hedge	Counterparty credit risk	Critical terms match

The ineffective portion of the hedge accounting is recognised in the income statement and included in other financial income (expense). It is measured using the hypothetical derivative method for cash flow hedges and the cumulative dollar offset method for fair value hedges. At 31 December 2022 and 2021 none of the above potential sources of ineffectiveness, individually or collectively, resulted in material amounts of actual ineffectiveness being reported for any hedge accounting relationships.

The table below shows fair values and nominal amounts of derivative financial instruments, including a range of the maturity of the nominal amount of the hedging instruments, which are designated as hedging instruments in a cash flow hedge and a fair value hedge. At 31 December 2022 and 2021, respectively, the Group had the following cash flow hedges and fair value hedges which are designated in a qualifying hedge relationship:

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2022

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: interest rate and foreign exchange rate fluctuations				
– Cross-currency swaps	0	0	0	n/a
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 635 billion	39	(173)	2023–2024
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		**39**	**(173)**	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,540 million	0	(96)	2023–2026
– Interest rate swaps	EUR 500 million	0	(17)	2023–2025
– Interest rate swaps	CHF 1,050 million	0	(42)	2024
Total		**0**	**(155)**	

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2021

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: interest rate and foreign exchange rate fluctuations				
– Cross-currency swaps	0	0	0	n/a
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 612 billion	67	(120)	2022–2023
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		**67**	**(120)**	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,940 million	0	(18)	2022–2026
– Interest rate swaps	EUR 500 million	1	(1)	2023–2025
– Interest rate swaps	CHF 1,250 million	1	(1)	2022–2024
Total		**2**	**(20)**	

The fair values of derivative financial instruments used for hedge accounting are included in other current assets (see Note 16) or other current liabilities (see Note 19). The Group's approach to managing market risk, including interest rate risk and foreign currency risk, is discussed in the 'Market risk' section in this Note.

Cash flow hedges. The Group had entered into cross-currency swaps to hedge foreign exchange and interest rate risk on some of the bonds and notes issued by the Group which were denominated in euro. On the due date of 4 March 2021 the Group redeemed the remaining notes with an outstanding amount of EUR 1.14 billion (see Note 21) and the related remaining cross-currency swaps expired at the same time. In 2021 there was no ineffective portion.

In November and December 2021 the Group entered into treasury locks to hedge interest rate risk of fixed rate notes issued by the Group on 13 December 2021. At this date the treasury locks were settled. At 31 December 2022 a relating hedging reserve of CHF 41 million (excluding income taxes, CHF 35 million net of tax) was held as a deduction within equity (31 December 2021: CHF 43 million excluding income taxes, CHF 37 million net of tax), which will be released and transferred to the income statement within financing costs (see Note 4) until redemption of the fixed rate notes. There was no ineffective portion.

Chugai has entered into forward exchange contracts to hedge a part of its foreign translation exposure to Swiss franc and US dollar. At 31 December 2022 such instruments were recorded as fair value assets of CHF 39 million and as fair value liabilities of CHF 173 million (2021: fair value assets of CHF 67 million and fair value liabilities of CHF 120 million). There was no ineffective portion.

Carrying amount of items designated as hedged items in a cash flow hedging relationship in millions of CHF

	2022 Assets	2022 Liabilities	2021 Assets	2021 Liabilities
At 31 December				
Bonds and notes				
Risk hedged by cross-currency swaps: interest rate and foreign exchange rate fluctuations				
– Bonds and notes	–	0	–	0
Inventories				
Risk hedged by forward exchange contracts: foreign exchange rate fluctuations				
– Inventories	4,410	–	4,861	–

Hedging reserve for continuing hedging relationships in millions of CHF

	2022 Total	2022 Treasury locks	2022 Cross-currency swaps	2022 Forward exchange contracts	2021 Total	2021 Treasury locks	2021 Cross-currency swaps	2021 Forward exchange contracts
At 1 January	(60)	(37)	0	(23)	(16)	–	7	(23)
Gains (losses) taken to equity	(92)	0	0	(92)	(56)	(43)	(9)	(4)
Transferred to income statement[a)]	2	2	0	0	0	0	0	0
Income taxes	28	0	0	28	9	6	2	1
Non-controlling interests	25	0	0	25	1	0	0	1
Currency translation effects	5	0	0	5	2	0	0	2
At 31 December	**(92)**	**(35)**	**0**	**(57)**	**(60)**	**(37)**	**0**	**(23)**

a) The entire amount transferred to the income statement was reported in financing costs in 2022 and other financial income (expense) in 2021, see Note 4.

On the due date of 4 March 2021 the Group redeemed the remaining notes with an outstanding amount of EUR 1.14 billion (see Note 21) and the related remaining cross-currency swaps expired at the same time. As a result, there was no remaining hedging reserve for cross-currency swaps at 31 December 2021. In 2022 and 2021 there were no hedging relationships for which hedge accounting is no longer applied. The changes in the hedging reserve within equity are shown in Note 22.

The expected undiscounted cash flows from qualifying cash flow hedges, including interest payments during the duration of the derivative contract and final settlement on maturity, are shown in the table below.

Expected cash flows of qualifying cash flow hedges in millions of CHF

	2022 Total	2022 Less than 1 year	2022 More than 1 year	2021 Total	2021 Less than 1 year	2021 More than 1 year
Cash inflows	6,857	6,114	743	4,926	3,916	1,010
Cash outflows	(7,155)	(6,407)	(748)	(4,972)	(3,946)	(1,026)
Total cash inflows (outflows)	**(298)**	**(293)**	**(5)**	**(46)**	**(30)**	**(16)**

The undiscounted cash flows in the table above will affect profit or loss as shown below. These include interest payments during the duration of the derivative contract but do not include the final settlement on maturity.

Expected cash flows of qualifying cash flow hedges with impact on profit or loss in millions of CHF

	2022			2021		
	Total	Less than 1 year	More than 1 year	Total	Less than 1 year	More than 1 year
Cash inflows	0	0	0	0	0	0
Cash outflows	0	0	0	0	0	0
Total cash inflows (outflows)	**0**	**0**	**0**	**0**	**0**	**0**

Fair value hedges. The Group has entered into some interest rate swaps to hedge its exposure to changes in the fair value of some of its fixed-term debt instruments in respect of a benchmark interest rate. At 31 December 2022 such instruments were recorded as fair value assets of CHF 0 million and as fair value liabilities of CHF 155 million (2021: fair value assets of CHF 2 million and fair value liabilities of CHF 20 million). During 2022 fair value adjustments of CHF 137 million were recorded as expense on these interest rate swaps (2021: CHF 27 million as expense). As the fair value hedge had been highly effective since inception, the result of the interest rate swaps was largely offset by changes in the fair value of the hedged debt instruments. The Group's approach to managing market risk, including interest rate risk, is discussed in the 'Market risk' section in this Note.

Carrying amount of items designated as hedged items in a fair value hedging relationship in millions of CHF

	Liabilities	Fair value adjustments cumulative	Fair value adjustments in current year
At 31 December 2022			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
– Bonds and notes	2,826	(155)	(137)
At 31 December 2021			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
– Bonds and notes	3,153	(18)	(27)

Net investment hedges. The Group does not have any net investment hedges.

32. Related parties

Controlling shareholders

Following the share capital reduction described in Note 22, at 31 December 2022 the share capital of Roche Holding Ltd, which is the Group's parent company, consisted of 106,691,000 bearer shares with a nominal value of CHF 1.00 each (31 December 2021: 160,000,000 bearer shares).

At 31 December 2022, based on information supplied to the Group, a shareholder group with pooled voting rights owned 72,018,000 shares representing 67.50% of the issued shares (31 December 2021: 72,018,000 shares representing 45.01% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 67.50% of the voting power). These figures do not include any shares without pooled voting rights held outside this group by individual members of the group. On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement with a modified shareholder composition. This group now consists of Mr André Hoffmann, Ms Marie-Anne Hoffmann, Ms Vera Michalski, Mr Alexander Hoffmann, Mr Frederic Hoffmann, Ms Isabel Hoffmann, Mr Lucas Hoffmann, Ms Marina Hoffmann, Ms Kasia Barbotin-Larrieu, Ms Tatiana Fabre, Mr Andreas Oeri, Ms Catherine Oeri, Ms Sabine Duschmalé, Mr Jörg Duschmalé, Mr Lukas Duschmalé, the charitable foundation Wolf and Artuma Holding Ltd. The shareholder pooling agreement has existed since 1948. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2022, based on information supplied to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2021: 8,091,900 shares representing 5.057% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 7.58% of the voting power).

Mr André Hoffmann and Dr Jörg Duschmalé are members of the Board of Directors of Roche Holding Ltd. Mr Hoffmann received remuneration totalling CHF 406,734 (2021: CHF 425,181) and Dr Duschmalé received remuneration totalling CHF 334,475 (2021: CHF 334,499).

There were no other transactions between the Group and the individual members of the above shareholder group.

