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GENERAL NOTES

1. PRINCIPLES

I. GROUP STRUCTURE

Fresenius is a global health care group with products and services for dialysis, hospitals and outpatient medical care. In addition, the Fresenius Group focuses on hospital operations and also manages projects and provides services for hospitals and other health care facilities worldwide. Besides the activities of the parent company Fresenius SE & Co. KGaA, Bad Homburg v. d. H., Germany, the operating activities are organized amongst the following legally independent business segments in the fiscal year 2021:

- Fresenius Medical Care
- Fresenius Kabi
- Fresenius Helios
- Fresenius Vamed

Fresenius Medical Care offers services and products for patients with chronic kidney failure. As of December 31, 2021, Fresenius Medical Care treated 345,425 patients at 4,171 dialysis clinics. Dialyzers and dialysis machines are among the most important product lines. In addition, Fresenius Medical Care offers dialysis-related services.

Fresenius Kabi specializes in products for the therapy and care of critically and chronically ill patients. The portfolio includes intravenously administered generic drugs (IV drugs), biosimilar products with a focus on oncology and autoimmune diseases, clinical nutrition, and infusion therapies. In addition, the company is also a supplier of medical devices and products for transfusion technology.

Fresenius Helios is Europe's leading private hospital operator. Under the holding Helios Health, the company includes Helios Germany, Helios Spain (Quirónsalud) and the Eugin Group. At the end of 2021, Helios Germany operated a total of 90 hospitals, around 130 outpatient clinics, and 6 prevention centers. In Spain, Quirónsalud operated 49 hospitals, 88 outpatient centers, and around 300 occupational risk prevention centers at the end of 2021. In addition, Helios Spain is active in Latin America with 7 hospitals and as a provider of medical diagnostics. The Eugin Group's network comprises 33 clinics and an additional 39 sites across 10 countries on 3 continents. Eugin offers a wide spectrum of state-of-the-art services in the field of fertility treatments.

Fresenius Vamed manages projects and provides services for hospitals as well as other health care facilities worldwide and is a leading post-acute care provider in Central Europe. The portfolio ranges along the entire value chain – from project development, planning, and turnkey construction, via maintenance and technical management, to total operational management. The services are aimed at various areas of health care, ranging from prevention and acute care to rehabilitation and nursing.

Fresenius SE & Co. KGaA owned 32.21% of the subscribed capital of Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) at the end of the fiscal year 2021. Fresenius Medical Care Management AG, the general partner of FMC-AG & Co. KGaA, is a wholly owned subsidiary of Fresenius SE & Co. KGaA. Through this structure, Fresenius SE & Co. KGaA has rights that give Fresenius SE & Co. KGaA the ability to direct the relevant activities that significantly affect the earnings of FMC-AG & Co. KGaA. Therefore, FMC-AG & Co. KGaA is fully consolidated in the consolidated financial statements of the Fresenius Group.

Fresenius SE & Co. KGaA continued to hold 100% of the management companies of the business segments Fresenius Kabi (Fresenius Kabi AG) as well as Fresenius Helios and Fresenius Vamed (both held through Fresenius ProServe GmbH) on December 31, 2021. Through Fresenius ProServe GmbH, Fresenius SE & Co. KGaA holds 100% in Helios Kliniken GmbH and Helios Healthcare Spain S.L. (Quirónsalud), 100% in Helios Fertility Spain S.L.U. and Helios Healthcare USA, Inc. (Eugin group) as well as a 77% stake in VAMED Aktiengesellschaft. In addition, Fresenius SE & Co. KGaA consolidates companies with corporate holding functions regarding real estate, financing and insurance, as well as in Fresenius Digital Technology GmbH which provides intercompany services in the field of information technology.

The reporting currency and functional currency of the Fresenius Group is the euro. In order to improve the clarity of presentation, amounts are generally presented in million euros. Amounts less than €1 million, after rounding, are marked with "0".

II. BASIS OF PRESENTATION

Fresenius SE & Co. KGaA, as a stock exchange listed company with a domicile in a member state of the European Union (EU), fulfills its obligation to prepare and publish the consolidated financial statements in accordance with the International Financial Reporting Standards (IFRS) as adopted by the EU and applying Section 315e of the German Commercial Code (HGB). The consolidated financial statements of Fresenius SE & Co. KGaA at December 31, 2021 have been prepared and are published in accordance with the Standards and interpretations in effect on the reporting date, and endorsed in the EU, as issued by the International Accounting Standards Board (IASB) and the IFRS Interpretations Committee (IFRS IC).

In order to improve the clarity of presentation, various items are aggregated in the consolidated statement of financial position and in the consolidated statement of income. These items are shown separately in the notes to provide useful information to the readers of the consolidated financial statements.

Moreover, the notes include information required by HGB according to Section 315e (1) HGB. The consolidated financial statements include a management report according to Section 315e HGB in conjunction with Section 315 HGB.

The consolidated statement of financial position contains all information required to be disclosed by International Accounting Standard (IAS) 1, Presentation of Financial Statements, and are in accordance with Accounting Interpretation 1 (AIC 1, Balance Sheet Classification according to current/non-current distinction in compliance with IAS 1) classified on the basis of the liquidity of assets and liabilities following the consolidated statement of financial position. The consolidated statement of income is classified using the cost-of-sales accounting format.

The general partner of Fresenius SE & Co. KGaA is Fresenius Management SE. Fresenius Management SE prepares its own consolidated financial statements. The Else Kröner-Fresenius-Stiftung is the sole shareholder of Fresenius Management SE. The shareholder representatives elect in the Annual General Meeting of Fresenius Management SE its Supervisory Board.

At February 21, 2022, the Management Board of Fresenius Management SE authorized the consolidated financial statements for issue and passed it to the Supervisory Board of Fresenius SE & Co. KGaA. The Supervisory Board has to review and approve the consolidated financial statements.

III. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a) Principles of consolidation

The consolidated financial statements have been prepared using uniform accounting methods. Acquisitions of companies are accounted for applying the purchase method. Capital consolidation is performed at the date of acquisition. Initially, all identifiable assets and liabilities of subsidiaries as well as the noncontrolling interests are recognized at their fair values. The cost is then compared with the fair value of the net assets acquired. Any remaining balance is recognized as goodwill and is tested at least once a year for impairment.

All intercompany sales, expenses, income, receivables and payables are eliminated. Profits and losses on items of property, plant and equipment and inventory acquired from other Group entities are also eliminated. Deferred tax assets and liabilities are recognized on temporary differences resulting from consolidation procedures.

Noncontrolling interests are the portion of equity of Group entities not attributable, directly or indirectly, to Fresenius SE & Co. KGaA and are recognized at fair value at the date of first consolidation. Profits and losses attributable to the noncontrolling interests are separately disclosed in the consolidated statement of income.

The Fresenius Group writes put options on noncontrolling interests, primarily in the segment Fresenius Medical Care for dialysis clinics in which nephrologists or nephrology groups own an equity interest. Generally, put options are valid for an unlimited time and provide for settlement in cash. As far as the Fresenius Group, as option writer of existing put options, can be obliged to purchase noncontrolling interests held by third parties, a put option liability is recorded in long-term provisions and other long-term liabilities as well as short-term provisions and other short-term liabilities at present value of the redemption amount at the date of the consolidated financial statements. The Fresenius Group, in line with IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors, paragraph 10, applies the present access method. According to the present access method, noncontrolling interests are further recorded in equity. The initial recognition of the put option liability, as well as valuation differences, are recorded in equity with no impact to the consolidated statement of income.

b) Composition of the Group

Besides Fresenius SE & Co. KGaA, the consolidated financial statements include all material subsidiaries according to IFRS 10, over which Fresenius SE & Co. KGaA has control. Fresenius SE & Co. KGaA controls an entity if it has power over the entity. That is, Fresenius SE & Co. KGaA has existing rights that give Fresenius SE & Co. KGaA the current ability to direct the relevant activities, which are the activities that significantly affect the entity's return. In addition, Fresenius SE & Co. KGaA is exposed to, or has rights to, variable returns from the involvement with the entity and Fresenius SE & Co. KGaA has the ability to use its power over the entity to affect the amount of Fresenius SE & Co. KGaA's return.

Generally, entities in which Fresenius SE & Co. KGaA, directly or indirectly, holds more than 20% and less than 50% of the voting rights and can exercise a significant influence over their financial and operating policies are considered associates. There are no investments in equity method investees that are individually material to the Fresenius Group. Fresenius Medical Care's investment in Vifor Fresenius Medical Care Renal Pharma Ltd. makes up a large portion of the equity method investees, however it is not individually material to the Fresenius Group. Associates are accounted for using the equity method. Investments that are not classified as associated companies are recorded at fair value.

Fresenius Vamed participates in project entities which are established for long-term defined periods of time and for the specific purpose of constructing and operating thermal centers. These project entities are not controlled by Fresenius Vamed and therefore are not consolidated. The project entities generated approximately €113 million in sales in 2021 (2020: €85 million). The project entities finance themselves mainly through debt, profit participation rights and investment grants. Assets and liabilities relating to the project entities are not material. Fresenius Vamed made no payments to the project entities other than contractually stipulated. From today's perspective and due to the contractual situation, Fresenius Vamed is not exposed to any material risk of loss from these project entities.

The consolidated financial statements of 2021 included, in addition to Fresenius SE & Co. KGaA, 3,159 (2020: 2,856) consolidated companies and 84 (2020: 71) companies were accounted for under the equity method. In 2021, there were no material changes in the scope of consolidated entities, except for those mentioned in note 2, Acquisitions, divestitures and investments.

The complete list of the investments of Fresenius SE & Co. KGaA, registered office in 61352 Bad Homburg v. d. H., Else-Kröner-Straße 1, Germany, registered in the Commercial Register of the local court in Bad Homburg v. d. H. under B11852, will be submitted to the Federal Gazette and the companies register as well as published on the website of Fresenius SE & Co. KGaA (www.fresenius.com/financial-reports-and-presentations).

For the fiscal year 2021, the following consolidated German subsidiaries of the Fresenius Group will apply the exemption provided in Sections 264 (3) and 264b, respectively, of the German Commercial Code (HGB):

Name of the company	Registered office
Corporate	
Fresenius Digital Technology GmbH	Bad Homburg v. d. H.
Fresenius Immobilien-Verwaltungs-GmbH & Co. Objekt Friedberg KG	Bad Homburg v. d. H.
Fresenius Immobilien-Verwaltungs-GmbH & Co. Objekt St. Wendel KG	Bad Homburg v. d. H.
Fresenius Immobilien-Verwaltungs-GmbH & Co. Objekt Schweinfurt KG	Bad Homburg v. d. H.
Fresenius ProServe GmbH	Bad Homburg v. d. H.
FPS Immobilien Verwaltungs GmbH & Co. Reichenbach KG	Bad Homburg v. d. H.
ProServe Krankenhaus Beteiligungsgesellschaft mbH & Co. KG	München
Fresenius Kabi	
Fresenius HemoCare GmbH	Bad Homburg v. d. H.
Fresenius HemoCare Beteiligungs GmbH	Bad Homburg v. d. H.
Fresenius Kabi AG	Bad Homburg v. d. H.
Fresenius Kabi Deutschland GmbH	Bad Homburg v. d. H.
Fresenius Kabi Logistik GmbH	Friedberg
MC Medizintechnik GmbH	Alzenau
medi1one medical gmbh	Waiblingen

Name of the company	Registered office
Fresenius Helios	
Gesundheitsmanagement Elbe-Fläming GmbH	Burg
Helios Agnes-Karll Krankenhaus GmbH	Bad Schwartau
Helios Aukamm-Klinik Wiesbaden GmbH	Wiesbaden
Helios Bördeklinik GmbH	Oschersleben
Helios Fachklinik Schleswig GmbH	Schleswig
Helios Fachklinik Vogelsang-Gommern GmbH	Gommern
Helios Fachkliniken Hildburghausen GmbH	Hildburghausen
Helios Frankenwaldklinik Kronach GmbH	Kronach
Helios Hanseklinikum Stralsund GmbH	Stralsund
Helios Health GmbH	Berlin
Helios Klinik Blankenhain GmbH	Blankenhain
Helios Klinik Bleicherode GmbH	Bleicherode
Helios Klinik für Herzchirurgie Karlsruhe GmbH	Karlsruhe
Helios Klinik Herzberg/Osterode GmbH	Herzberg am Harz
Helios Klinik Jerichower Land GmbH	Burg
Helios Klinik Leezen GmbH	Leezen
Helios Klinik Leisnig GmbH	Leisnig
Helios Klinik Lengerich GmbH	Lengerich
Helios Klinik Köthen GmbH	Köthen (Anhalt)
Helios Klinik Rottweil GmbH	Rottweil
Helios Klinik Schkeuditz GmbH	Schkeuditz
Helios Klinik Schleswig GmbH	Schleswig
Helios Klinik Volkach GmbH	Volkach
Helios Klinik Wipperfürth GmbH	Wipperfürth
Helios Klinik Zerbst/Anhalt GmbH	Zerbst
Helios Kliniken GmbH	Berlin
Helios Kliniken Breisgau Hochschwarzwald GmbH	Müllheim

Name of the company	Registered office
Fresenius Helios	
Helios Kliniken Mansfeld-Südharz GmbH	Sangerhausen
Helios Kliniken Mittelweser GmbH	Nienburg/Weser
Helios Kliniken Taunus GmbH	Bad Schwalbach
Helios Klinikum Aue GmbH	Aue
Helios Klinikum Bad Saarow GmbH	Bad Saarow
Helios Klinikum Berlin-Buch GmbH	Berlin
Helios Klinikum Erfurt GmbH	Erfurt
Helios Klinikum Gifhorn GmbH	Gifhorn
Helios Klinikum Gotha GmbH	Gotha
Helios Klinikum Hildesheim GmbH	Hildesheim
Helios Klinikum Meiningen GmbH	Meiningen
Helios Klinikum Pirna GmbH	Pirna
Helios Klinikum Schwelm GmbH	Schwelm
Helios Klinikum Siegburg GmbH	Siegburg
Helios Klinikum Uelzen GmbH	Uelzen
Helios Klinikum Wuppertal GmbH	Wuppertal
Helios Park-Klinikum Leipzig GmbH	Leipzig
Helios Privatkliniken GmbH	Bad Homburg v. d. H.
Helios Reinigung GmbH	Berlin
Helios Spital Überlingen GmbH	Überlingen
Helios St. Elisabeth Klinik Oberhausen GmbH	Oberhausen
Helios St. Elisabeth-Krankenhaus Bad Kissingen	Bad Kissingen
Helios St. Marienberg Klinik Helmstedt GmbH	Helmstedt
Helios Versorgungszentren GmbH	Berlin
Helios Vogtland-Klinikum Plauen GmbH	Plauen
Helios Weißeritztal-Kliniken GmbH	Freital
Herzzentrum Leipzig GmbH	Leipzig
Kliniken Miltenberg-Erlenbach GmbH	Erlenbach
Medizinisches Versorgungszentrum am Helios Klinikum Bad Saarow GmbH	Bad Saarow
MVZ Campus Gifhorn GmbH	Gifhorn
Poliklinik am Helios Klinikum Buch GmbH	Berlin

c) Classifications

Comparative information for certain items have been reclassified to conform with current year's presentation.

In the business segment Fresenius Medical Care, in the consolidated statement of income, gain related to divestitures of Care Coordination activities in the amount of €31 million for the year ended December 31, 2020, which was previously presented separately, has been included within other operating income.

Furthermore, in the business segment Fresenius Medical Care, in the consolidated statement of financial position as of December 31, 2020, short-term provisions and other short-term liabilities in the amount of €103 million related to the self-insurance program have been reclassified to long-term provisions and other long-term liabilities.

d) Hyperinflationary accounting

Fresenius Group's subsidiaries operating in Argentina and Lebanon apply IAS 29, Financial Reporting in Hyperinflationary Economies, due to inflation in those countries. For the fiscal year 2021, the application of IAS 29 resulted in an effect on net income attributable to shareholders of Fresenius SE & Co. KGaA of -€18 million (2020:-€14 million).

e) Revenue recognition policy

Revenue is recognized in accordance with IFRS 15, Revenue from Contracts with Customers.

Revenues from services and products are billed according to the usual contract arrangements with customers, patients and related third parties. For services performed for patients, the transaction price is estimated based on either Fresenius Group's standard rates, rates determined under reimbursement arrangements or by government regulations. These arrangements are generally with third party payors, such as U.S. Medicare, U.S. Medicaid, German health insurance funds or commercial insurers. Amounts billed are recorded net of contractually agreed upon discounts or rebates to reflect the estimated amounts to be received from these payors. Estimates are determined on the basis of historical experience.

If the collection of the billed amount or a portion of the billed amount for services performed for patients is considered to be uncertain at the time services are performed, the Fresenius Group concludes that the consideration is variable (implicit price concession) and records the difference between the billed amount and the amount estimated to be collectible as a reduction to health care services revenue. Implicit price concessions include such items as amounts due from patients without adequate insurance coverage and patient co-payment and deductible amounts due from patients with health care coverage. The Fresenius Group determines implicit price concessions primarily upon past collection history.

Revenue from services is recognized on the date the service is performed. At this point of time, the payor is obliged to pay for the services performed.

Revenue from product sales is recognized when the customer obtains control of the product, either after possession is transferred or upon installation and provision of the necessary technical instructions or at another point in time that better defines transfer of control.

A portion of revenues is generated from contracts which on the one hand give the customer the right to use dialysis machines and on the other hand provide the customer with disposables and services. In this case, the transaction price is allocated in accordance with IFRS 15, and revenue is recognized separately for the lease and the non-lease components of the contract in accordance with IFRS 16 and IFRS 15, respectively.

Fresenius Vamed has performance obligations from long-term production contracts that are satisfied over time. Revenue is recognized according to progress towards completion. This progress towards completion of the performance obligation is measured based on the costs incurred in relation to expected total costs of fulfilling the contract, contractually defined milestones or performance completed to date whichever better reflects the progress towards completion of the performance obligation.

IFRS 15 does not apply to lease and insurance contracts. Revenue from leasing components and insurance contracts is determined according to IFRS 16 and IFRS 4, respectively.

Revenues are reported net of sales tax.

f) Government grants

The Fresenius Group primarily receives governmental funding for hospitals in Germany to finance buildings and medical equipment. Public sector grants are not recognized until there is reasonable assurance that the respective conditions are met and the grants will be received. Initially, the grant related to assets is recorded as a liability and as soon as the asset is acquired, the grant is offset against the acquisition costs. Grants related to income are recognized in other operating income in the period in which the related costs are incurred. For information regarding COVID-19 related government grants, please see note 13, Impacts of the COVID-19 pandemic.

g) Research and development expenses

Research is the independent and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding. Development is the technical and commercial implementation of research results and occurs before the start of the commercial production or use. The research and development phase of pharmaceutical products normally ends with the regulatory approval by the relevant authorities on the market of the particular country. Generally, a new pharmaceutical product is primarily approved in an established market, such as Europe, the United States, China and Japan.

Research expenses are expensed as incurred. Development expenses that meet the criteria for the recognition of an intangible asset are capitalized (see note 1. III. n., Intangible assets with finite useful lives).

h) Impairment

The Fresenius Group reviews the carrying amounts of its property, plant and equipment, intangible assets and right-of-use assets as well as other non-current assets for impairment whenever events or changes in circumstances indicate that the carrying amount is higher than the asset’s recoverable amount. The recoverable amount is the higher of the fair value less costs to sell and its value in use. The fair value less cost of disposal of an asset is estimated as its net realizable value. The value in use is the present value of future cash flows expected to be derived from the relevant asset. If it is not possible to estimate the future cash flows from the individual assets, impairment is tested on the basis of corresponding cash generating units.

Impairment losses, except impairment losses recognized on goodwill, are reversed if there are indications that the reasons for impairment no longer exist and there has been a change in the estimates used to determine the asset's recoverable amount. This reversal shall not exceed the carrying amount that would have been determined had no impairment loss been recognized before.

Assets held for sale are reported at the lower of their carrying amount and fair value less costs to sell and depreciation is ceased.

i) Capitalized interest

The Fresenius Group includes capitalized interest as part of the cost of the asset if it is directly attributable to the acquisition, construction or manufacture of qualifying assets. For the fiscal years 2021 and 2020, interest of €7 million and €12 million, respectively, based on an average interest rate of 2.40% and 2.57%, respectively, was recognized as a component of the cost of assets.

j) Income taxes

Current taxes are calculated based on the earnings of the fiscal year and in accordance with local tax rules of the respective tax jurisdictions. Expected and executed additional tax payments and tax refunds for prior years are also taken into account.

Deferred tax assets and liabilities are recognized for the future consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Furthermore, deferred taxes are recognized on certain consolidation adjustments which affect net income attributable to shareholders of Fresenius SE & Co. KGaA. Deferred tax assets also include claims for tax reductions which arise from the probable expected use of existing tax losses carryforwards. The recognition of deferred tax assets from net operating losses and their utilization is based on the budget planning of the Fresenius Group and implemented tax strategies.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates that have been enacted or substantially enacted by the end of the reporting period.

A change in tax rate for the calculation of deferred tax assets and liabilities is recognized in the period the new laws are enacted or substantively enacted. The effects of the adjustment are generally recognized in the income statement. The effects of the adjustment are recognized in equity, if the temporary differences are related to items directly recognized in equity.

The realizability of the carrying amount of a deferred tax asset is reviewed at each date of the statement of financial position. In assessing the realizability of deferred tax assets, the Management considers to which extent it is probable that the deferred tax asset will be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences and tax loss carryforwards become deductible. The Management considers the expected reversal of deferred tax liabilities and projected future taxable income in making this assessment.

Deferred tax assets are recognized to the extent it is probable that sufficient taxable income will be available for the utilization of parts or of the entire deferred tax asset.

The Fresenius Group recognizes assets and liabilities for uncertain tax treatments to the extent it is probable the tax will be recovered or that the tax will be payable, respectively. In North America and Germany, interest and penalties related to income taxes, including uncertain tax treatments, do not meet the definition of income taxes, and therefore are accounted for under IAS 37. All other jurisdictions account for interest and penalties related to income taxes in accordance with local tax rules of the respective tax jurisdiction either under IAS 37 or as income tax expense under IAS 12.

The Fresenius Group is subject to ongoing and future tax audits in the United States, Germany and other jurisdictions. Different interpretations of tax laws, particularly due to the Fresenius Group's international activities, may lead to potential additional tax payments or tax refunds for prior years. To consider income tax liabilities or income tax receivables, Management's estimates are based on experiences with previous tax audits and local tax rules of the respective tax jurisdiction and the interpretation of such. Differences between actual results and Management's estimates or future changes in these estimates may have an impact on future tax payments or tax refunds. Estimates are revised in the period in which there is sufficient evidence to revise the assumptions.

The German Federal Constitutional Court has declared that the interest rate pursuant to Section 233a of the German Tax Code is unconstitutional in its current form. As a result, there is uncertainty over the specific interest rate to be applied for interest on income tax receivables and liabilities in Germany for future periods, starting in 2019. Until new legal regulations are passed, this interest rate can only be determined using best estimates consistent with accounting standards. For best possible harmonization of opportunity and risk, Management has used a conservative approach at the reporting date as part of its discretionary decision, considering all available information and explanations of the judgment. As of December 31, 2021, the chosen interest rate is 0.375% per month.

k) Earnings per share

Basic earnings per share are computed by dividing net income attributable to shareholders of Fresenius SE & Co. KGaA by the weighted average number of ordinary shares outstanding during the year. Diluted earnings per share include the effect of all potentially dilutive instruments on ordinary shares that would have been outstanding during the fiscal year. The equity-settled awards granted under Fresenius' and Fresenius Medical Care's stock option plans can result in a dilutive effect.

l) Inventories

Inventories are comprised of all assets which are held for sale in the ordinary course of business (finished goods), in the process of production for such sale (work in process) or consumed in the production process or in the rendering of services (raw materials and purchased components).

Inventories are measured at the lower of acquisition and manufacturing cost (determined by using the average or first-in, first-out method) or net realizable value. Manufacturing costs are comprised of direct costs, production and material overhead, including depreciation charges.

m) Property, plant and equipment

Property, plant and equipment are stated at acquisition and manufacturing cost less accumulated depreciation. Repairs and maintenance costs are recognized in profit and loss as incurred. The costs for the replacement of components or the general overhaul of property, plant and equipment are recognized, if it is probable that future economic benefits will flow to the Fresenius Group and these costs can be measured reliably. Depreciation on property, plant and equipment is calculated using the straight-line method over the estimated useful lives of the assets ranging from 3 to 50 years for buildings and improvements (with a weighted average life of 16 years) and 2 to 15 years for machinery and equipment (with a weighted average life of 11 years).

n) Intangible assets with finite useful lives

Intangible assets with finite useful lives, such as patents, product and distribution rights, customer relationships, non-compete agreements, technology as well as licenses to manufacture, distribute and sell pharmaceutical drugs are recognized and reported apart from goodwill and are amortized using the straight-line method over their respective useful lives to their residual values and reviewed for impairment (see note 1. III. h, Impairment). Patient relationships however are not reported as separate intangible assets due to the missing contractual basis but are part of goodwill. The useful lives of patents, product and distribution rights range from 5 to 20 years, the average useful life is 13 years. The useful lives of customer relationships vary from 10 to 30 years, the average useful life is 18 years. Non-compete agreements with finite useful lives have useful lives ranging from 3 to 25 years with an average useful life of 7 years. Technology is amortized over a finite useful live of 15 years. Licenses to manufacture, distribute and sell pharmaceutical drugs are amortized over the contractual license period. All other intangible assets are amortized over their individual estimated useful lives between 3 and 15 years.