Subsidiaries and associates

A listing of the Group subsidiaries and associates is included in Note 33. This listing excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation. Transactions between the parent company and its subsidiaries and between subsidiaries are eliminated on consolidation. There were no significant transactions between the Group and its associates.

Key management personnel

Total remuneration of key management personnel was CHF 48 million (2021: CHF 45 million).

Members of the Board of Directors of Roche Holding Ltd receive an annual remuneration and payment for their time and expenses related to their membership of Board Committees. The Chairman of the Board of Directors and members of the Corporate Executive Committee (CEC) of Roche Holding Ltd receive remuneration which consists of an annual salary, a bonus and an expense allowance. The Group pays social insurance contributions in respect of the above remuneration and pays contributions to pension and other post-employment benefit plans for the Chairman of the Board of Directors and the members of the CEC. The members of the CEC also participate in certain equity compensation plans as described below. The terms, vesting conditions and fair value of these awards are disclosed in Note 27. New members of the CEC are included in the table below for the full calendar year in which they joined the CEC. Similarly, members of the CEC retiring partway through the year are included for the full calendar year in which they left the CEC.

Remuneration of the members of the Board of Directors and the Corporate Executive Committee in millions of CHF

	2022	2021
Salaries, including cash-settled bonus	22	21
Bonus Stock Awards	8	7
Social security costs	2	4
Pensions and other post-employment benefits	3	3
Equity compensation plans	7	5
Board fees	3	3
Other employee benefits	3	2
Total	**48**	**45**

For the purposes of these remuneration disclosures the values for equity compensation plans, including the Bonus Stock Awards, are calculated based on the fair value used in Note 27. These represent the cost to the Group of such awards at grant date and reflect, amongst other matters, the observed exercise behaviour and exit rate for the whole population that receive the awards and initial simulations of any performance conditions.

The detailed disclosures regarding executive remuneration that are required by Swiss law are included in the Remuneration Report disclosed in the Annual Report on pages 182 to 207. In those disclosures the values for equity compensation plans, including the Bonus Stock Awards, represent the fair value that the employee receives taking into account the preliminary assessment of any completed performance conditions. These fair values are shown in the table below, which reconciles those disclosures required by Swiss law to the above related party disclosures for key management personnel.

Reconciliation to executive remuneration disclosures required by Swiss law in millions of CHF

	2022	2021
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (IFRS basis – see table above)	48	45
Deduct		
– Bonus Stock Awards (IFRS basis)	(8)	(7)
– Equity compensation plans (IFRS basis)	(7)	(5)
Add back		
– Bonus Stock Awards (Swiss legal basis)	4	4
– Equity compensation plans (Swiss legal basis)	12	11
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (Swiss legal basis)	**49**	**48**
Of which (including social security costs)		
– Board of Directors (page 196 of the Annual Report)	10	10
– Corporate Executive Committee (page 203 of the Annual Report)	39	38

Bonus Stock Awards. The Chairman of the Board of Directors and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2022. These are subject to approval by the 2023 Annual General Meeting in March 2023 and will be issued in March 2023. The number of awards and fair value per award will be calculated at the grant date.

Equity compensation plans. The members of the Corporate Executive Committee received equity compensation as shown in the following tables.

Number of rights, options and awards granted to members of the Corporate Executive Committee

	2022	2021
Roche Stock-settled Stock Appreciation Rights	183,420	239,276
Roche Restricted Stock Unit Plan	7,190	8,266

Contributions paid for members of the Corporate Executive Committee in millions of CHF

	2022	2021
Roche Connect	0.2	0.2

Defined benefit plans

Transactions between the Group and the various defined benefit plans for the employees of the Group are described in Note 26.

33. List of subsidiaries and associates

The following is a listing of the Group subsidiaries and associates. It excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation.

Listed companies

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Switzerland	Roche Holding Ltd Stock Exchange: SIX Swiss Exchange Zurich Stock code (Share): RO, Valor: 1203211 Stock code (*Genussschein*): ROG, Valor: 1203204 ISIN Share: CH0012032113 ISIN *Genussschein*: CH0012032048 Market capitalisation: CHF 239,405 million	Basel	CHF	106.7	
Japan	Chugai Pharmaceutical Co., Ltd. Stock Exchange: Tokyo Stock code: TSE:4519 ISIN: JP3519400000 Market capitalisation: JPY 5,540,428 million	Tokyo	JPY	1,679.1	61.1