Losses in value of a lasting nature are recorded as an impairment and are reversed if there are indications that the reasons for impairment no longer exist and there has been a change in the estimates used to determine the asset's recoverable amount. This reversal shall not exceed the carrying amount that would have been determined had no impairment loss been recognized before.

Development costs are capitalized as manufacturing costs when the recognition criteria are met.

For development costs of dialysis machines manufactured by Fresenius Medical Care, the timing of the recognition as assets is based on the technical utilizability of the machines. The useful lives of capitalized development costs vary from 5 to 20 years, the average useful life is 7 years.

Fresenius Kabi capitalizes development costs as soon as the registration of a new product is very likely. This mainly applies if a product is already approved on an established market. Costs are amortized on a straight-line basis over the expected useful lives. In 2021, reversals of write-downs and impairments were recorded (see note 7, Research and development expenses).

o) Goodwill and other intangible assets with indefinite useful lives

The Fresenius Group identified intangible assets with indefinite useful lives because, based on an analysis of all of the relevant factors, there is no foreseeable limit to the period over which those assets are expected to generate net cash inflows for the Group. The identified intangible assets with indefinite useful lives such as tradenames acquired in a purchase method business combination are recognized and reported apart from goodwill. They are recorded at fair value at acquisition.

Any excess of the net fair value of identifiable assets and liabilities over cost still existing after reassessing the purchase price allocation subsequent to its finalization is recognized immediately in the consolidated statement of income.

Goodwill and intangible assets with indefinite useful lives are not amortized but tested for impairment annually or when an event becomes known that could trigger an impairment (impairment test).

To perform the annual impairment test of goodwill, the Fresenius Group identified several cash generating units (CGUs) and determined the carrying amount of each CGU by assigning the assets and liabilities, including the existing goodwill and intangible assets, to those CGUs. A CGU is usually defined one level below the segment level based on regions or the nature of the business activity. Four CGUs were identified in the segments Fresenius Medical Care and Fresenius Kabi, respectively (Europe (Fresenius Medical Care: EMEA), Latin America, Asia-Pacific and North America). According to the regional organizational structure, the segment Fresenius Helios consists of two CGUs, Germany and Spain. In addition, an impairment test was performed for the Eugin Group which was acquired in 2021. The segment Fresenius Vamed consists of two

CGUs (Project business and Service business). At least once a year, the Fresenius Group compares the value in use of each CGU to the CGU's carrying amount. The recoverable amount as its value in use of a CGU is determined using a discounted cash flow approach based upon the cash flow expected to be generated by the CGU. In case that the value in use of the CGU is less than its carrying amount and the fair value less cost of disposal is not estimated to be higher than the value in use, the difference is at recorded as an impairment of the carrying amount of the CGU goodwill.

To evaluate the recoverability of intangible assets with indefinite useful lives, the Fresenius Group compares the recoverable amounts of the smallest identifiable group of assets that generate largely independent cash inflows with their carrying values. An intangible asset's fair value is determined using a discounted cash flow approach or other methods, if appropriate.

The recoverability of goodwill and other intangible assets with indefinite useful lives recorded in the Group's consolidated statement of financial position was verified. Therefore, in 2021, no impairment losses were recorded. In 2020, the Fresenius Group recorded an impairment of goodwill and tradenames of the CGU Fresenius Medical Care Latin America of €195 million.

p) Leases

A lease is defined as a contract that conveys the right to use an underlying asset for a period of time in exchange for consideration.

The Fresenius Group decided not to apply the guidance within IFRS 16 to leases with a total maximum term of twelve months (short-term leases) and leases for underlying assets of low value. These leases are exempt from balance sheet recognition and lease payments will be recognized as expenses over the lease term.

IFRS 16 is not applied to leases of intangible assets.

Lease liabilities

Lease liabilities are recognized at the present value of the following payments:

- fixed lease payments (including in-substance fixed payments), less any lease incentives receivable,
- variable lease payments, that are linked to an index or interest rate,
- expected payments under residual value guarantees,
- the exercise price of purchase options, where exercise is reasonably certain,
- lease payments in optional renewal periods, where exercise of extension options is reasonably certain, and
- penalty payments for the termination of a lease, if the lease term reflects the exercise of the respective termination option.

IFRS 16 requires the Fresenius Group to make judgments that affect the valuation of lease liabilities as well as right-of-use assets, including the determination of which contracts are within the scope of IFRS 16, identifying the contract lease term and determining the incremental borrowing rate.

With the "reasonably certain" assessments, the Fresenius Group determines if and which future costs based on extension and/or termination options have to be included in the lease liabilities. During these assessments, the Fresenius Group considers all relevant facts and circumstances that create an economic incentive for the Fresenius Group to exercise, or not to exercise, an option, including any expected changes in facts and circumstances (e.g., contract-, object-, entity- or market-specific factors) from the commencement date until the exercise date of the option. Additionally, the Fresenius Group's historical practice regarding the period over which it has typically used particular types of assets, and its economic reasons for doing so, is also relevant. Unrecognized extension options are shown as potential future cash outflows (see note 31, Leases).

Lease payments are discounted using the implicit interest rate underlying the lease if this rate can be readily determined. Otherwise, the incremental borrowing rate of the lessee is used as the discount rate.

Lease liabilities are subsequently measured at amortised cost using the effective interest method. Furthermore, lease liabilities may be remeasured due to lease modifications or reassessments of the lease.

The incremental borrowing rate is determined when the Fresenius Group initiates a lease contract or changes an existing lease. The interest rate is calculated based on the following components: available interest rate sampling points, group risk margins, shadow rating (credit risk) margins, country risk margins, handling margins and other risk margins.

For lease contracts that include both lease and non-lease components that are not separable from lease components, no allocation is performed. Each lease component and any associated non-lease components are accounted for as a single lease.

Right-of-use assets

Right-of-use asset are stated at cost, which comprises of:

- lease liability amount,
- initial direct costs incurred when entering into the lease,
- (lease) payments before commencement date of the respective lease, and
- an estimate of costs to dismantle and remove the underlying asset,
- less any lease incentives received.

Right-of-use assets are depreciated over the shorter of the lease term or the useful life of the underlying asset using the straight-line method. Where a lease agreement includes a transfer of ownership at the end of the lease term or the exercise of a purchase option is deemed reasonably certain, right-of-use assets are depreciated over the useful life of the underlying asset using the straight-line method. In addition, right-of-use assets are reduced by impairment losses, if any, and adjusted for certain remeasurements.

Right-of-use assets from lease contracts are classified in accordance with the Fresenius Group's classification of property plant and equipment:

- Right-of-use assets: land
- Right-of-use assets: buildings and improvements
- Right-of-use assets: machinery and equipment

In addition to the right-of-use asset categories above, advanced payments on right-of-use assets are presented separately. Right-of-use assets from lease contracts and lease liabilities are presented separately from property, plant and equipment and other financial debt in the consolidated statement of financial position.

q) Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Purchases and sales of financial assets are accounted for on the trading day. Furthermore, the Fresenius Group does not make use of the fair value option, which allows financial liabilities to be classified at fair value through profit or loss upon initial recognition. The Fresenius Group elects to represent changes in the fair value of selected equity investments that are not held for trading in other comprehensive income (loss).

Financial instruments are allocated to categories following the analysis of the business model and cash flow characteristics as required by IFRS 9, Financial Instruments. The following categories are relevant for the Fresenius Group: financial assets and liabilities measured at amortized cost, financial assets and liabilities measured at fair value through profit and loss and financial assets measured at fair value through other comprehensive income (loss). The reconciliation of the categories to the positions in the consolidated statement of financial position is shown in tabular form in note 32, Financial instruments.

Cash and cash equivalents

Cash and cash equivalents comprise cash funds and all short-term investments with maturities of up to three months. Short-term investments are highly liquid and readily convertible into known amounts of cash. The risk of changes in value is insignificant.

Trade accounts and other receivables
Trade accounts and other receivables are stated at their nominal value less lifetime expected credit losses.

Impairments
According to IFRS 9, impairments are recognized on the basis of expected credit losses (expected credit loss model). The Fresenius Group recognizes a loss allowance for expected credit losses on financial assets measured at amortized cost, contract assets and lease receivables as well as for investments in debt instruments measured at fair value through other comprehensive income.

The Fresenius Group recognizes loss allowances for expected credit losses (allowance for doubtful accounts) mainly for trade accounts receivable and cash and cash equivalents. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective instrument.

For trade accounts receivable, the Fresenius Group uses the simplified method which requires recognizing lifetime expected credit losses.

Expected credit losses on cash and cash equivalents are measured according to the general method based on IFRS 9. A significant increase in credit risk will be assessed based on available qualitative as well as quantitative information. Based on external credit ratings of the counterparties, the Fresenius Group considers that its cash and cash equivalents have a low credit risk.

The Fresenius Group does not expect any material credit losses from financial instruments that are measured according to the general approach.

The allowances are estimates comprised of customer and financial asset specific evaluations regarding payment history, current financial stability, and applicable future economic conditions.

Financial assets whose expected credit loss is not assessed individually are allocated to geographical regions. The impairment is generally assessed on the basis of regional macroeconomic indicators such as credit default swaps or scoring models.

Due to the number of transactions and geographical regions that the Fresenius Group operates in, the Fresenius Group's policy of determining when an individual expected credit loss is required considers the appropriate individual local facts and circumstances that apply to an account. While payment and collection practices vary significantly between countries and even agencies within one country, government payors usually represent low to moderate credit risks. It is the Fresenius Group's policy to determine when receivables should be classified as bad debt on a local basis taking into account local payment practices and local collection experience.

In case of objective evidence of a detrimental impact on the estimated future cash flows of a financial asset, the asset is considered to be credit impaired. This is generally the case after more than 360 days overdue, at the latest.

When a counterpart defaults, all financial assets against this counterpart are considered impaired. The definition of default is mainly based on payment practices specific to individual regions and businesses.

For further information regarding impairments, please see note 1. IV. c, Critical accounting policies.

Put option liabilities
The Fresenius Group, as option writer of existing put options, can be obligated to purchase noncontrolling interests held by third parties. Put option liabilities are recognized at the present value of the exercise price of the option, to the extent the terms triggering exercise are considered genuine. If these put options were exercised, the Fresenius Group would be required to purchase all or part of the third-party owners' noncontrolling interests at the appraised fair value at the time of exercise.

The methodology the Fresenius Group uses to estimate the fair values of the put option liabilities assumes the greater of net book value or a multiple of earnings, based on historical earnings, the development stage of the underlying business and other factors. From time to time the Fresenius Group engages external valuation firms for the valuation of the put options. The external valuation estimates the fair values using a combination of discounted cash flows and a multiple of earnings and/or revenue. When applicable, the obligations are discounted at a pre-tax discount rate which reflects the interest effects and current market assessments of the time value of money and the specific risk of the liability. The estimated fair values of the put options can also fluctuate and the discounted cash flows as well as the implicit multiple of earnings and/or revenue at which these obligations may ultimately be settled could vary significantly from Fresenius Group's current estimates depending on market conditions.

Derivative financial instruments

Derivative financial instruments, which primarily include foreign currency forward contracts and interest rate swaps, are recognized at fair value as assets or liabilities in the consolidated statement of financial position. The effective portion of changes in fair value of cash flow hedges is recognized in accumulated other comprehensive income (loss) in shareholders' equity until the secured underlying transaction is realized (see note 32, Financial instruments). Based on the spot rate changes of hedged items and hedging instruments, the ineffective portion of cash flow hedges is recognized in current earnings. Changes in the fair value of derivatives that are not designated as hedging instruments are recognized in earnings.

Derivatives embedded in host contracts with a financial liability as host contract are accounted for as separate derivatives if their economic characteristics and risks are not closely related to those of the host contracts. These embedded derivatives are measured at fair value with changes in fair value recognized in the income statement.

r) Liabilities

At the date of the statement of financial position, liabilities are generally stated at amortized cost, with the exception of contingent considerations resulting from a business combination, put option liabilities as well as derivative financial liabilities.

s) Legal contingencies

In the ordinary course of Fresenius Group's operations, the Fresenius Group is party to litigation and arbitration and is subject to investigations relating to various aspects of its business. The Fresenius Group regularly analyzes current information about such claims for probable losses and provides accruals for such matters, including the estimated legal expenses and consulting services in connection with these matters, as appropriate. The Fresenius Group utilizes its internal legal department as well as external resources for these assessments. In making the decision regarding the need for a loss accrual, the Fresenius Group considers the degree of probability of an unfavorable outcome and its ability to make a reasonable estimate of the amount of loss.

The filing of a suit or formal assertion of a claim or assessment, or the disclosure of any such suit or assertion, does not necessarily indicate that accrual of a loss is appropriate.

t) Provisions

Accruals for other obligations are recognized when there is a present obligation to a third party arising from past events, it is probable that the obligation will be settled in the future and the amount can be reliably estimated.

Provisions for warranties and complaints are estimated based on historical experience.

Non-current provisions with a remaining period of more than one year are discounted to the present value of the expenditures expected to settle the obligation.

u) Pension liabilities and similar obligations

Pension obligations for post-employment benefits are measured in accordance with IAS 19 (revised 2011), Employee Benefits, using the projected unit credit method, taking into account future salary and trends for pension increase.

The Fresenius Group uses December 31 as the measurement date when measuring the deficit or surplus of all plans.

Net interest costs are calculated by multiplying the pension liability at the beginning of the year with the discount rate utilized in determining the benefit obligation. The pension liability results from the benefit obligation less the fair value of plan assets.

Remeasurements include actuarial gains and losses resulting from the evaluation of the defined benefit obligation as well as from the difference between actual return on plan assets and the expected return on plan assets at the beginning of the year used to calculate the net interest costs. In the event of a surplus for a defined benefit pension plan, remeasurements can also contain the effect from Asset Ceiling, as far as this effect is not included in net interest costs.

Remeasurements are recognized in accumulated other comprehensive income (loss) completely. It is not allowed to reclassify the remeasurements in subsequent periods. Components of net periodic benefit cost are recognized in profit and loss of the period.

v) Debt issuance costs

Debt issuance costs related to a recognized debt liability are presented in the consolidated statement of financial position as a direct deduction from the carrying amount of that debt liability. Debt issuance costs related to undrawn credit facilities are presented in other assets. These costs are amortized over the term of the related obligation or credit facility.

w) Share-based compensation plans

The Fresenius Group measures its share-based compensation plans in accordance with IFRS 2, Share-based Payments.

The total cost of stock options granted to members of the Management Board and executive employees of the Fresenius Group at the grant date were measured using an option pricing model and are recognized as expense over the vesting period of the stock option plans.

The measurement date fair value of cash-settled phantom stocks granted to members of the Management Board and executive employees of the Fresenius Group (except for Fresenius Medical Care) and of cash-settled performance shares granted to members of the Management Board and executive employees of the Fresenius Group is calculated using the Monte Carlo simulation. The corresponding liability based on the measurement date fair value is accrued over the vesting period of the phantom stock and performance share plans.

The measurement date fair value of cash-settled phantom stocks granted to members of the Management Board and executive employees of Fresenius Medical Care is calculated using a binomial model. The corresponding liability based on the measurement date fair value is accrued over the vesting period of the phantom stock plans.

x) Self-insurance programs

Under the insurance programs for professional, product and general liability, auto liability, worker's compensation claims and medical malpractice claims, the largest subsidiary of Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA), located in the United States, is partially self-insured for professional liability claims. For all other coverage, FMC-AG & Co. KGaA assumes responsibility for incurred claims up to predetermined amounts, above which third party insurance applies. Reported liabilities for the year represent estimated future payments of the anticipated expense for claims incurred (both reported and incurred but not reported) based on historical experience and existing claim activity. This experience includes both the rate of claims incidence (number) and claim severity (cost) and is combined with individual claim expectations to estimate the reported amounts.

y) Foreign currency translation

The reporting and functional currency is the euro. Substantially all assets and liabilities of the foreign subsidiaries that use a functional currency other than the euro are translated at year-end exchange rates, while income and expense are translated at annual average exchange rates of the fiscal year. Adjustments due to foreign currency translation fluctuations are excluded from net earnings and are reported in accumulated other comprehensive income (loss). In addition, the translation adjustments of certain intercompany borrowings, which are of a long-term nature, are also reported in accumulated other comprehensive income (loss). Gains and losses arising from the translation of foreign currency positions as well as those arising from the elimination of foreign currency intercompany loans are recorded as other operating income or expenses, as far as they are not considered foreign equity instruments. In the fiscal year 2021, only immaterial losses resulted out of this translation.

The exchange rates of the main currencies affecting foreign currency translation developed as follows:

	Year-end exchange rate		Average exchange rate	
	December 31, 2021	December 31, 2020	**2021**	2020
U.S. dollar per €	1.133	1.227	1.183	1.142
Chinese renminbi per €	7.195	8.023	7.628	7.875
Argentinean peso per €	116.780	102.900	112.522	81.042
Australian dollar per €	1.562	1.590	1.575	1.655
Brazilian real per €	6.310	6.374	6.378	5.894
Japanese yen per €	130.380	126.490	129.877	121.846
Korean won per €	1,346.380	1,336.000	1,354.057	1,345.577
Pound sterling per €	0.840	0.899	0.860	0.890
Russian ruble per €	85.300	91.467	87.153	82.725
Swedish krona per €	10.250	10.034	10.146	10.485

z) Fair value hierarchy

The three-tier fair value hierarchy as defined in IFRS 13, Fair Value Measurement, classifies financial assets and liabilities recognized at fair value based on the inputs used in estimating the fair value. Level 1 is defined as observable inputs, such as quoted prices in active markets. Level 2 is in application of recognized financial mathematical models defined as inputs other than quoted prices in active markets that are directly or indirectly observable. Level 3 is defined as unobservable inputs for which little or no market data exists, therefore requiring the company to develop its own assumptions. The three-tier fair value hierarchy is used in note 32, Financial instruments.

aa) Use of estimates

The preparation of consolidated financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates. Estimates and judgmental assumptions are required in particular for the positions trade accounts receivable, deferred tax assets and pension liabilities as well as put option liabilities, contingent payments outstanding for acquisitions, equity investments and when examining the recoverability of goodwill.

bb) Receivables management

The entities of the Fresenius Group perform ongoing evaluations of the financial situation of their customers and generally do not require a collateral from the customers for the supply of products and provision of services. Approximately 13% and 16% of Fresenius Group's sales were earned and subject to the regulations under governmental health care programs, Medicare and Medicaid, administered by the United States government in 2021 and 2020, respectively.

cc) Recent pronouncements, applied

The Fresenius Group has prepared its consolidated financial statements at and for the year ended December 31, 2021 in conformity with IFRS, as adopted by the EU, that must be applied for fiscal years beginning on January 1, 2021.

For the year ended December 31, 2021, there were no recently implemented accounting pronouncements that had a material effect on the Fresenius Group's consolidated financial statements.

dd) Recent pronouncements, not yet applied

The International Accounting Standards Board (IASB) issued the following new standards relevant for the Fresenius Group and mandatory for fiscal years commencing on or after January 1, 2022:

IAS 1

In January 2020, the IASB issued **Amendments to IAS 1, Classification of Liabilities as Current and Non-current**. The amendments clarify under which circumstances debt and other liabilities with an uncertain settlement date should be classified as current or non-current. Among others, the amendments state that liabilities shall be classified depending on rights that exist at the end of the reporting period and define under which conditions liabilities might be settled by cash, other economic resources or equity. On July 15, 2020, the IASB deferred the effective date by one year to provide companies with more time to implement any classification changes resulting from the amendments. The amendments to IAS 1 are now effective for fiscal years beginning on or after January 1, 2023. Earlier adoption is permitted. The Fresenius Group is currently evaluating the impact of the amendments to IAS 1 on the consolidated financial statements.

IFRS 17

In May 2017, the IASB issued **IFRS 17, Insurance Contracts.** In June 2020 and December 2021, further amendments were published. IFRS 17 establishes principles for the recognition, measurement, presentation and disclosure related to the issuance of insurance contracts. IFRS 17 replaces IFRS 4, Insurance Contracts, which was brought in as an interim standard in 2004. IFRS 4 permitted the use of national accounting standards for the accounting of insurance contracts under IFRS. As a result of the varied application for insurance contracts, there was a lack of comparability among peer groups. IFRS 17 eliminates this diversity in practice by requiring all insurance contracts to be accounted for using current values. The frequent updates to the insurance values are expected to provide more useful information to users of financial statements. On June 25, 2020, the IASB issued amendments to IFRS 17, which among others, defer the effective date to fiscal years beginning on or after January 1, 2023. Earlier adoption is permitted for entities that have also adopted IFRS 9, Financial Instruments, and IFRS 15, Revenue from Contracts with Customers. The Fresenius Group is currently evaluating the impact of IFRS 17 on the consolidated financial statements.

The EU Commission's endorsement of the amendments to IAS 1 is still outstanding.

In the Fresenius Group's view, there are no other IFRS standards or interpretations not yet effective that would be expected to have a material impact on the consolidated financial statements.

ee) Impacts of the climate change on accounting

In 2021, the Fresenius Group analyzed potential sustainability risks in the areas of climate change and water scarcity. In both areas, the Fresenius Group has not identified any significant risks for its business model. Therefore, the Fresenius Group does not currently expect any material impact of sustainability risks on the accounting.

IV. CRITICAL ACCOUNTING POLICIES

In the opinion of the Management of the Fresenius Group, the following accounting policies and topics are critical for the consolidated financial statements in the present economic environment. The influences and judgments as well as the uncertainties which affect them are also important factors to be considered when looking at present and future operating earnings of the Fresenius Group.

a) Recoverability of goodwill and intangible assets with indefinite useful lives

The amount of goodwill and other non-amortizable intangible assets with indefinite useful lives represents a considerable part of the total assets of the Fresenius Group. At December 31, 2021 and December 31, 2020, the carrying amount of these was €29,220 million and €26,825 million, respectively. This represented 41% and 40%, respectively, of total assets.

An impairment test of goodwill and non-amortizable intangible assets with indefinite useful lives is performed at least once a year, or if events occur or circumstances change that would indicate the carrying amount may not be recoverable.

To determine possible impairments of these assets, the recoverable amount as its value in use of the cash generating units (CGUs) is compared to their carrying amount and the fair value less cost of disposal. The value in use of each CGU is determined using estimated future cash flows for the unit discounted by a weighted average cost of capital (WACC) specific to that CGU. Estimating the discounted future cash flows involves significant assumptions, especially regarding future reimbursement rates and sales prices, number of treatments, sales volumes and costs. In determining discounted cash flows, the Fresenius Group utilizes for every CGU its approved three-year budget, projections for years 4 to 10 and a corresponding growth rate for all remaining years. Projections for up to 10 years are possible due to historical experience and the stability of Fresenius Group's business, which is largely independent from the economic cycle. Except for the CGUs in Asia-Pacific, the CGUs' average revenue growth for the 10-year planning period is between 3% and 6%. In Asia-Pacific, the average growth is in the mid single-digit range for Fresenius Medical Care and in the upper single-digit range for

Fresenius Kabi. A significant part of goodwill is assigned to the CGUs of Fresenius Medical Care and Fresenius Kabi in North America (carrying amounts of goodwill as of December 31, 2021: €12,224 million and €4,212 million, respectively; December 31, 2020: €10,909 million and €3,918 million, respectively) as well as the CGUs of Fresenius Helios in Germany and Spain (carrying amounts of goodwill as of December 31, 2021: €4,804 million and €3,717 million, respectively; December 31, 2020: €4,576 million and €3,702 million, respectively). A significant part of the operating income is also achieved in these CGUs. For the 10-year planning period, the average growth of the operating income is in the low to mid single-digit range for these CGUs. For the period after 10 years, the growth rates are 1% to 4% for Fresenius Medical Care, 3% for Fresenius Kabi, 1% for Fresenius Helios (Germany), 1.5% for Fresenius Helios (Spain) and 1% for Fresenius Vamed. The growth rates of the main CGUs of Fresenius Medical Care and Fresenius Kabi in North America were 1% and 3%, respectively. The discount factor is determined by the WACC of the respective CGU. Fresenius Medical Care's WACC consisted of a basic rate of 4.57% and the WACC in the business segment Fresenius Kabi consisted of a basic rate of 5.43% for 2021, respectively. This basic rate is then adjusted by a country-specific risk premium and, if appropriate, by a factor to reflect higher risks associated with the cash flows from recent material acquisitions, until they are appropriately integrated, within each CGU. In 2021, WACCs (after tax) for the CGUs of Fresenius Medical Care ranged from 4.58% to 16.25% and WACCs (after tax) for the CGUs of Fresenius Kabi ranged from 5.99% to 7.47%. In the CGU Fresenius Helios (Germany), the WACC (after tax) was 5.43%, country-specific adjustments did not occur. In the CGU Fresenius Helios (Spain), the WACC (after tax) was 6.34%. In the business segment Fresenius Vamed, the WACC (after tax) was 5.60%. The WACCs (after tax) of the main CGUs of Fresenius Medical Care and Fresenius Kabi in North America were 4.58% and 6.02%, respectively.