Non-listed companies

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Algeria	Roche Algérie SPA	Hydra	DZD	1.0	48
Argentina	Productos Roche S.A. Química e Industrial	Buenos Aires	ARS	7,721.3	100
	Roche Diabetes Care Argentina S.A.	Buenos Aires	ARS	87.4	100
Australia	Roche Diabetes Care Australia Pty Limited	North Ryde	AUD	14.1	100
	Roche Diagnostics Australia Pty Limited	North Ryde	AUD	5.0	100
	Roche Products Pty Limited	Sydney	AUD	65.0	100
Austria	mySugr GmbH	Vienna	EUR	5.7	100
	Roche Austria GmbH	Vienna	EUR	14.5	100
	Roche Diabetes Care Austria GmbH	Vienna	EUR	(–)	100
	Roche Diagnostics GmbH	Vienna	EUR	1.1	100
Bangladesh	Roche Bangladesh Limited	Dhaka	BDT	27.2	100
Belarus	FLLC "Roche Products Limited"	Minsk	USD	1.5	100
Belgium	Roche Diagnostics Belgium NV	Diegem	EUR	3.8	100
	Roche SA/NV	Brussels	EUR	32.0	100
Bermuda	Chemical Manufacturing and Trading Company Limited	Pembroke	USD	(–)	100
	Hoffmann-La Roche Products Limited	Pembroke	USD	(–)	100
	Roche Capital Services Ltd.	Pembroke	RUB	(–)	100
	Roche Catalyst Investments Ltd.	Pembroke	USD	(–)	100
	Roche Financial Investments Ltd.	Pembroke	USD	(–)	100
	Roche Financial Management Ltd.	Pembroke	USD	(–)	100
	Roche Financial Services Ltd.	Pembroke	USD	(–)	100
	Roche International Ltd.	Pembroke	USD	(–)	100
	Roche Intertrade Limited	Pembroke	USD	10.0	100
	Roche Operations Ltd.	Pembroke	USD	(–)	100
	Roche Services Holdings Ltd.	Pembroke	USD	(–)	100
Bolivia	Roche Bolivia S.R.L.	Santa Cruz	BOB	0.1	100
Bosnia and Herzegovina	Roche d.o.o. farmaceutsko drustvo - Roche Ltd. Pharmaceutical Company	Sarajevo	BAM	13.1	100
Brazil	Produtos Roche Químicos e Farmacêuticos S.A.	São Paulo	BRL	1,141.7	100
	Roche Diabetes Care Brasil Ltda.	São Paulo	BRL	44.4	100
	Roche Diagnostica Brasil Ltda.	São Paulo	BRL	683.5	100
Bulgaria	Roche Bulgaria EOOD	Sofia	BGN	5.1	100
Cameroon	Roche Cameroun SARL	Douala	XAF	60.0	100
Canada	Hoffmann-La Roche Limited	Mississauga	CAD	40.3	100
Chile	Roche Chile Limitada	Santiago de Chile	CLP	70.9	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
China	Roche (China) Holding Ltd.	Shanghai	USD	37.3	100
	Roche (Shanghai) Pharmaceuticals Consulting Co., Ltd.	Shanghai	CNY	30.0	100
	Roche (Shanghai) Pharmaceuticals Trading Co., Ltd.	Shanghai	USD	90.0	100
	Roche Diagnostics (Hong Kong) Limited	Hong Kong	HKD	10.0	100
	Roche Diagnostics (Shanghai) Ltd.	Shanghai	USD	31.0	100
	Roche Diagnostics (Suzhou) Limited	Suzhou	USD	160.0	100
	Roche Hong Kong Limited	Hong Kong	HKD	10.0	100
	Roche R&D Center (China) Ltd.	Shanghai	USD	35.8	100
	Shanghai Roche Pharmaceuticals Limited	Shanghai	USD	278.7	70
Colombia	Productos Roche S.A.	Bogotá	COP	26,923.7	100
	TIB Molbiol S.A.S.	Santiago de Cali	COP	3.0	100
Congo Democratic Republic	Roche DRC SARLU	Kinshasa	USD	0.3	100
Costa Rica	Roche Services Americas, Sociedad de Responsabilidad Limitada	San Jose	CRC	361.4	100
	Roche Servicios S.A.	Heredia	USD	8.1	100
Côte d'Ivoire	Roche Côte d'Ivoire SARL	Abidjan	XOF	50.0	100
Croatia	Roche d.o.o.	Zagreb	HRK	4.8	100
Czech Republic	Roche s.r.o.	Prague	CZK	200.0	100
Denmark	OBI Aps	Hadsund	DKK	4.4	100
	Roche Diagnostics a/s	Copenhagen	DKK	1.3	100
	Roche Innovation Center Copenhagen A/S	Hoersholm	DKK	100.1	100
	Roche Pharmaceuticals A/S	Copenhagen	DKK	4.0	100
Dominican Republic	Productos Roche Dominicana, S.R.L.	Santo Domingo	DOP	0.6	100
Ecuador	Roche Ecuador S.A.	Quito	USD	28.1	100
Egypt	Roche Diagnostics Egypt for Trading S.A.E.	Giza	EGP	5.0	100
	Roche Egypt for Manufacturing and Trading SAE	Cairo	EGP	229.0	100
	Roche Egypt LLC	Cairo	EGP	228.1	100
El Salvador	Productos Roche (El Salvador) S.A. de C.V.	Antiguo Cuscatlan	USD	(–)	100
Estonia	Roche Eesti OÜ	Tallinn	EUR	0.1	100
Finland	Roche Diagnostics Oy	Espoo	EUR	0.2	100
	Roche Oy	Espoo	EUR	(–)	100
France	Institut Roche SAS	Boulogne-Billancourt	EUR	0.5	100
	Roche Diabetes Care France SAS	Montbonnot-Saint-Martin	EUR	4.5	100
	Roche Diagnostics France SAS	Meylan	EUR	16.0	100
	Roche SAS	Boulogne-Billancourt	EUR	38.2	100
	Timkl SAS	Montbonnot-Saint-Martin	EUR	0.8	100
	Trophos SA	Marseille	EUR	1.9	100
Georgia	Roche Georgia LLC	Tbilisi	GEL	0.5	100
Germany	Ascur Versicherungsvermittlungs GmbH	Grenzach-Wyhlen	EUR	(–)	100
	Flatiron Health GmbH	Cologne	EUR	(–)	100
	Foundation Medicine GmbH	Penzberg	EUR	(–)	100
	Galenus Mannheim Pharma GmbH	Mannheim	EUR	(–)	100
	Roche Beteiligungs GmbH	Grenzach-Wyhlen	EUR	3.6	100
	Roche Deutschland Holding GmbH	Grenzach-Wyhlen	EUR	6.0	100
	Roche Diabetes Care Deutschland GmbH	Mannheim	EUR	(–)	100
	Roche Diabetes Care GmbH	Mannheim	EUR	(–)	100
	Roche Diagnostics Automation Solutions GmbH	Ludwigsburg	EUR	(–)	100
	Roche Diagnostics Deutschland GmbH	Mannheim	EUR	1.0	100
	Roche Diagnostics GmbH	Mannheim	EUR	94.6	100
	Roche mtm laboratories AG	Mannheim	EUR	1.4	100
	Roche Pharma AG	Grenzach-Wyhlen	EUR	61.4	100
	Roche Privacy GmbH	Grenzach-Wyhlen	EUR	(–)	100
	Roche Real Estate Services Mannheim GmbH	Mannheim	EUR	1.8	100
	Roche Registration GmbH	Grenzach-Wyhlen	EUR	(–)	100
	RoX Health GmbH	Berlin	EUR	(–)	100
	Signature Diagnostics GmbH	Potsdam	EUR	0.1	100
	TIB Molbiol Syntheselabor GmbH	Berlin	EUR	(–)	100
Ghana	Roche Products Ghana Limited	Accra	GHS	1.2	100
Greece	Roche (Hellas) S.A.	Marousi	EUR	19.2	100
	Roche Diagnostics (Hellas) S.A.	Marousi	EUR	8.3	100
Guatemala	Productos Roche Guatemala (Sociedad Anónima)	Guatemala City	GTQ	0.6	100
Honduras	Productos Roche (Honduras), S.A.	Tegucigalpa	HNL	(–)	100
Hungary	Roche (Hungary) Ltd	Budapest	HUF	30.0	100
	Roche Services (Europe) Ltd	Budapest	HUF	3.0	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
India	Roche Diabetes Care India Private Limited	Mumbai	INR	15.2	100
	Roche Diagnostics India Private Limited	Mumbai	INR	149.2	100
	Roche Information Solutions India Private Limited	Pune	INR	(–)	100
	Roche Products (India) Private Limited	Mumbai	INR	14.0	100
Indonesia	P.T. Roche Indonesia	Jakarta	IDR	43,770.0	100
Iran	Roche Pars Co. (Ltd.)	Tehran	IRR	41,610.0	100
Ireland	Inflazome Limited	Dublin	EUR	(–)	100
	Roche Ireland Limited	Clarecastle	EUR	2.4	100
	Roche Products (Ireland) Limited	Dublin	EUR	(–)	100
	Spark Therapeutics Ireland Limited	Dublin	EUR	(–)	100
Israel	Medingo Ltd.	Yokneam Illit	ILS	8.0	100
	Roche Pharmaceuticals (Israel) Ltd.	Hod Hasharon	ILS	(–)	100
Italy	Roche Diabetes Care Italy S.p.A.	Monza	EUR	40.2	100
	Roche Diagnostics S.p.A.	Monza	EUR	18.1	100
	Roche S.p.A.	Monza	EUR	34.1	100
	TIB Molbiol S.r.l.	Genoa	EUR	0.1	100
Japan	Flatiron Health K.K.	Tokyo	JPY	10.0	100
	Roche DC Japan K. K.	Tokyo	JPY	10.0	100
	Roche Diagnostics K.K.	Tokyo	JPY	2,500.0	100
Jordan	F. Hoffmann-La Roche Ltd / Jordan P.S.C.	Amman	JOD	(–)	100
Kazakhstan	Roche Kazakhstan LLP	Almaty	KZT	150.0	100
Kenya	Roche Kenya Limited	Nairobi	KES	50.0	100
Kuwait	Roche for Trading in Medicines, Equipment, Devices and Medical Supplies SPC	Kuwait City	KWD	1.8	100
Latvia	Roche Latvija SIA	Riga	EUR	1.7	100
Lebanon	Roche Lebanon S.A.R.L.	Beirut	LBP	1,000.0	100
Lithuania	UAB Roche Lietuva	Vilnius	EUR	0.2	100
Malaysia	Roche (Malaysia) Sdn. Bhd.	Kuala Lumpur	MYR	4.0	100
	Roche Diagnostics (Malaysia) Sdn. Bhd.	Petaling Jaya	MYR	0.9	100
	Roche Services (Asia Pacific) Sdn. Bhd.	Kuala Lumpur	MYR	0.5	100
Mauritius	Roche Products (Mauritius) Ltd	Moka	MUR	4.0	100
Mexico	Productos Roche, S.A. de C.V.	Mexico City	MXN	82.6	100
	Roche DC México, S.A. de C.V.	Mexico City	MXN	3.9	100
Morocco	Roche S.A.	Casablanca	MAD	59.5	100
Myanmar	Roche Myanmar Company Limited	Yangon	USD	(–)	100
Netherlands	Roche Diabetes Care Nederland B.V.	Almere	EUR	0.6	100
	Roche Diagnostics Nederland B.V.	Almere	EUR	2.3	100
	Roche Finance Europe B.V.	Woerden	EUR	2.0	100
	Roche Nederland B.V.	Woerden	EUR	10.9	100
	Roche Pharmholding B.V.	Woerden	EUR	467.8	100