If the value in use of the CGU is less than its carrying amount and the fair value less cost of disposal is not estimated to be higher than the value in use, the difference is recorded as an impairment of the CGU goodwill.

In 2021, no impairment was recognized. In 2020, as a result of the annual impairment test of goodwill, the Latin America CGU of Fresenius Medical Care recognized an impairment of goodwill and tradenames of €195 million to reduce the carrying amount of goodwill and tradenames. The impairment was driven by a macro-economic downturn and increasing risk adjustment rates for certain countries in Latin America. An increase of the WACC (after tax) by 0.5 percentage points would not have resulted in the recognition of an impairment loss in 2021. An increase of the WACC (after tax) of the CGU Fresenius Kabi Latin America (carrying amount of goodwill as of December 31, 2021: €121 million) by 4.13 percentage points would have led to the value in use being equal to the carrying amount. An increase of the WACC (after tax) of the CGU Fresenius Medical Care EMEA (carrying amount of goodwill as of December 31, 2021: €1,377 million) by 2.09 percentage points would have led to the value in use being equal to the carrying amount.

A decrease of the EBIT margin per annum of the CGU Fresenius Kabi Latin America by 4.08 percentage points and of the CGU Fresenius Medical Care EMEA by 3.49 percentage points would have led to the value in use being equal to the carrying amount.

A prolonged downturn in the health care industry with lower than expected increases in reimbursement rates and prices and / or higher than expected costs for providing health care services and for procuring and selling health care products or a significant increase of mortality of patients with chronic kidney diseases which may be attributable to COVID-19 could adversely affect the estimated future cash flows of certain countries or segments. Future adverse changes in a reporting unit's economic environment could affect the discount rate. A decrease in the estimated future cash flows and / or a decline in the reporting unit's economic environment could result in impairment charges to goodwill and other intangible assets with indefinite useful lives which could materially and adversely affect Fresenius Group's future operating results.

b) Legal contingencies

The Fresenius Group is involved in several legal matters arising from the ordinary course of its business. The outcome of these matters may have a material adverse effect on the financial position, results of operations or cash flows of the Fresenius Group. For details, please see note 30, Commitments and contingencies.

The Fresenius Group regularly analyzes current information about such claims for probable losses and provides accruals for such matters, including the estimated legal expenses and consulting services in connection with these matters, as appropriate. The Fresenius Group utilizes its internal legal department as well as external resources for these assessments. In making the decision regarding the need for a provision for legal matters, the Fresenius Group considers the degree of probability of an unfavorable outcome and its ability to make a reasonable estimate of the amount of loss.

The filing of a suit or formal assertion of a claim or assessment, or the disclosure of any such suit or assertion, does not necessarily indicate that a provision for a loss is appropriate.

c) Allowances for expected credit losses

Trade accounts receivable are a significant asset and the allowances for expected credit losses are a significant estimate made by the local Management. Trade accounts receivable were €7,045 million and €6,937 million in 2021 and 2020, respectively, net of allowance. Approximately 48% and 45%, respectively, of receivables derive from the business segment Fresenius Medical Care and mainly relate to the dialysis care business in North America.

The major debtors or debtor groups of trade accounts receivable were U.S. Medicare and Medicaid health care programs with 15%, private insurers in the United States with 7% as well as the public health authority of the region of Madrid with 15%, at December 31, 2021. Other than that, the Fresenius Group has no significant risk concentration, due to its international and heterogeneous customer structure.

The allowances for expected credit losses were €449 million and €401 million as of December 31, 2021 and December 31, 2020, respectively. A valuation allowance is calculated if specific circumstances indicate that amounts will not be collectible. When all efforts to collect a receivable, including the use of outside sources where required and allowed, have been exhausted, and after appropriate review by the local management, a receivable deemed to be uncollectible is considered a bad debt and written off.

Deterioration in the aging of receivables and collection difficulties could require that the Fresenius Group increases the estimates of allowances for expected credit losses. Additional expenses for uncollectible receivables could have a significant negative impact on future operating results.

d) Self-insurance programs

Under the insurance programs for professional, product and general liability, auto liability, worker's compensation claims and medical malpractice claims, the largest subsidiary of Fresenius Medical Care AG & Co. KGaA, located in the United States, is partially self-insured for professional liability claims. For further details regarding the accounting policies for self-insurance programs, please see note 1. III. x, Self-insurance programs.

2. ACQUISITIONS, DIVESTITURES AND INVESTMENTS

ACQUISITIONS, DIVESTITURES AND INVESTMENTS

The Fresenius Group made acquisitions, investments and purchases of intangible assets of €1,085 million and €902 million in 2021 and 2020, respectively. In 2021, of this amount, €999 million was paid in cash and €86 million was assumed obligations.

Fresenius Medical Care

In 2021, Fresenius Medical Care spent €628 million on acquisitions, mainly on the purchase of dialysis clinics.

In 2020, Fresenius Medical Care spent €407 million on acquisitions, mainly on the purchase of dialysis clinics.

Fresenius Kabi

In 2021, Fresenius Kabi spent €1 million on acquisitions, mainly for already planned acquisition related milestone payments relating to the acquisition of the biosimilars business.

In 2020, Fresenius Kabi spent €31 million on acquisitions, mainly for already planned acquisition related milestone payments relating to the acquisition of the biosimilars business.

Fresenius Helios

In 2021, Fresenius Helios spent €453 million on acquisitions, mainly for the purchase of the Eugin Group. Furthermore, subsequent purchase price payments for the Malteser hospital in Duisburg, Germany, were made and the DRK Kliniken Nordhessen in Kassel, Germany, were acquired. Moreover, Centro Oncológico de Antioquia S.A. and Clínica Clofán S.A. were acquired in Colombia.

Acquisition of the Eugin Group

On April 14, 2021, Fresenius Helios has finalized the complete acquisition of Luarmia S.L., Spain, holding company of all worldwide activities of the Eugin group, and of NMC Eugin US Corporation from NMC Health (together the Eugin Group), one of the leading international fertility groups. The purchase price is based on a valuation of €430 million. It includes acquired noncontrolling interests and debt of approximately €80 million. The noncontrolling interests are held by the respective senior doctors. The Eugin Group has been consolidated as of April 1, 2021.

Eugin Group's network comprised at the time of the acquisition 31 clinics and additional 34 sites across 9 countries on 3 continents. With about 1,300 employees, the company offers a wide spectrum of state-of-the-art services in the field of fertility treatments. With the acquisition of the Eugin Group, Fresenius Helios becomes a leading player in the dynamically growing market for fertility services and establishes a strong basis for further expansion.

The acquisition was financed through available cash and credit facilities. The purchase price was paid in cash.

The transaction was accounted for as a business combination whereby assets and liabilities and noncontrolling interests are recognized at their fair values. The allocation of the purchase price is based upon the best information available to management at present.

Based on a preliminary purchase price allocation, intangible assets in the amount of €41 million and a goodwill of €348 million which is not deductible for tax purposes were recorded for the initial statement of financial position of the Eugin Group. Any adjustments to acquisition accounting, net of related income tax effects, will be recorded with a corresponding adjustment to goodwill. Goodwill mainly represents the market position of the acquired fertility hospitals and employee know-how.

Since January 1, 2022, the Eugin Group forms a new and separate Fresenius Helios business and reporting unit, Helios Fertility, alongside Helios Germany and Helios Spain.

In the year 2021, the Eugin Group has contributed €133 million to sales and €19 million to the operating income (EBIT) of the Fresenius Group since April 1, 2021.

In 2020, Fresenius Helios spent €459 million on acquisitions, mainly for the purchase of Centro Médico Imbanaco S.A. in Colombia. Furthermore, Clínica del Prado S.A. and Clínica de la Mujer S.A.S. were acquired in Colombia. In Germany, hospitals and outpatient clinics of the Malteser humanitarian aid group as well as Digitale Gesundheits Gruppe GmbH were acquired.

Fresenius Vamed

In 2021, Fresenius Vamed spent €1 million on acquisitions.

In 2020, Fresenius Vamed spent €6 million on acquisitions.

IMPACTS ON FRESENIUS GROUP'S CONSOLIDATED FINANCIAL STATEMENTS RESULTING FROM ACQUISITIONS

In the fiscal year 2021, all acquisitions have been accounted for applying the purchase method and accordingly have been consolidated starting at the date of acquisition. The excess of the total fair value of consideration paid over the fair value of the net assets acquired was €1,402 million and €844 million in 2021 and 2020, respectively. The measurement period adjustments from the previous year's acquisitions did not have a significant impact on the consolidated financial statements in 2021.

The purchase price allocations are not yet finalized for all acquisitions of the current year. Based on preliminary purchase price allocations, the recognized goodwill was €1,065 million and the other intangible assets were €337 million. Of this goodwill, €444 million is attributable to the acquisitions of Fresenius Medical Care and €621 million to the acquisitions of Fresenius Helios.

Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. Goodwill arises principally due to the fair value placed on an established stream of future cash flows.

The acquisitions completed in 2021 or included in the consolidated financial statements for the first time for a full year contributed the following amounts to the development of sales and earnings:

€ in millions	2021
Sales	509
EBITDA	65
EBIT	45
Net interest	-10
Net income attributable to shareholders of Fresenius SE & Co. KGaA	18

The acquisitions increased the total assets of the Fresenius Group by €1,121 million.

NOTES ON THE CONSOLIDATED STATEMENT OF INCOME

3. SPECIAL ITEMS

Net income attributable to shareholders of Fresenius SE & Co. KGaA for the year 2021 in the amount of €1,818 million includes special items relating to the Fresenius cost and efficiency program (including the FME25 program) and the revaluation of biosimilars contingent purchase price liabilities.

The special items had the following impact on the consolidated statement of income of 2021:

€ in millions	EBIT	Interest expenses	Net income attributable to shareholders of Fresenius SE & Co. KGaA
Earnings 2021, before special items	**4,252**	**-504**	**1,867**
Expenses associated with the Fresenius cost and efficiency program (including the FME25 program)	-143	–	-82
Revaluations of biosimilars contingent purchase price liabilities	49	-2	33
Earnings 2021 according to IFRS	**4,158**	**-506**	**1,818**

Net income attributable to shareholders of Fresenius SE & Co. KGaA for the year 2020 in the amount of €1,707 million included special items relating to an impairment of goodwill at Fresenius Medical Care Latin America and the revaluation of biosimilars contingent purchase price liabilities.

The special items had the following impact on the consolidated statement of income of 2020:

€ in millions	EBIT	Interest expenses	Net income attributable to shareholders of Fresenius SE & Co. KGaA
Earnings 2020, before special items	**4,612**	**-654**	**1,796**
Impairment of goodwill at Fresenius Medical Care Latin America	-195	–	-63
Revaluations of biosimilars contingent purchase price liabilities	-32	-5	-26
Earnings 2020 according to IFRS	**4,385**	**-659**	**1,707**

4. SALES

Sales by activity were as follows:

€ in millions	2021					
	Fresenius Medical Care	Fresenius Kabi	Fresenius Helios	Fresenius Vamed	Corporate	**Fresenius Group**
Sales from contracts with customers	17,054	7,123	10,850	1,956	2	36,985
thereof sales of services	13,479	59	10,839	1,283	2	25,662
thereof sales of products and related services	3,575	7,052	–	–	–	10,627
thereof sales from long-term production contracts	–	–	–	673	–	673
thereof further sales from contracts with customers	–	12	11	–	–	23
Other sales	516	3	12	4	–	535
Sales	**17,570**	**7,126**	**10,862**	**1,960**	**2**	**37,520**

	2020					
€ in millions	Fresenius Medical Care	Fresenius Kabi	Fresenius Helios	Fresenius Vamed	Corporate	**Fresenius Group**
Sales from contracts with customers	17,410	6,913	9,786	1,742	2	35,853
thereof sales of services	13,810	67	9,782	1,160	1	24,820
thereof sales of products and related services	3,600	6,830	–	–	1	10,431
thereof sales from long-term production contracts	–	–	–	582	–	582
thereof further sales from contracts with customers	–	16	4	–	–	20
Other sales	409	3	12	–	–	424
Sales	**17,819**	**6,916**	**9,798**	**1,742**	**2**	**36,277**

Other sales include sales from insurance and lease contracts.