New Zealand	Roche Diagnostics NZ Limited	Auckland	NZD	3.0	100
	Roche Products (New Zealand) Limited	Auckland	NZD	13.5	100
Nicaragua	Productos Roche (Nicaragua), S.A.	Managua	NIO	0.9	100
Nigeria	Roche Products Limited	Lagos	NGN	200.0	100
North Macedonia	Roche Makedonija DOOEL	Skopje	EUR	0.3	100
Norway	Roche Diagnostics Norge A/S	Oslo	NOK	5.8	100
	Roche Norge A/S	Oslo	NOK	6.2	100
Pakistan	Roche Pakistan Limited	Karachi	PKR	2,063.3	100
Panama	Productos Roche (Panama), S.A.	Panama City	PAB	(–)	100
	Productos Roche Interamericana S.A. (PRISA)	Panama City	USD	0.1	100
	Roche Products Inc.	Panama City	USD	0.5	100
	Syntex Puerto Rico, Inc.	Panama City	USD	(–)	100
Paraguay	Roche Diagnostics Paraguay S.A.	Asunción	PYG	10,197.6	100
Peru	Productos Roche Q.F.S.A.	Lima	PEN	11.1	100
	Roche Farma (Peru) S.A.	Lima	PEN	38.1	100
Philippines	Roche (Philippines) Inc.	Taguig City	PHP	300.0	100
Poland	Roche Diabetes Care Polska sp. z o.o.	Warsaw	PLN	2.0	100
	Roche Diagnostics Polska Sp. z o.o.	Warsaw	PLN	8.0	100
	Roche Polska Sp. z o.o.	Warsaw	PLN	25.0	100
Portugal	Roche Farmacêutica Química, Lda.	Amadora	EUR	1.1	100
	Roche Sistemas de Diagnósticos, Sociedade Unipessoal, Lda.	Amadora	EUR	2.6	100
Puerto Rico	Genentech P.R., Inc.	San Juan	USD	(–)	100
Romania	Roche Romania S.R.L.	Bucharest	RON	472.2	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Russian Federation	"Roche-Moscow" JSC.	Moscow	RUB	2.6	100
	Limited Liability Company Roche Diabetes Care Rus	Moscow	RUB	100.0	100
	Limited Liability Company Roche Diagnostics Rus	Moscow	RUB	250.0	100
Saudi Arabia	Roche Diagnostics Saudi Arabia LLC	Riyadh	SAR	200.0	75
	Roche Products Saudi Arabia LLC	Jeddah	SAR	30.0	100
Serbia	Roche d.o.o. Beograd	Belgrade	RSD	939.1	100
Singapore	Roche Diabetes Care Asia Pacific Pte. Ltd.	Singapore	SGD	0.6	100
	Roche Diagnostics Asia Pacific Pte. Ltd.	Singapore	SGD	20.4	100
	Roche Singapore Pte. Ltd.	Singapore	SGD	4.0	100
	Roche Singapore Technical Operations, Pte. Ltd.	Singapore	USD	35.0	100
Slovakia	Roche Slovensko, S.R.O.	Bratislava	EUR	0.3	100
Slovenia	Roche farmacevtska družba d.o.o.	Ljubljana	EUR	0.2	100
South Africa	Kapa Biosystems (Pty) Ltd	Cape Town	ZAR	(–)	100
	Roche Diabetes Care South Africa Proprietary Limited	Midrand	ZAR	15.0	100
	Roche Diagnostics Proprietary Limited	Midrand	ZAR	(–)	100
	Roche Products (Proprietary) Limited	Midrand	ZAR	60.0	100
South Korea	Roche Diagnostics Korea Co., Ltd.	Seoul	KRW	22,969.0	100
	Roche Korea Company Ltd.	Seoul	KRW	13,375.0	100
Spain	Roche Diabetes Care Spain, S.L.	Sant Cugat del Vallès	EUR	1.0	100
	Roche Diagnostics S.L.	Sant Cugat del Vallès	EUR	17.0	100
	Roche Farma, S.A.	Madrid	EUR	45.0	100
	TIB Molbiol S.L.	Madrid	EUR	(–)	100
Sweden	Roche AB	Solna	SEK	20.0	100
	Roche Diagnostics Scandinavia AB	Solna	SEK	9.0	100
Switzerland	Biopharm AG	Basel	CHF	0.3	100
	F. Hoffmann-La Roche Ltd	Basel	CHF	150.0	100
	Hoffmann - La Roche Ltd	Basel	CHF	0.5	100
	InterMune International AG	Basel	CHF	10.0	100
	Museum Tinguely AG	Basel	CHF	0.1	100
	Phaor AG	Basel	CHF	0.2	100
	Rabbit-Air Ltd	Bachenbülach	CHF	3.0	100
	Roche Capital Market Ltd	Basel	CHF	1.0	100
	Roche Chemische Unternehmungen AG	Basel	CHF	1.3	100
	Roche Diabetes Care (Switzerland) Ltd	Rotkreuz	CHF	0.1	100
	Roche Diagnostics (Switzerland) Ltd	Rotkreuz	CHF	1.0	100
	Roche Diagnostics International Ltd	Rotkreuz	CHF	20.0	100
	Roche Finance Ltd	Basel	CHF	409.2	100
	Roche Forum Buonas Ltd	Buonas	CHF	0.1	100
	Roche Glycart Ltd	Schlieren	CHF	0.3	100
	Roche Long Term Foundation	Basel	CHF	0.5	100
	Roche Pharma (Switzerland) Ltd	Basel	CHF	2.0	100
	Roche Sapac Ltd.	Basel	CHF	0.5	100
	Syntex Pharm AG	Rotkreuz	CHF	0.5	100
	Tavero AG	Basel	CHF	0.1	100
Taiwan	Roche Diagnostics Ltd.	Taipei	TWD	562.0	100
	Roche Products Ltd.	Taipei	TWD	1,900.0	100
Thailand	Roche Diagnostics (Thailand) Limited	Bangkok	THB	103.0	100
	Roche Thailand Limited	Bangkok	THB	12.0	100
Tunisia	Roche Tunisie SA	Tunis	TND	0.8	100
Türkiye	Infogenetik Moleküler Bilgi Hizmetleri Anonim Şirketi	Istanbul	TRY	3.5	100
	Roche Diagnostics Turkey Anonim Şirketi	Istanbul	TRY	250.0	100
	Roche Müstahzarlari Sanayi Anonim Şirketi	Istanbul	TRY	249.5	100
Ukraine	Roche Ukraine LLC	Kiev	UAH	124.0	100
United Arab Emirates	Roche Diabetes Care Middle East FZCO	Dubai	AED	0.5	100
	Roche Diagnostics Middle East FZCO	Dubai	AED	19.0	100
	Roche Pharmaceuticals Middle East FZCO	Dubai	AED	0.5	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
United Kingdom	Flatiron Health UK Ltd	St Albans	GBP	(–)	100
	Inflazome UK Limited	Welwyn Garden City	GBP	(–)	100
	InterMune Holdings Limited	Welwyn Garden City	GBP	(–)	100
	Roche Diabetes Care Limited	Burgess Hill	GBP	0.4	100
	Roche Diagnostics Limited	Burgess Hill	GBP	32.6	100
	Roche Holding (UK) Limited	Welwyn Garden City	GBP	100.0	100
	Roche Products Limited	Welwyn Garden City	GBP	98.3	100
	Roche Registration Limited	Welwyn Garden City	GBP	(–)	100
	Spark Therapeutics UK Ltd	London	GBP	(–)	100
	TMEM16A Limited	Welwyn Garden City	GBP	0.2	100
	Tusk Therapeutics Limited	Welwyn Garden City	GBP	(–)	100
United States	Adheron Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Anadys Pharmaceuticals, Inc.	South San Francisco	USD	(–)	100
	Bina Technologies, Inc.	Pleasanton	USD	(–)	100
	BioVeris Corporation	Indianapolis	USD	(–)	100
	Flatiron Health, Inc.	New York	USD	(–)	100
	ForSight VISION4, Inc.	South San Francisco	USD	(–)	100
	Foundation Medicine, Inc.	Cambridge	USD	(–)	100
	Freenome Holdings, Inc.	South San Francisco	USD	(–)	16
	Genentech USA, Inc.	South San Francisco	USD	(–)	100
	Genentech, Inc.	South San Francisco	USD	(–)	100
	GenMark Diagnostics, Inc.	Carlsbad	USD	(–)	100
	GenMark Holdings, Inc.	Carlsbad	USD	(–)	100
	Good Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Hoffmann-La Roche Inc.	Little Falls	USD	3.0	100
	I5 Surviving Corp.	South San Francisco	USD	(–)	100
	IGEN International, Inc.	Pleasanton	USD	(–)	100
	IGEN LS LLC	Pleasanton	USD	(–)	100
	Ignyta, Inc.	South San Francisco	USD	(–)	100
	InterMune, Inc.	South San Francisco	USD	(–)	100
	IQuum, Inc.	Marlborough	USD	(–)	100
	Jecure Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Kapa Biosystems, Inc.	Wilmington	USD	(–)	100
	Lexent Bio, Inc.	Cambridge	USD	(–)	100
	Memory Pharmaceuticals Corp.	Little Falls	USD	(–)	100
	Prescient Design Corp.	South San Francisco	USD	(–)	100
	Promedior, Inc.	South San Francisco	USD	(–)	100
	Protocol First, Inc.	Salt Lake City	USD	(–)	100
	Roche Diabetes Care, Inc.	Indianapolis	USD	(–)	100
	Roche Diagnostics Corporation	Indianapolis	USD	(–)	100
	Roche Diagnostics Hematology, Inc.	Westborough	USD	(–)	100
	Roche Diagnostics Operations, Inc.	Indianapolis	USD	(–)	100
	Roche Diagnostics Seattle, Inc.	Seattle	USD	(–)	100
	Roche Holdings, Inc.	South San Francisco	USD	1.0	100
	Roche Laboratories Inc.	Little Falls	USD	(–)	100
	Roche Molecular Systems, Inc.	Pleasanton	USD	(–)	100
	Roche Palo Alto LLC	South San Francisco	USD	(–)	100
	Roche Sequencing Solutions, Inc.	Pleasanton	USD	(–)	100
	Roche TCRC, Inc.	Little Falls	USD	(–)	100
	Seragon Pharmaceuticals Inc.	South San Francisco	USD	(–)	100
	Spark Therapeutics International Holdings, Inc.	Philadelphia	USD	(–)	100
	Spark Therapeutics, Inc.	Philadelphia	USD	(–)	100
	Tanox, Inc.	South San Francisco	USD	(–)	100
	Tensha Therapeutics, Inc.	South San Francisco	USD	(–)	100
	Therapeutic Human Polyclonals, Inc.	South San Francisco	USD	(–)	100
	Ventana Medical Systems, Inc.	Tucson	USD	(–)	100
	Viewics, Inc.	Santa Clara	USD	(–)	100
Uruguay	Roche International Ltd. (Montevideo Branch)	Montevideo	UYU	(–)	100
Venezuela	Productos Roche S.A.	Caracas	VEF	156.9	100
Vietnam	Roche Pharma (Vietnam) Company Limited	Ho Chi Minh City	VND	75,600.0	100
	Roche Vietnam Company Limited	Ho Chi Minh City	USD	25.0	100