At December 31, 2021, sales recognized that were included in the contract liabilities balance at the beginning of the period were €603 million (2020: €72 million).

As of December 31, 2021 and 2020, respectively, the Fresenius Group had performance obligations that are unsatisfied or partially unsatisfied and that are expected to be satisfied and recorded in sales in the following years.

December 31, 2021, € in millions	2022	2023	2024	2025	2026	thereafter	**Total**
Transaction price of the unsatisfied or partially unsatisfied performance obligations	1,549	1,089	884	1,082	373	450	**5,427**

December 31, 2020, € in millions	2021	2022	2023	2024	2025	thereafter	**Total**
Transaction price of the unsatisfied or partially unsatisfied performance obligations	1,657	1,206	845	779	529	581	**5,597**

A sales analysis by business segment and region is shown in the segment information on pages 285 to 286.

5. COST OF MATERIALS

Cost of materials included in cost of sales was comprised of cost of raw materials, supplies and purchased components and cost of purchased services:

€ in millions	2021	2020
Cost of raw materials, supplies and purchased components	7,629	7,333
Cost of purchased services	1,191	1,461
Cost of materials	**8,820**	**8,794**

The comparative cost of materials figures for 2020 were reduced by €317 million to adjust classifications within cost of sales in the consolidated statement of income. Therefore, this reclassification had no impact on the consolidated statement of income.

6. PERSONNEL EXPENSES

Cost of sales, selling expenses, general and administrative expenses and research and development expenses included personnel expenses of €15,610 million and €15,128 million in 2021 and 2020, respectively.

Personnel expenses were comprised of the following:

€ in millions	2021	2020
Wages and salaries	12,679	12,357
Social security contributions, cost of retirement pensions and social assistance	2,931	2,771
thereof retirement pensions	414	395
Personnel expenses	**15,610**	**15,128**

Fresenius Group's annual average number of employees by function is shown below:

	2021	2020
Production	42,773	42,657
Service	222,809	217,099
Administration	30,831	29,454
Sales and marketing	13,574	12,982
Research and development	3,641	3,514
Total employees (per capita)	**313,628**	**305,706**

7. RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses of €805 million (2020: €751 million) included expenditures for research and non-capitalizable development costs as well as regular depreciation and amortization expenses relating to capitalized development costs of €22 million (2020: €20 million). Furthermore, in 2021, research and development expenses included reversals of write-downs on capitalized development expenses of €5 million and impairments of €26 million (2020: reversals of write-downs on capitalized development expenses of €7 million). The expenses for the further development of the biosimilars business included in the research and development expenses amounted to €148 million (2020: €159 million).

8. GENERAL AND ADMINISTRATIVE EXPENSES

General and administrative expenses amounted to €4,394 million (2020: €4,373 million) and were related to expenditures for administrative functions not attributable to research and development, production or selling.

9. OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses mainly included in 2021 and 2020 foreign exchange gains and losses, income related to the equity method investee named Vifor Fresenius Medical Care Renal Pharma Ltd. and valuations of equity and debt investments that are measured at fair value through profit and loss as well as the release of provisions.

10. NET INTEREST

Net interest of -€506 million (2020: -€659 million) included interest expenses of €630 million (2020: €752 million) and interest income of €124 million (2020: €93 million). The main portion of the interest expenses resulted from Fresenius Group's financial liabilities, which are recognized at amortized cost (see note 32, Financial instruments). Moreover, €188 million related to lease liabilities. The main portion of interest income resulted from trade accounts and other receivables recognized at amortized cost and from interest income related to the release of interest accruals on tax positions.

11. TAXES

INCOME TAXES

Income before income taxes was attributable to the following geographic regions:

€ in millions	2021	2020
Germany	434	420
International	3,218	3,306
Total	**3,652**	**3,726**

Income tax expenses (benefits) for 2021 and 2020 consisted of the following:

€ in millions	Current taxes	Deferred taxes	Income taxes
2021			
Germany	**78**	**19**	**97**
International	**671**	**65**	**736**
Total	**749**	**84**	**833**
2020			
Germany	137	-12	125
International	723	55	778
Total	860	43	903

A reconciliation between the expected and actual income tax expense is shown in the following table. The expected corporate income tax expense is computed by applying the German corporation tax rate (including the solidarity surcharge) and the effective trade tax rate on income before income taxes. The respective combined tax rate was 30.8% for the fiscal years 2021 and 2020.

€ in millions	2021	2020
Computed "expected" income tax expense	1,123	1,146
Increase (reduction) in income taxes resulting from:		
Items not recognized for tax purposes	96	114
Tax rate differential	-294	-307
Tax rate changes	3	4
Tax-free income	-50	-60
Taxes for prior years	-17	33
Noncontrolling interests	-65	-70
Other	37	43
Income tax	**833**	**903**
Effective tax rate	**22.8%**	**24.2%**

DEFERRED TAXES

The tax effects of the temporary differences and losses carried forward from prior years that gave rise to deferred tax assets and liabilities at December 31 are presented below:

€ in millions	2021	2020
Deferred tax assets		
Accounts receivable	67	59
Inventories	175	181
Other current assets	108	88
Other non-current assets	162	144
Lease liabilities	1,287	1,199
Provisions and other liabilities	487	467
Benefit obligations	322	300
Losses carried forward from prior years	205	191
Deferred tax assets	**2,813**	**2,629**
Deferred tax liabilities		
Accounts receivable	52	45
Inventories	16	6
Other current assets	228	183
Other non-current assets	1,883	1,741
Right-of-use assets	1,171	1,112
Provisions and other liabilities	120	120
Deferred tax liabilities	**3,470**	**3,207**
Net deferred tax assets/liabilities	**-657**	**-578**

In the consolidated statement of financial position, the net amounts of deferred tax assets and liabilities are included as follows:

€ in millions	2021	2020
Deferred tax assets	858	812
Deferred tax liabilities	1,515	1,390
Net deferred tax assets/liabilities	**-657**	**-578**

The change in the balance of deferred tax assets and deferred tax liabilities does not equal the deferred tax expense/benefit. This is due to deferred taxes that are booked directly to equity, the effects of exchange rate changes on tax assets and liabilities denominated in currencies other than euro and the acquisition and disposal of entities as part of ordinary activities.

As of December 31, 2021, Fresenius Medical Care has not recognized a deferred tax liability on approximately €10 billion (2020: €9 billion) of undistributed earnings of its foreign subsidiaries, because those earnings are considered indefinitely reinvested.

NET OPERATING LOSSES

The expiration of net operating losses as of December 31, 2021 is as follows:

for the fiscal years	€ in millions
2022	26
2023	46
2024	60
2025	64
2026	93
2027	41
2028	74
2029	5
2030	3
2031 and thereafter	59
Total	**471**

The expiration of net operating losses as of December 31, 2020 was as follows:

for the fiscal years	€ in millions
2021	37
2022	38
2023	37
2024	51
2025	61
2026	6
2027	38
2028	6
2029	11
2030 and thereafter	178
Total	**463**

The total remaining operating losses of €1,546 million (2020: €1,127 million) can mainly be carried forward for an unlimited period. The total amount of the existing operating losses as of December 31, 2021 includes an amount of €1,189 million (2020: €1,014 million) that will probably not be realizable. For these operating losses, deferred tax assets were not recognized.

Based upon the level of historical taxable income and projections for future taxable income, the Management of the Fresenius Group believes it is more likely than not that the Fresenius Group will realize the benefits of these deductible differences, net of the existing valuation allowances, at December 31, 2021.

12. NONCONTROLLING INTERESTS

As of December 31, noncontrolling interests in net income in the Fresenius Group were as follows:

€ in millions	2021	2020
Noncontrolling interests in Fresenius Medical Care	658	791
Noncontrolling interests in Fresenius Vamed	15	0
Noncontrolling interests in the business segments		
Fresenius Medical Care	250	271
Fresenius Kabi	58	44
Fresenius Helios	16	7
Fresenius Vamed	4	3
Total noncontrolling interests	**1,001**	**1,116**

In the fiscal year 2021, Fresenius Medical Care AG & Co. KGaA paid dividends to noncontrolling interests in the amount of €266 million (2020: €238 million).

13. IMPACTS OF THE COVID-19 PANDEMIC

The financial statements of the Fresenius Group have been impacted by COVID-19, mostly in the form of lost revenue and additional costs incurred to protect its patients and employees, to safeguard its production activities and clinical operations and additional freight and logistic costs. Across the Fresenius global footprint, various governments in regions have provided economic assistance programs to address the consequences of the pandemic on companies and support health care providers and patients. The related reimbursement payments and funding received by Fresenius have been accounted for in accordance with terms and regulations set forth by the local laws and regulations.

In Germany, the hospitals of the Fresenius Group have received reimbursements and grants to compensate for COVID-19 related financial charges. Hospitals have been compensated for their increase in capacity and related patient services through the postponement of elective treatments and provision of additional intensive care beds for the treatment of COVID-19 patients and for higher treatment costs. As these additional reimbursements for hospital services are paid by the partly state funded health care fund, such revenues are recognized in accordance with the Fresenius Group's existing revenue recognition policies for hospital services (IFRS 15, Revenue from Contracts with Customers). In 2021, the German hospitals of the Fresenius Group received total reimbursements and grants of €509 million (2020: €742 million), of which €442 million (2020: €697 million) were recorded in sales and €67 million (2020: €45 million) as grants in other operating income.

In the United States, Fresenius Medical Care North America received government grants under the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) from the U.S. government in 2020. During the fourth quarter of 2021, Fresenius Medical Care received an additional US$122 million (€103 million) in new U.S. Department of Health and Human Services funding (Provider Relief Fund Phase 4) available for health care providers affected by the COVID-19 pandemic, of which US$58 million (€49 million) were recognized in cost of sales in the consolidated statement of income used to offset eligible costs in 2021. The remaining amounts of government grants received recorded in deferred income were US$62 million (€55 million) from the Provider Relief Fund Phase 4 at December 31, 2021 and US$22 million (€18 million) from the CARES Act at December 31, 2020. In 2020, the Fresenius Group also recorded a contract liability for advance payments received under the CMS Accelerated and Advance Payment program within short-term provisions and other short-term liabilities and long-term provisions and other long-term liabilities. Contract liabilities related to the CMS Accelerated and Advance Payment program were US$443 million (€391 million) and US$1,046 million (€852 million) as of December 31, 2021 and December 31, 2020, respectively.

In addition to the programs above, the Fresenius Group also received grants and other reimbursements under various other programs from multiple governments around the world in the amount of €50 million (2020: €52 million).

All funds received from grants comply with the respective conditions. The Fresenius Group is obliged and committed to fulfilling all the requirements as set out in the grant funding arrangements.

In addition to the aforementioned additional reimbursements and compensated costs incurred in various countries, the Fresenius Group was affected by impacts COVID-19 had on the global economy and financial markets as well as effects related to lockdowns. At the same time the Fresenius Group was affected by lower cost in certain areas, for example for incentive plans and travel.

The Fresenius Group is well positioned to meet its ongoing financial obligations and has sufficient liquidity to support its normal business activities.

14. EARNINGS PER SHARE

The following table shows the earnings per share including and excluding the dilutive effect from stock options issued:

	2021	2020
Numerators, € in millions		
Net income attributable to shareholders of Fresenius SE & Co. KGaA	1,818	1,707
less effect from dilution due to Fresenius Medical Care shares	0	0
Income available to all ordinary shares	1,818	1,707
Denominators in number of shares		
Weighted average number of ordinary shares outstanding	558,061,878	557,451,759
Potentially dilutive ordinary shares	94,447	292,103
Weighted average number of ordinary shares outstanding assuming dilution	558,156,325	557,743,862
Basic earnings per share in €	**3.26**	**3.06**
Fully diluted earnings per share in €	**3.26**	**3.06**

NOTES ON THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

15. CASH AND CASH EQUIVALENTS

As of December 31, cash and cash equivalents were as follows:

€ in millions	2021	2020
Cash	1,833	1,192
Time deposits and securities (with a maturity of up to 90 days)	931	645
Total cash and cash equivalents	**2,764**	**1,837**

As of December 31, 2021 and December 31, 2020, earmarked funds of €154 million and €121 million, respectively, were included in cash and cash equivalents.