(–) = share capital of less than 100,000 local currency units.

34. Significant accounting policies

Consolidation policy

Subsidiaries are all companies over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Companies acquired during the year are consolidated from the date on which control is transferred to the Group, and subsidiaries to be divested are included up to the date on which control passes from the Group. Intercompany balances, transactions and resulting unrealised income are eliminated in full. Changes in ownership interests in subsidiaries are accounted for as equity transactions if they occur after control has already been obtained and if they do not result in a loss of control. Associates are companies over which the Group exercises, or has the power to exercise, significant influence, but which it does not control, and they are accounted for using the equity method.

Segment reporting

For the purpose of segment reporting the Group's Corporate Executive Committee (CEC) is considered to be the Group's Chief Operating Decision Maker. The determination of the Group's operating segments is based on the organisation units for which information is reported to the CEC on a regular basis. The information provided is used as the basis of the segment revenue and profit disclosures reported in Note 2, with the geographic analysis based on the location of customers. Selected segment balance sheet information is also routinely provided to the CEC.

Transfer prices between operating segments are set on an arm's length basis. Operating assets and liabilities consist of property, plant and equipment, goodwill and intangible assets, trade receivables/payables, inventories and other assets and liabilities, such as provisions, which can be reasonably attributed to the reported operating segments. Non-operating assets and liabilities mainly include current and deferred income tax balances, post-employment benefit assets/liabilities and financial assets/liabilities such as cash, marketable securities, investments and debt.

Foreign currency translation

The Annual Financial Statements are presented in Swiss francs. Most Group companies use their local currency as their functional currency. Certain Group companies use other currencies (such as US dollar, Swiss franc or euro) as their functional currency where this is the currency of the primary economic environment in which the entity operates. Local transactions in other currencies are initially reported using the exchange rate at the date of the transaction. Gains and losses from the settlement of such transactions and gains and losses on translation of monetary assets and liabilities denominated in other currencies are included in income, except when they are qualifying cash flow hedges or arise on monetary items that, in substance, form part of the Group's net investment in a foreign entity. In such cases the gains and losses are deferred into other comprehensive income.

Upon consolidation, assets and liabilities of Group companies using functional currencies other than Swiss francs are translated into Swiss francs using year-end rates of exchange. The income statement and statement of cash flows are translated at the average rates of exchange for the year. Translation differences due to the changes in exchange rates between the beginning and the end of the year and the difference between net income translated at the average and year-end exchange rates are taken directly to other comprehensive income.

Revenue

Sales. Revenue from the sale of goods supplied (product sales) and services rendered are recorded as 'Sales'.

Sales are recognised when a promise in a customer contract (performance obligation) has been satisfied by transferring control over the promised goods and services to the customer. Control over a promised good or service refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, those goods or services. Control is usually transferred upon shipment, delivery to, upon receipt of goods by the customer, or as services are rendered, in accordance with the delivery and acceptance terms agreed with the customers. For goods subject to installation, such as instruments sold in the Diagnostics Division, sales are generally recognised upon completion of the installation at the customer's site and customer acceptance. The amount of sales to be recognised (transaction price) is based on the consideration the Group expects to receive in exchange for its goods and services, excluding amounts collected on behalf of third parties such as value added taxes or other taxes directly linked to sales. If a contract contains more than one performance obligation, the transaction price is allocated to each performance obligation based on their relative stand-alone selling prices.

Instruments in the Diagnostics Division may be sold together with other goods such as reagents and other consumables as well as services under a single contract or under several contracts that are combined for revenue recognition purposes. Sales are recognised upon satisfaction of each of the performance obligations in the contract. Instruments are either sold in cash and instalment sales transactions or otherwise made available to customers under finance lease and operating lease transactions.

- Finance leases: Arrangements in which the Group transfers substantially all of the risks and rewards of ownership to the customer are treated as finance lease arrangements. Income from finance leases is recognised as revenue at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. As interest rates embedded in finance lease arrangements are approximately market rates, income from finance leases is comparable to revenue for outright sales. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest rate method and recorded in royalty and other operating income.
- Operating leases: Income from operating leases is recognised as revenue on a straight-line basis over the lease term or, when lease revenue is entirely variable and subject to subsequent reagent sales, as the performance obligation to deliver reagents is satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices or fair values. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

For contracts with distributors, no sales are recognised when goods are physically transferred to the distributor under a consignment arrangement, or if the distributor acts as an agent. In such cases, sales are recognised when control over the goods transfers to the end-customer, and distributor's commissions are presented within marketing and distribution. Commissions and similar payments to distributors acting as principals are deducted from sales unless such payments are in exchange for a distinct service.

The consideration received by the Group in exchange for its goods and services may be fixed or variable. Variable consideration is only recognised when it is considered highly probable that a significant revenue reversal will not occur once the underlying uncertainty related to variable consideration is subsequently resolved. The most common elements of variable consideration in the Pharmaceuticals Division are listed below:

- Government and regulatory mandatory price reductions. The major elements of these mandatory price reductions are the 340B Drug Discount Program, Medicaid and other plans in the US.
- Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume based and performance based.
- Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.
- Customer returns reserves. These are allowances established for expected product returns.

Revenues from product sales are recorded net of allowances for estimated rebates, chargebacks, cash discounts and estimates of product returns, all of which are established at the time of sale. All product sales allowances are based on estimates of the amounts earned or to be claimed on the related sales. These estimates take into consideration historical experience, current contractual and statutory requirements, specific known market events and trends such as competitive pricing and new product introductions, estimated inventory levels, and the shelf life of products. If actual future results vary, these estimates need to be adjusted, with an effect on sales and earnings in the period of the adjustment. Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables. Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities. Provisions for sales returns are recorded in the balance sheet as other provisions.

The Group recognises a deferred income (contract liability) if consideration has been received (or has become receivable) before the Group transfers the promised goods or services to the customer. Deferred income mainly relates to remaining performance obligations for goods free of charge under certain patient access or similar programmes, reagents and other consumables and services.

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts with minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Royalty and other operating income. Royalty and other operating income includes royalty income, income from out-licensing agreements and income from disposal of products and other items.

Royalty income earned through a licence is recognised as the underlying sales are recorded by the licensee.

Income from out-licensing agreements typically arises from the receipt of upfront, milestone and other similar payments from third parties for granting a licence to product- or technology-related intellectual property (IP). Out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. Licences granted are usually rights to use IP and are generally unique. Therefore the basis of allocating revenue to performance obligations makes use of the residual approach. Upfront payments and other licensing fees are usually recognised upon granting the licence unless some of the income shall be deferred for other performance obligations using the residual approach. Such deferred income is released and recognised as revenue when other performance obligations are satisfied. Milestone payments are typically received upon reaching a specific scientific milestone (development milestone) or upon achieving a certain annual sales milestone (commercial milestone). Development milestone income is recognised at the point in time when it is highly probable that the respective milestone event criteria is achieved, and the risk of revenue reversal is considered remote. Commercial milestone income is accrued and recognised as revenue when it is highly probable that the annual sales milestone is reached during the period.

Payments received for the disposal of product and similar rights are recognised as revenue upon transfer of control over such rights. To the extent that some of these payments relate to other performance obligations, a portion is deferred using the residual approach and recognised as revenue when or as activities such as manufacturing or other services are rendered. Income from profit-sharing agreements with collaboration partners is recognised as underlying sales and cost of sales are recorded by the collaboration partners. Also included is income from other services rendered which are usually not part of the Group's primary business activities, to the extent that such revenue is not recorded under 'Sales', and is recognised when control transfers and performance obligations are satisfied.

Cost of sales

Cost of sales includes the corresponding direct production costs and related production overheads of goods sold and services rendered. Royalties, alliance and collaboration expenses, including all collaboration profit-sharing agreements, are also reported as part of cost of sales. Start-up costs between validation and the achievement of normal production capacity are expensed as incurred.

Research and development

Internal research and development activities are expensed as incurred for the following:
- Internal research costs incurred for the purpose of gaining new scientific or technical knowledge and understanding.
- Internal development costs incurred for the application of research findings or other knowledge to plan and develop new products for commercial production. The development projects undertaken by the Group are subject to technical, regulatory and other uncertainties, such that, in the opinion of management, the criteria for capitalisation as intangible assets are not met prior to obtaining marketing approval by the regulatory authorities in major markets.
- Post-marketing studies after regulatory approval, such as phase IV costs in the pharmaceuticals business, generally involve safety surveillance and ongoing technical support of a drug after it receives marketing approval to be sold. They may be required by regulatory authorities or may be undertaken for safety or commercial reasons. The costs of such post-marketing studies are not capitalised as intangible assets as, in the opinion of management, they do not generate separately identifiable incremental future economic benefits that can be reliably measured.

Acquired in-process research and development resources obtained through in-licensing arrangements, business combinations or separate asset purchases, including asset acquisitions, are capitalised as intangible assets. The acquired asset must be controlled by the Group, be separately identifiable and expected to generate future economic benefits, even if uncertainty exists as to whether the research and development will ultimately result in a marketable product. Consequently, upfront and milestone payments to third parties for pharmaceutical products or compounds before regulatory marketing approval are recognised as intangible assets. Assets acquired through such arrangements are measured on the basis set out in the 'Intangible assets' policy. Subsequent internal research and development costs incurred post-acquisition are treated in the same way as other internal research and development costs. If research and development are embedded in contracts for strategic alliances, the Group carefully assesses whether upfront or milestone payments constitute funding of research and development work or acquisition of an asset.

Employee benefits

Short-term employee benefits include wages, salaries, social security contributions, paid annual leave and sick leave, profit sharing and bonuses, and non-monetary benefits for current employees. The costs are recognised within the operating results when the employee has rendered the associated service. The Group recognises a liability for profit sharing and bonuses where contractually obliged or where there is a past practice that has created a constructive obligation.

Long-term employee benefits include long-service or sabbatical leave, long-service benefits and long-term disability benefits. The expected costs of these benefits are accrued over the period of employment. Any changes in the carrying value of other long-term employee benefit liabilities are recognised within the operating results.

Termination benefits are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Termination costs are recognised at the earlier of when the Group can no longer withdraw the offer of the benefits or when the Group recognises any related restructuring costs.

Pensions and other post-employment benefits

For defined contribution plans the Group contributions are recognised within the operating results when the employee has rendered the associated service. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in future payments is available.

For defined benefit plans the liability recognised in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets. All changes in the net defined benefit liability are recognised as they occur as follows:

Recognised in the income statement:
- Current service cost is charged to the appropriate income statement heading within the operating results.
- Past service cost, including curtailment gains or losses, is recognised immediately in general and administration within the operating results.
- Settlement gains or losses are recognised in general and administration within the operating results.
- Net interest on the net defined benefit liability is recognised in financing costs.

Recognised in other comprehensive income:
- Actuarial gains and losses arising from experience adjustments (the difference between previous assumptions and what has actually occurred) and changes in actuarial assumptions.
- The return on plan assets, excluding amounts included in net interest on the net defined benefit liability.
- Any change in the limit on the recognition of plan assets, excluding amounts included in net interest on the net defined benefit liability.

Net interest on the net defined benefit liability is comprised of interest income on plan assets, interest cost on the defined benefit obligation and interest on the effect of the limit on the recognition of pension assets. The net interest is calculated using the same discount rate that is used in calculating the defined benefit obligation, applied to the net defined liability at the start of the period, taking into account any changes from contribution or benefit payments.

Pension assets and liabilities in different defined benefit plans are not offset unless the Group has a legally enforceable right to use the surplus in one plan to settle obligations in the other plan.

Equity compensation plans

The fair value of all equity compensation awards granted to employees is estimated at the grant date and recorded as an expense over the vesting period. The expense is charged to the appropriate income statement heading within the operating results. For equity-settled plans, an increase in equity is recorded for this expense and any subsequent cash flows from exercises of vested awards are recorded as changes in equity.

Property, plant and equipment

Property, plant and equipment are initially recorded at cost of purchase or construction, and include all costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. These include items such as costs of site preparation, installation and assembly costs, and professional fees. The net costs of testing whether the asset is functioning properly, including validation costs, are also included in the initially recorded cost of construction. Interest and other borrowing costs incurred with respect to qualifying assets are capitalised and included in the carrying value of the assets. Property, plant and equipment are depreciated on a straight-line basis, except for land, which is not depreciated. The estimated useful lives of major classes of depreciable assets are as follows:

Land improvements	40 years
Buildings	10–50 years
Machinery and equipment	4–15 years
Diagnostic instruments	3–5 years
Office equipment	3–6 years
Motor vehicles	5–8 years

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate components. The estimated useful lives of the assets are regularly reviewed and, if necessary, the future depreciation charges are accelerated. Repairs and maintenance costs are expensed as incurred.

Leases

Where the Group is the lessee. At inception of a contract the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset and a corresponding lease liability for each contract that is, or contains, a lease at the lease commencement date, except for short-term leases and leases of low-value assets. Payments for short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the term of the respective lease. The lease liability is initially measured at the present value of the future lease payments that are not paid at the lease commencement date. The lease payments are discounted using the interest rate implicit in the lease or, if not readily determinable, the Group's incremental borrowing rate in the respective markets. Lease payments include fixed payments, variable payments that depend on an index or rate known at the lease commencement date and payments from exercising extension or purchase options if the Group is reasonably certain to exercise. The lease liability is subsequently measured at amortised costs using the effective interest method. It is remeasured, with a corresponding adjustment to the related right-of-use asset, when there is a change in future lease payments following a contract renegotiation, a change of an index or rate or a reassessment of options. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any payments made at or before the lease commencement date and which includes any initial direct costs incurred and expected costs of obligations to dismantle, remove or refurbish the underlying asset, less any incentives received. Right-of-use assets are depreciated on a straight-line basis from the lease commencement date over the shorter of the lease term or the useful life of the underlying asset. Right-of-use assets are assessed for impairment whenever there is an indication for impairment.

Where the Group is the lessor. Certain assets, mainly diagnostics instruments, are leased to third-party customers through both finance and operating lease arrangements. Such transactions may be entered into in separate contracts or in combined contracts including reagents and other consumables and services. The treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. If this is the case, then the lease is a finance lease. If not, then it is an operating lease. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

- Finance leases: Finance lease assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as revenue at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in royalty and other operating income.
- Operating leases: Income from operating leases is recognised as revenue on a straight-line basis over the lease term at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. When lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, it is recognised as the performance obligations for reagents are satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

Mergers and acquisitions

Business combinations. Business combinations are accounted for using the acquisition method of accounting. At the date of the acquisition the Group initially recognises the fair value of the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquired business. The consideration transferred is measured at fair value at the date of acquisition. Where the Group does not acquire 100% ownership of the acquired business, non-controlling interests are recorded either at fair value or as the proportion of the fair value of the acquired net assets attributable to the non-controlling interest. Directly attributable acquisition-related costs are expensed as incurred within general and administration expenses.

Asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations. At the date of the acquisition the Group initially recognises the individual identifiable assets acquired and liabilities assumed. The cost to the Group at the date of the acquisition is allocated to the individual identifiable assets and liabilities on the basis of their relative fair values at the date of the acquisition. Subsequent consideration for performance-related development milestones is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met. Such transactions do not give rise to goodwill. Material directly attributable acquisition-related costs are included in the cost of the acquired assets.

Goodwill

Goodwill arises in a business combination and is the excess of the consideration transferred to acquire the business over the underlying fair value of the net identified assets acquired. Goodwill is not amortised but is tested for impairment at least annually and upon the occurrence of an indication of impairment.

Intangible assets

Purchased patents, licences, trademarks and other intangible assets are initially recorded at cost. Assets that have been acquired through a business combination are initially recorded at fair value. Commercial software development costs are capitalised when certain recognition criteria such as technical feasibility and commercial viability are met. Once available for use, intangible assets are amortised on a straight-line basis over their useful lives. Intangible assets are reviewed for impairment at each reporting date. The estimated useful life is the lower of the legal duration and the economic useful life. The estimated useful lives of intangible assets are regularly reviewed. Estimated useful lives of major classes of amortisable intangible assets are as follows:

Product intangibles in use	up to 20 years
Marketing intangibles in use	up to 15 years
Technology intangibles in use	up to 20 years

Impairment of property, plant and equipment, right-of-use assets and intangible assets

An impairment assessment is carried out when there is evidence that an asset may be impaired. In addition, intangible assets that are not yet available for use are tested for impairment annually. When the recoverable amount of an asset, being the higher of its fair value less costs of disposal and its value in use, is less than its carrying value, then the carrying value is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. Value in use is calculated using estimated cash flows, generally over a five-year period, with extrapolating projections for subsequent years. These are discounted using an appropriate long-term interest rate. When an impairment loss arises, the useful life of the asset is reviewed and, if necessary, the future depreciation/amortisation charge is accelerated. If the amount of impairment loss subsequently decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, then the previously recognised impairment loss is reversed through the income statement as an impairment reversal.