The Fresenius Group operates a multi-currency notional cash pooling management system. In this cash pooling management system amounts in euro and other currencies are offset without being transferred to a specific cash pool account. The system is used for an efficient utilization of funds within the Fresenius Group. The Fresenius Group met the conditions to offset balances within this cash pool for reporting purposes. At December 31, 2021, €117 million (December 31, 2020: €1,006 million) of the cash balances and the equivalent amount of the overdraft balances were offset. These solely related to Fresenius Medical Care (December 31, 2020: €998 million). Before this offset, cash and cash equivalents as of December 31, 2021, were €2,881 million (December 31,2020: €2,843 million) and short-term debt was €2,958 million (December 31, 2020: €1,251 million.

16. TRADE ACCOUNTS AND OTHER RECEIVABLES

As of December 31, trade accounts and other receivables were as follows:

€ in millions	2021	2020
Trade accounts and other receivables	7,494	7,338
less allowances for expected credit losses	449	401
Trade accounts and other receivables, net	**7,045**	**6,937**

Within trade accounts and other receivables (before allowances) as of December 31, 2021, €7,378 million (December 31, 2020: €7,248 million) relate to revenue from contracts with customers as defined by IFRS 15. This amount includes €448 million (December 31, 2020: €400 million) of allowances for expected credit losses. Further trade accounts and other receivables, net, relate to other sales.

When utilized, Fresenius Medical Care assigns interests in certain receivables to institutional investors under its Accounts Receivable Facility. For further information on the utilization of this facility, please see note 23, Debt.

All trade accounts and other receivables are due within one year. Trade accounts and other receivables with a term of more than one year in the amount of €46 million (2020: €38 million) are included in other non-current assets.

The following table shows the development of the allowances for expected credit losses during the fiscal year:

€ in millions	2021	2020
Allowances for expected credit losses at the beginning of the year	**401**	**351**
Change in valuation allowances as recorded in the consolidated statement of income	71	94
Write-offs and recoveries of amounts previously written-off	-24	-23
Foreign currency translation	1	-21
Allowances for expected credit losses at the end of the year	**449**	**401**

Further allowances for expected credit losses are included in other current and non-current assets (see note 18, Other current and non-current assets). As of December 31, 2021, the Fresenius Group had total allowances for expected credit losses of €488 million (2020: €423 million).

The following table shows the credit risk rating grades of trade accounts receivable and their allowances for expected credit losses:

€ in millions	December 31, 2021 Total	December 31, 2021 thereof overdue[1]	December 31, 2021 thereof credit impaired[2]	December 31, 2020 Total	December 31, 2020 thereof overdue[1]	December 31, 2020 thereof credit impaired[2]
Trade accounts and other receivables	7,494	3,225	691	7,338	3,283	674
less allowances for expected credit losses	449	405	340	401	347	314
Trade accounts and other receivables, net	**7,045**	**2,820**	**351**	**6,937**	**2,936**	**360**

[1] Receivables are classified as overdue from the first day of exceeding the contractually agreed payment term.
[2] In case of objective evidence of a detrimental impact on the estimated future cash flows of a financial asset, the asset is considered to be credit impaired. This is generally the case after more than 360 days overdue, at the latest.

17. INVENTORIES

As of December 31, inventories consisted of the following:

€ in millions	2021	2020
Raw materials and purchased components	971	913
Work in process	440	363
Finished goods	2,961	2,796
less reserves	154	127
Inventories, net	**4,218**	**3,945**

In 2021 and in 2020, immaterial reversals of write-downs of inventory were made.

The companies of the Fresenius Group are obliged to purchase approximately €1,352 million of raw materials and purchased components under fixed terms, of which €689 million was committed at December 31, 2021 for 2022. The terms of these agreements run 1 to 10 years.

18. OTHER CURRENT AND NON-CURRENT ASSETS

As of December 31, other current and non-current assets were comprised of the following according to the categorization of the financial instruments:

€ in millions	2021	thereof short-term	2020	thereof short-term
At equity investments	804	–	764	–
Tax receivables	520	496	553	530
Contract assets	487	487	474	474
Advance payments	256	252	356	352
Prepaid expenses	124	85	87	61
Accounts receivable resulting from German hospital law	118	104	82	81
Prepaid rent and insurance	47	47	46	46
Other assets	657	487	594	436
Other non-financial assets, net	**3,013**	**1,958**	**2,956**	**1,980**
Compensation receivable resulting from German hospital law	992	987	516	512
Debt instruments	422	136	401	161
Equity investments	320	–	393	–
Leasing receivables	131	–	109	–
Deposits	120	48	96	39
Long-term loans	118	42	127	51
Receivable for supplier rebates	21	21	91	91
Derivative financial instruments	20	18	18	18
Other assets	416	77	360	91
Other financial assets, net	**2,560**	**1,329**	**2,111**	**963**
Other assets, net	**5,573**	**3,287**	**5,067**	**2,943**
Allowances	39	30	22	18
Other assets, gross	**5,612**	**3,317**	**5,089**	**2,961**

At equity investments mainly related to the equity method investee of Fresenius Medical Care named Vifor Fresenius Medical Care Renal Pharma Ltd. In 2021, income of €93 million (2020: €94 million) resulting from this equity investment was included in other operating income in the consolidated statement of income.

The accounts receivable resulting from German hospital law contain approved but not yet received earmarked subsidies of the Fresenius Helios operations. The approval is evidenced in a letter written by the granting authorities that Fresenius Helios has already received. The compensation receivable resulting from German hospital law mainly relates to income equalization claims for hospital services.

The increase in compensation receivable in 2021 is mainly due to delayed budget negotiations with providers.

Contract assets mainly related to long-term production contracts for which revenue is recognized over time. As of December 31, 2021, they included €1 million (2020: €0.1 million) of allowances for expected credit losses.

19. PROPERTY, PLANT AND EQUIPMENT

As of December 31, the acquisition and manufacturing costs as well as accumulated depreciation of property, plant and equipment consisted of the following:

ACQUISITION AND MANUFACTURING COSTS

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2021**
Land	879	0	-10	14	25	3	905
Buildings and improvements	8,731	267	19	158	544	104	9,615
Machinery and equipment	10,058	320	25	670	364	418	11,019
Construction in progress	2,125	84	-4	905	-920	18	2,172
Property, plant and equipment	**21,793**	**671**	**30**	**1,747**	**13**	**543**	**23,711**

DEPRECIATION

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2021**
Land	17	0	–	4	1	1	21
Buildings and improvements	3,735	165	-2	462	20	69	4,311
Machinery and equipment	6,123	186	-1	891	-13	378	6,808
Construction in progress	6	0	–	0	-1	3	2
Property, plant and equipment	**9,881**	**351**	**-3**	**1,357**	**7**	**451**	**11,142**

ACQUISITION AND MANUFACTURING COSTS

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Land	848	-11	31	16	0	5	879
Buildings and improvements	8,336	-351	163	174	499	90	8,731
Machinery and equipment	9,593	-452	-7	813	384	273	10,058
Construction in progress	1,886	-91	12	1,137	-815	4	2,125
Property, plant and equipment	**20,663**	**-905**	**199**	**2,140**	**68**	**372**	**21,793**

DEPRECIATION

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Land	15	0	–	1	1	–	17
Buildings and improvements	3,562	-182	-8	426	-1	62	3,735
Machinery and equipment	5,774	-256	-28	854	15	236	6,123
Construction in progress	5	0	–	1	0	0	6
Property, plant and equipment	**9,356**	**-438**	**-36**	**1,282**	**15**	**298**	**9,881**

CARRYING AMOUNTS

€ in millions	**December 31, 2021**	December 31, 2020
Land	884	862
Buildings and improvements	5,304	4,996
Machinery and equipment	4,211	3,935
Construction in progress	2,170	2,119
Property, plant and equipment	**12,569**	**11,912**

Depreciation and impairments on property, plant and equipment for the years 2021 and 2020 amounted to €1,357 million and €1,282 million, respectively. They are allocated within cost of sales, selling expenses, general and administrative expenses and research and development expenses, depending upon the use of the asset. In 2021, depreciation and impairments on property, plant and equipment included impairment losses of €37 million.

LEASING

Machinery and equipment as of December 31, 2021 and 2020 included medical devices which Fresenius Medical Care and Fresenius Kabi lease to hospitals, patients and physicians under operating leases in an amount of €914 million and €884 million, respectively.

For information on the development of the right-of-use assets, see note 31, Leases.

20. GOODWILL AND OTHER INTANGIBLE ASSETS

As of December 31, the acquisition cost and accumulated amortization of intangible assets consisted of the following:

ACQUISITION COST

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2021**
Goodwill	26,794	1,280	1,052	13	–	1	29,138
Customer relationships	755	10	–	0	–	–	765
Tradenames with finite useful lives	690	2	0	–	1	–	693
Capitalized development costs	937	31	0	41	12	1	1,020
Patents, product and distribution rights	637	46	0	10	2	29	666
Software	1,355	38	6	237	-32	54	1,550
Technology	947	68	–	–	0	–	1,015
Tradenames with indefinite useful lives	224	18	35	–	–	–	277
Non-compete agreements	315	25	6	–	–	2	344
Management contracts	3	0	–	–	–	0	3
Other	377	14	2	41	-17	21	396
Goodwill and other intangible assets	**33,034**	**1,532**	**1,101**	**342**	**-34**	**108**	**35,867**

AMORTIZATION

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2021**
Goodwill	195	–	–	–	–	–	195
Customer relationships	203	5	–	39	–	–	247
Tradenames with finite useful lives	168	1	–	41	–	–	210
Capitalized development costs	256	14	–	43	–	1	312
Patents, product and distribution rights	404	28	–	27	0	1	458
Software	625	17	0	160	-63	52	687
Technology	357	25	–	72	1	–	455
Tradenames with indefinite useful lives	–	–	–	1	–	–	1
Non-compete agreements	281	23	0	9	–	2	311
Management contracts	1	0	–	1	–	–	2
Other	209	7	0	21	-1	21	215
Goodwill and other intangible assets	**2,699**	**120**	**0**	**414**	**-63**	**77**	**3,093**

ACQUISITION COST

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Goodwill	27,737	-1,491	537	11	–	0	26,794
Customer relationships	765	-10	–	2	-2	–	755
Tradenames with finite useful lives	693	-3	–	–	–	–	690
Capitalized development costs	923	-29	–	65	-21	1	937
Patents, product and distribution rights	745	-52	–	4	3	63	637
Software	1,109	-47	4	238	68	17	1,355
Technology	1,022	-75	0	–	0	–	947
Tradenames with indefinite useful lives	243	-19	0	0	–	–	224
Non-compete agreements	337	-27	7	0	–	2	315
Management contracts	3	0	–	–	0	–	3
Other	491	-21	7	34	-33	101	377
Goodwill and other intangible assets	**34,068**	**-1,774**	**555**	**354**	**15**	**184**	**33,034**

AMORTIZATION

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Goodwill	–	–	–	195	–	–	195
Customer relationships	167	-5	–	43	-2	–	203
Tradenames with finite useful lives	129	-2	–	41	–	–	168
Capitalized development costs	258	-15	–	13	0	–	256
Patents, product and distribution rights	470	-31	0	31	1	67	404
Software	528	-21	0	129	0	11	625
Technology	307	-23	–	73	0	–	357
Tradenames with indefinite useful lives	–	–	–	–	–	–	–
Non-compete agreements	296	-24	0	11	0	2	281
Management contracts	–	0	–	1	–	–	1
Other	307	-13	-1	17	0	101	209
Goodwill and other intangible assets	**2,462**	**-134**	**-1**	**554**	**-1**	**181**	**2,699**

CARRYING AMOUNTS

€ in millions	December 31, 2021	December 31, 2020
Goodwill	28,943	26,599
Customer relationships	518	552
Tradenames with finite useful lives	483	522
Capitalized development costs	708	681
Patents, product and distribution rights	208	233
Software	863	730
Technology	560	590
Tradenames with indefinite useful lives	276	224
Non-compete agreements	33	34
Management contracts	1	2
Other	181	168
Goodwill and other intangible assets	**32,774**	**30,335**

Amortization and impairments on intangible assets amounted to €414 million and €554 million for the years 2021 and 2020, respectively. It is allocated within cost of sales, selling expenses, general and administrative expenses and research and development expenses, depending upon the use of the asset. In 2020, amortization and impairments on intangible assets included €195 million related to an impairment of goodwill and tradenames of the cash generating unit (CGU) Fresenius Medical Care Latin America. This was allocated within general and administrative expenses.