Impairment of goodwill

Goodwill is assessed for impairment at each reporting date and is additionally tested annually for impairment. Goodwill is allocated to cash-generating units and when the recoverable amount of the cash-generating unit, being the higher of its fair value less costs of disposal or its value in use, is less than its carrying value, then the carrying value of the goodwill is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. When an acquired business that is included within a cash-generating unit permanently ceases to operate, then it is treated as a disposal of that business. For separately identifiable goodwill that was generated on the initial acquisition of that business and where all of the factors that made up that goodwill are entirely unrelated to the continuing operations of the cash-generating unit, then the goodwill is deemed to have been disposed of and is fully impaired. As described in Note 9, this also applies if acquired products permanently cease to generate economic benefits or if acquired technologies permanently cease to operate. The impairment testing methodology is further described in Note 9.

Inventories

Inventories are stated at the lower of cost and net realisable value. The cost of finished goods, work in process and intermediates includes raw materials, direct labour and other directly attributable costs and overheads based upon the normal capacity of production facilities. Cost is determined using the weighted average method. Net realisable value is the estimated selling price less cost to completion and selling expenses.

Receivables, including accounts receivable

Receivables are carried at the original invoice amount less allowances made for doubtful accounts, trade discounts, cash discounts, volume rebates and similar allowances. A receivable represents a right to consideration that is unconditional and excludes contract assets. An allowance for doubtful accounts is recorded for expected credit losses over the term of the receivables. These estimates are based on specific indicators, such as the ageing of customer balances, specific credit circumstances and the Group's historical loss rates for each category of customers, and adjusted for forward-looking macroeconomic data. Expenses for doubtful trade receivables are recognised within marketing and distribution expenses. Trade discounts, cash discounts, volume rebates and similar allowances are recorded on an accrual basis consistent with the recognition of the related sales, using estimates based on existing contractual obligations, historical trends and the Group's experience.

Receivables are written off (either partly or in full) when there is no reasonable expectation of recovery. Where receivables have been written off, the Group continues to engage in enforcement activities to attempt to recover the receivable due. Where recoveries are made, these are recognised in profit or loss.

For trade and lease receivables, the Group applies the simplified approach prescribed by IFRS 9, which requires/permits the use of the lifetime expected loss provision from initial recognition of the receivables. The Group measures an allowance for doubtful accounts equal to the credit losses expected over the lifetime of the trade and lease receivables.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and time, call and current balances with banks and similar institutions. Such balances are only reported as cash equivalents if they are readily convertible to known amounts of cash, are subject to insignificant risk of changes in their fair value and have a maturity of three months or less from the date of acquisition.

Provisions and contingencies

Provisions are recognised where a legal or constructive obligation has been incurred which will probably lead to an outflow of resources that can be reliably estimated. In particular, restructuring provisions are recognised when the Group has a detailed formal plan that has either commenced implementation or has been announced. Provisions are recorded for the estimated ultimate liability that is expected to arise and are discounted when the time value of money is material. A contingent liability is disclosed where the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. Contingent assets are not recognised, but are disclosed where an inflow of economic benefits is probable.

Fair values

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It is determined by reference to quoted market prices or by the use of established valuation techniques such as option pricing models and the discounted cash flow method if quoted prices in an active market are not available.

Financial instruments

The Group classifies its financial instruments in the following measurement categories which are disclosed in Note 31: amortised cost; fair value through OCI; fair value through OCI – equity investments; or fair value through profit or loss (including hedging instruments).

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows. The Group reclassifies debt securities and financial assets at amortised cost when and only when its business model for managing those assets changes.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Amortised cost. Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost, less provision for impairment. A gain or loss on a debt security that is subsequently measured at amortised cost and is not part of a hedging relationship is recognised in profit or loss when the asset is derecognised or impaired. Interest income from these financial assets is included in other financial income using the effective interest rate method. Assets at amortised cost are mainly comprised of accounts receivable, cash and cash equivalents and time accounts over three months.

Fair value through other comprehensive income (fair value through OCI). These are financial assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest. Those are initially recorded and subsequently carried at fair value. Changes in the fair value are recorded in other comprehensive income, except for the recognition of impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognised in profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified from equity to profit or loss. Interest income from these financial assets is included in other financial income using the effective interest rate method. Fair value through other comprehensive income assets are mainly comprised of money market instruments and debt securities.

Equity investments at fair value through other comprehensive income (fair value through OCI). These are equity investments in private biotechnology companies, which are kept as part of the Group's strategic alliance efforts. These assets are subsequently measured at fair value. Dividends are recognised as other financial income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and included in the fair value reserve. When such an asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified within equity from the fair value reserve to retained earnings and never to profit or loss.

Fair value through profit or loss. These are financial assets whose performance is evaluated on a fair value basis. A gain or loss on a financial asset that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognised in profit or loss and presented within other financial income (expense) in the period in which it arises. Fair value through profit or loss assets are mainly comprised of equity investments/securities and debt investments. Contingent consideration liabilities are initially recorded and subsequently carried at fair value with changes in fair value recorded in general and administration within the operating results of the income statement.

Fair value through profit or loss – hedging instruments. These are derivative financial instruments that are used to manage the exposures to foreign currency, interest rate, equity market and credit risks. These instruments are initially recorded and subsequently carried at fair value. Apart from those derivatives designated as qualifying cash flow hedging instruments, all changes in fair value are recorded as other financial income (expense).

Other financial liabilities. These are non-derivative financial liabilities. Other financial liabilities are initially recorded at fair value, less transaction costs, and subsequently carried at amortised cost using the effective interest rate method. Other financial liabilities are mainly comprised of debt and trade payables.

Debt. Debt instruments are initially recorded at cost, which is the proceeds received, net of transaction costs. Subsequently they are reported at amortised cost. Any discount between the net proceeds received and the principal value due on redemption is amortised over the duration of the debt instrument and is recognised as part of financing costs using the effective interest rate method.

Derecognition. A financial asset is derecognised when the contractual cash flows from the asset expire or when the Group transfers the rights to receive the contractual cash flows from the financial assets in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. A financial liability is derecognised when the contractual obligations are discharged, cancelled or expire.

Impairment of financial assets

The Group recognises loss allowances for expected credit losses ('ECL') for financial assets measured at amortised cost and debt securities measured at fair value through OCI.

For trade and lease receivables the Group measures the allowance for doubtful accounts at an amount equal to lifetime ECL.

For debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost, which are determined to have low credit risk based on external credit ratings of the counterparties, the Group measures loss allowances at an amount equal to 12-month ECL. The Group considers debt securities to have low credit risk when their credit risk rating is equivalent to the globally understood definition of 'investment grade'. The Group considers this to be at least Baa3 from Moody's and BBB- from Standard & Poor's. When the credit risk of debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost has increased significantly since their initial recognition, the Group measures loss allowances at an amount equal to lifetime ECL. The Group assumes that the credit risk of such instruments have increased significantly if they are more than 30 days past due.

Financial assets are written off (either partially or in full) when there is no realistic prospect of recovery. This is generally the case when the Group determines that the customer does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off. However, financial assets that are written off are still subject to enforcement activities in order to comply with the Group's policy for recovery of amounts due.

Hedge accounting

The Group uses derivatives to manage its exposures to foreign currency, interest rate, equity market and credit risks. The instruments used may include interest rate swaps, cross-currency swaps, forwards contracts and options. The Group generally limits the use of hedge accounting to certain significant transactions. To qualify for hedge accounting, the hedging relationship must meet several strict conditions on eligibility of hedging and hedged instruments, formal designation and documentation, as well as hedge effectiveness and reliability of measurement. While many of these transactions can be considered as hedges in economic terms, if the required conditions are not met, then the relationship does not qualify for hedge accounting. In this case the hedging instrument and the hedged item are reported independently as if there were no hedging relationship, which means that any derivatives are reported at fair value, with changes in fair value included in other financial income (expense).

Cash flow hedge. This is a hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset or liability or a highly probable forecasted transaction and could affect profit or loss. The hedging instrument is recorded at fair value. The effective portion of the hedge is included in other comprehensive income and any ineffective portion is reported in other financial income (expense). If the hedging relationship is the hedge of the foreign currency risk of a firm commitment or highly probable forecasted transaction that results in the recognition of a non-financial item, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in the initial carrying value of the non-financial item at the date of recognition. For all other cash flow hedges, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in other financial income (expense) when the forecasted transaction affects net income.

Fair value hedge. This is a hedge of the exposure to changes in fair value of a recognised asset or liability, or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. The hedging instrument is recorded at fair value and the hedged item is recorded at its previous carrying value, adjusted for any changes in fair value that are attributable to the hedged risk. Changes in the fair values are reported in other financial income (expense).

Taxation

Income taxes include all taxes based upon the taxable profits of the Group, including withholding taxes payable on the distribution of retained earnings within the Group. Other taxes not based on income, such as property and capital taxes, are included within general and administration expenses.

Liabilities for income taxes, mainly withholding taxes, which could arise on the remittance of retained earnings, principally relating to subsidiaries, are only recognised where it is probable that such earnings will be remitted in the foreseeable future. Where the amount of tax liabilities is uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience.

Deferred tax assets and liabilities are recognised on temporary differences between the tax bases of assets and liabilities and their carrying values. Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the unused tax losses can be utilised.

Current and deferred tax assets and liabilities are offset when the income taxes are levied by the same taxation authority and when there is a legally enforceable right to offset them. Deferred taxes are determined based on the currently enacted tax rates applicable in each tax jurisdiction where the Group operates.

Own equity instruments

The Group's holdings in its own equity instruments are recorded as a deduction from equity. The original purchase cost, consideration received for subsequent resale of these equity instruments and other movements are reported as changes in equity. These instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans.

Changes in accounting policies

In 2022 the Group has implemented various minor amendments to existing standards and interpretations, which have no material impact on the Group's overall results and financial position.

Future new and revised standards

The Group is currently assessing the potential impacts of the various new and revised standards and interpretations that will be mandatory from 1 January 2023 which the Group has not yet applied. Based on an analysis to date, the Group does not anticipate that these will have a material impact on the Group's overall results and financial position. The Group is also assessing other new and revised standards which are not mandatory until after 2023.

Report of Roche Management on Internal Control over Financial Reporting

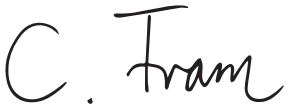
Report of Roche Management on Internal Control over Financial Reporting

The Board of Directors and management of Roche Holding Ltd are responsible for establishing and maintaining adequate control over financial reporting. The internal control system was designed to provide reasonable assurance over the reliability of financial reporting and the preparation and fair presentation of consolidated financial statements in accordance with International Financial Reporting Standards.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of its system of internal control over financial reporting as of 31 December 2022 based on the criteria for effective internal control over financial reporting described in *Internal Control – Integrated Framework 2013* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has concluded that the system of internal control over financial reporting was effective as of 31 December 2022.

The Statutory Auditor KPMG AG has audited the consolidated financial statements of Roche Holding Ltd for the year ended 31 December 2022, in accordance with Swiss Auditing Standards and with the International Standards on Auditing (ISA).



Christoph Franz
Chairman of the Board of Directors

Alan Hippe
Chief Financial Officer

Basel, 31 January 2023

Statutory Auditor's Report

To the General Meeting of Roche Holding Ltd, Basel

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Roche Holding Ltd and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2022 and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 43–152) give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the 'Auditor's Responsibilities for the Audit of the Consolidated Financial Statements' section of our report. We are independent of the Group in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession, as well as the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Chargebacks, other rebates and sales returns in the US pharmaceuticals business

Carrying value of product intangible assets not available for use in the Pharmaceuticals Division

Income tax – uncertain tax positions

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

KPMG

Chargebacks, other rebates and sales returns in the US pharmaceuticals business

Key Audit Matter

The Group's pharmaceuticals business makes sales to various customers in the US that fall under certain government-mandated and commercial contracts, purchasing and reimbursement arrangements, of which the most significant is the 340B Drug Discount Program. The Group also provides a right of return to its US customers for certain products, with return periods that in some cases extend several years into the future. These arrangements result in deductions to gross amounts invoiced in arriving at sales and create obligations for the Group to provide customers with credits, chargebacks or rebate payments. The estimated amounts are deducted from gross sales and recorded as accrued liabilities (rebates) or allowances for sales returns, or as a deduction from accounts receivable (chargebacks). These estimates are based on analyses of existing contractual or legislatively mandated obligations, recent trends and historical experience.

Management has determined accrued liabilities and deductions to accounts receivable for expected chargebacks and other rebates, predominantly contractual price reductions, of CHF 1,610 million to be necessary at 31 December 2022. Additionally, provisions for sales returns mainly relating to products with loss of exclusivity of CHF 510 million were recorded at 31 December 2022.

We focused on this area because the arrangements are complex and because establishing an appropriate year-end position requires significant judgement and estimation by management. The assumptions required for these estimates are also made more complicated given the recent loss of exclusivity in the US for some of the Group's pharmaceutical products.

Our response

Our audit procedures included, amongst others, on a sample basis, obtaining management's calculations for accrued liabilities, provisions and accounts receivable deductions, testing the accuracy of the calculations and assessing the appropriateness of key inputs and assumptions used in the estimates. In performing our assessment, we referenced internal and external sources of information, including the terms of the applicable contracts, US government pricing information, historical rates of chargebacks and other rebates, historical rates of sales returns and consideration of current trends.

We also evaluated the accuracy of management's estimates by comparing rates used in historical estimates to the rates of actual rebate payments and chargebacks. We assessed changes in the accrual rates used within the estimates for 2022 by comparing the accrual rates to current chargeback, other rebate payment and sales return trends.

We also evaluated the appropriateness of the Group's revenue recognition accounting policies, including the recognition and measurement of deductions to gross sales relating to chargebacks, other rebates and sales returns and related disclosures.

For further information on chargebacks, other rebates and sales returns in the US pharmaceuticals business refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 56, 79 and 82–88 (Note 3 Revenue, Note 12 Accounts receivable, Note 19 Other current liabilities and Note 20 Provisions and contingent liabilities).

KPMG

Carrying value of product intangible assets not available for use in the Pharmaceuticals Division

Key Audit Matter

Product intangibles not available for use in the Pharmaceuticals Division (CHF 4,610 million) mostly represent in-process research and development assets. These were acquired through business combinations, asset acquisitions or in-licensing arrangements.

Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment. The impairment assessment requires management to make key assumptions and judgements on the clinical, technical and commercial viability of the new products. Accordingly, we also focused our audit work on these areas. Risks include an inability to achieve successful trial results, obtain required clinical and/or regulatory approvals and a highly competitive business environment in the therapeutic areas where the Group has significant assets in research or development.

Our response

Our audit procedures included, amongst others, challenging the robustness of the key assumptions used to determine the recoverable amounts, including forecast revenues and the discount rate.

Our challenge was based on our understanding of the commercial prospects of the individual products, as well as the relevant business areas and markets in which they operate. We used our valuation specialists to assist us in evaluating the assumptions and methodologies used by management in relation to the discount rate. We assessed the key inputs such as projected pricing and volumes, and the products' projected share of the therapeutic area, by comparing relevant assumptions to industry forecasts and by reviewing analyst commentaries. We compared management's assumptions with external data where it was available. We performed sensitivity analyses over individual intangible asset impairment models to assess the levels of sensitivity to key assumptions so we could focus our work on those areas and assess management's allowance for risk. In addition, we assessed the reasonableness of management's assumptions regarding the probability of obtaining regulatory approval through comparison to industry practice, past history, and consideration of the Group's internal governance and approval processes.

For further information on the carrying value of product intangible assets not available for use in the Pharmaceuticals Division refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 75–78 (Note 10 Intangible assets).

KPMG

Income tax – uncertain tax positions

Key Audit Matter

The Group operates across a wide range of different tax jurisdictions around the world and thus its tax treatments in tax filings are subject to challenge by local tax authorities in respect of cross-border transfer pricing arrangements for goods and services, financing and transaction-related tax matters in connection with the integration of investments, divestments and licensing contracts. Tax treatments involving uncertainty include agreements and transfer pricing arrangements between affiliates involved in the Group's global manufacturing supply chains.

Where it is not probable that the tax authority will accept a treatment, the tax liability recognised in the financial statements reflects management's best estimate of the outcome based on the facts known in the relevant jurisdiction. The Group has open tax and transfer pricing matters with various tax authorities where the range of possible outcomes is broad. At 31 December 2022, the Group has recognised current income tax liabilities of CHF 3,187 million which includes accruals for uncertain tax positions.

We focused on this area as there is uncertainty regarding the estimates of the amounts of tax receivable or payable, and these therefore require a significant level of expertise and judgement.

Our response

Our audit procedures included, amongst others, obtaining an understanding of uncertain tax positions through inquiry of employees of the tax department and management of affiliates. We inspected documentation in relation to tax exposure items including correspondence with tax authorities and reports issued by tax advisors to verify whether uncertain tax positions have been considered and provided for where necessary.

For significant items we challenged and assessed management's judgement regarding the eventual resolution of the uncertainties with the assistance of our local country tax specialists and re-performed the calculation of the estimated exposure, also taking into account statutes of limitations. We inspected third-party transfer pricing studies and evaluated, where applicable, past experience of management's interactions with the tax authorities in the respective jurisdiction. Additionally, we used our own tax specialists' expertise to assess the appropriateness of the key assumptions made by management and to conclude on a best estimate of the outcome.

Our audit approach included additional audit procedures to consider uncertain tax positions arising for the Group in particular with respect to transfer pricing arrangements for goods and services and transaction-related tax matters.

For further information on uncertain tax positions refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 61–63 (Note 5 Income taxes).

Other Information

The Board of Directors is responsible for the other information. The other information comprises the information included in the finance report and the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the company, the remuneration report and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Board of Directors' Responsibilities for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Swiss law, ISAs and SA-CH, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.

— Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

François Rouiller
Licensed Audit Expert
Auditor in Charge

Paul Nichols

Basel, 31 January 2023

KPMG AG, Grosspeteranlage 5, PO Box 3456, CH-4002 Basel

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