The split of intangible assets into amortizable and non-amortizable intangible assets is shown in the following tables:

AMORTIZABLE INTANGIBLE ASSETS

	December 31, 2021			December 31, 2020		
€ in millions	Acquisition cost	Accumulated amortization	Carrying amount	Acquisition cost	Accumulated amortization	Carrying amount
Customer relationships	765	247	518	755	203	552
Tradenames	693	210	483	690	168	522
Capitalized development costs	1,020	312	708	937	256	681
Patents, product and distribution rights	666	458	208	637	404	233
Software	1,550	687	863	1,355	625	730
Technology	1,015	455	560	947	357	590
Non-compete agreements	344	311	33	315	281	34
Other	396	215	181	377	209	168
Total	**6,449**	**2,895**	**3,554**	**6,013**	**2,503**	**3,510**

Fresenius Medical Care capitalized development costs in an amount of €58 million for the fiscal year 2021 (2020: €32 million). Capitalized development costs are amortized on a straight-line basis over a useful life of 7 years. The amortization expense for the fiscal year 2021 amounted to €6 million (2020: €5 million). In the case of Fresenius Kabi, development costs capitalized amounted to €647 million at December 31, 2021 (December 31, 2020: €646 million). The amortization is recorded on a straight-line basis over a useful life of 5 to 20 years and amounted to €15 million for the fiscal year 2021 (2020: €15 million). Furthermore, in 2021, research and development expenses included reversals of write-downs on capitalized development expenses of €5 million and impairments of €26 million (2020: reversals of write-downs on capitalized development expenses of €7 million) (see note 7, Research and development expenses). These are included in the preceding amortization tables in the columns additions.

NON-AMORTIZABLE INTANGIBLE ASSETS

€ in millions	December 31, 2021 Acquisition cost	December 31, 2021 Accumulated amortization	December 31, 2021 Carrying amount	December 31, 2020 Acquisition cost	December 31, 2020 Accumulated amortization	December 31, 2020 Carrying amount
Goodwill	29,138	195	28,943	26,794	195	26,599
Tradenames	277	1	276	224	–	224
Management contracts	3	2	1	3	1	2
Total	**29,418**	**198**	**29,220**	**27,021**	**196**	**26,825**

The carrying amount of goodwill has developed as follows:

€ in millions	Fresenius Medical Care	Fresenius Kabi	Fresenius Helios	Fresenius Vamed	Corporate	**Fresenius Group**
Carrying amount as of January 1, 2020	**14,017**	**5,431**	**7,988**	**295**	**6**	**27,737**
Additions	254	–	290	4	–	548
Disposals	–	0	–	0	–	0
Impairment loss	-195	–	–	–	–	-195
Foreign currency translation	-1,117	-373	–	-1	–	-1,491
Carrying amount as of December 31, 2020	**12,959**	**5,058**	**8,278**	**298**	**6**	**26,599**
Additions	444	–	621	0	–	1,065
Disposals	–	-1	0	–	–	-1
Foreign currency translation	958	316	4	2	–	1,280
Carrying amount as of December 31, 2021	**14,361**	**5,373**	**8,903**	**300**	**6**	**28,943**

The increase of goodwill mainly relates to foreign currency translation and acquisitions (see note 2, Acquisitions, divestitures and investments).

As of December 31, 2021, the carrying amounts of the other non-amortizable intangible assets were €226 million (2020: €210 million) for Fresenius Medical Care, €15 million (2020: €16 million) for Fresenius Kabi and €36 million (2020: €0 million) for Fresenius Helios.

21. PROVISIONS

As of December 31, provisions consisted of the following:

€ in millions	2021	2021 thereof short-term	2020	2020 thereof short-term
Self-insurance programs	427	306	371	264
Personnel expenses	384	288	283	165
Warranties and complaints	240	236	246	244
Litigation and other legal risks	72	50	141	123
Interest payable related to income taxes	53	–	73	–
Other provisions	482	269	455	276
Provisions	**1,658**	**1,149**	**1,569**	**1,072**

The following table shows the development of provisions in the fiscal year:

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Utilized	Reversed	**As of December 31, 2021**
Self-insurance programs	371	18	–	71	–	-7	-26	427
Personnel expenses	283	8	11	206	0	-102	-22	384
Warranties and complaints	246	1	6	122	–	-120	-15	240
Litigation and other legal risks	141	-1	0	23	0	-55	-36	72
Interest payable related to income taxes	73	0	–	2	–	-1	-21	53
Other provisions	455	2	11	186	0	-124	-48	482
Total	**1,569**	**28**	**28**	**610**	**0**	**-409**	**-168**	**1,658**

Provisions for personnel expenses mainly refer to share-based and other compensation plans, severance payments and jubilee payments.

For details regarding provisions for self-insurance programs, please see note 1. III. x, Self-insurance programs.

For details regarding litigation and other legal risks, please see note 30, Commitments and contingencies.

22. OTHER LIABILITIES

As of December 31, other liabilities consisted of the following according to the categorization of the financial instruments:

€ in millions	2021	2021 thereof short-term	2020	2020 thereof short-term
Personnel liabilities[1]	1,608	1,478	1,571	1,379
Contract liabilities	534	504	962	648
Tax liabilities	335	314	295	276
Accounts payable resulting from German hospital law	179	178	152	152
Deferred income	170	142	116	85
All other liabilities	1,193	975	984	799
Other non-financial liabilities[1]	**4,019**	**3,591**	**4,080**	**3,339**
Invoices outstanding	1,066	1,066	1,011	1,011
Put option liabilities	1,044	685	901	646
Debtors with credit balances	676	676	526	526
Accrued contingent payments outstanding for acquisitions	528	41	581	56
Bonuses and discounts	296	296	277	277
Interest liabilities	145	145	168	168
Compensation payable resulting from German hospital law	133	132	68	68
Legal matters, advisory and audit fees	56	56	46	46
Derivative financial instruments	47	47	88	88
Commissions	31	31	33	33
All other liabilities	4	0	3	0
Other financial liabilities[1]	**4,026**	**3,175**	**3,702**	**2,919**
Other liabilities	**8,045**	**6,766**	**7,782**	**6,258**

[1] €1,377 million were reclassified from other financial liabilities to other non-financial liabilities as of December 31, 2020.

Personnel liabilities mainly include liabilities for wages and salaries and social security liabilities.

Contract liabilities primarily relate to advance payments for Fresenius Medical Care under the CMS Accelerated and Advance Payment program which are recorded as contract liability upon receipt and recognized as revenue when the respective services are provided. Furthermore, contract liabilities relate to advance payments from customers and to sales of dialysis machines. In these cases, revenue is recognized upon installation and provision of the necessary technical instructions whereas a receivable is recognized once the machine is delivered or billed to the customer.

The accounts payable resulting from German hospital law contain earmarked subsidies received but not yet spent appropriately by Fresenius Helios. The amount not yet spent appropriately is classified as liability.

The Fresenius Group, as option writer of existing put options, has potential obligations to purchase noncontrolling interests held by third parties in certain of its consolidated subsidiaries. If these put options were exercised, the Fresenius Group would be required to purchase all or part of third-party owners' noncontrolling interests at the appraised fair value at the time of exercise.

The accrued contingent payments outstanding for acquisitions include €441 million at December 31, 2021 (2020: €486 million) for the acquisition of the biosimilars business.

23. DEBT

SHORT-TERM DEBT

As of December 31, short-term debt consisted of the following:

€ in millions	Book value 2021	2020
Fresenius SE & Co. KGaA Commercial Paper	1,056	30
Fresenius Medical Care AG & Co. KGaA Commercial Paper	715	20
Other short-term debt	1,070	195
Short-term debt	**2,841**	**245**

Other short-term debt mainly consists of borrowings by certain entities of the Fresenius Group under lines of credit with commercial banks. The average interest rates on the borrowings at December 31, 2021 and 2020 were 1.29% and 2.25%, respectively.

LONG-TERM DEBT

As of December 31, long-term debt net of debt issuance costs consisted of the following:

€ in millions	Book value 2021	2020
Fresenius Medical Care Credit Agreement	–	1,162
Fresenius Credit Agreement	–	1,793
Schuldschein Loans	1,757	1,793
Other	843	406
Subtotal	**2,600**	**5,154**
less current portion	473	1,132
Long-term debt, less current portion	**2,127**	**4,022**

Fresenius Medical Care Syndicated Credit Facility

On July 1, 2021, Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) entered into a new syndicated revolving credit facility of €2,000 million with a group of 34 core relationship banks (FMC Syndicated Credit Facility). It has a term of five years plus two one-year extension options and can be drawn in different currencies. In addition, a sustainability component has been embedded in the new credit facility. Based on this structure, the credit facility's margin may rise or fall depending on the company's sustainability performance. The new credit facility replaces the US$900 million and €600 million revolving credit facilities (Fresenius Medical Care Credit Agreement), initially signed in 2012 and amended from time to time. As of December 31, 2021 the FMC Syndicated Credit Facility was undrawn and serves as backup line for the company.

The following table shows the available and outstanding amounts under the Fresenius Medical Care Credit Agreement at December 31, 2020:

	2020			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in US$) 2017/2022	US$900 million	734	**US$0 million**	**–**
Revolving Credit Facility (in €) 2017/2022	€600 million	600	**€0 million**	**–**
Term Loan (in US$) 2017/2022	US$1,110 million	904	**US$1,110 million**	**904**
Term Loan (in €) 2017/2022	€259 million	259	**€259 million**	**259**
Total		**2,497**		**1,163**
less financing cost				**1**
Total				**1,162**

The U.S. dollar denominated loan and the euro denominated loan of the Fresenius Medical Care Credit Agreement were prematurely redeemed at May 20, 2021.

Fresenius Syndicated Credit Facility

On July 1, 2021, Fresenius SE & Co. KGaA entered into a new syndicated revolving credit facility of €2,000 million with a group of 29 core relationship banks (FSE Syndicated Credit Facility). It has a maturity of five years with two one-year extension options and can be drawn in various currencies. Emphasizing Fresenius' commitment to embed sustainability in all aspects of its business, a sustainability component has been included in the credit facility. Correspondingly, the credit facility's margin can be adjusted up or down according to changes in Fresenius' sustainability performance. The new credit facility replaces the €1,100 million and US$500 million revolving credit facilities (Fresenius Credit Agreement), originally entered into in 2012 and amended from time to time. As of December 31, 2021, the FSE Syndicated Credit Facility was undrawn and serves as backup line for the company.

The following table shows the available and outstanding amounts under the Fresenius Credit Agreement at December 31, 2020:

	2020			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in €) 2017/2022	€1,100 million	1,100	**€0 million**	**–**
Revolving Credit Facility (in US$) 2017/2022	US$500 million	407	**US$0 million**	**–**
Term Loan (in €) 2017/2021	€750 million	750	**€750 million**	**750**
Term Loan (in €) 2017/2022	€675 million	675	**€675 million**	**675**
Term Loan (in US$) 2017/2022	US$455 million	371	**US$455 million**	**371**
Total		**3,303**		**1,796**
less financing cost				**3**
Total				**1,793**

The U.S. dollar denominated loan was prematurely redeemed at March 29, 2021 and refinanced through bilateral loans with a maturity of up to three years.

The euro denominated loans were prematurely redeemed at April 1, 2021 through the issuance proceeds of bonds (see note 24, Bonds).

Schuldschein Loans

As of December 31, Schuldschein Loans of the Fresenius Group net of debt issuance costs consisted of the following:

				Book value € in millions	
	Notional amount	Maturity	Interest rate fixed / variable	**2021**	2020
Fresenius SE & Co. KGaA 2017/2022	€372 million	Jan. 31, 2022	0.93% / variable	372	372
Fresenius SE & Co. KGaA 2015/2022	€21 million	April 7, 2022	1.61%	21	21
Fresenius SE & Co. KGaA 2019/2023	€378 million	Sept. 25, 2023	0.55% / variable	378	377
Fresenius SE & Co. KGaA 2017/2024	€421 million	Jan. 31, 2024	1.40% / variable	421	420
Fresenius SE & Co. KGaA 2019/2026	€238 million	Sept. 23, 2026	0.85% / variable	238	238
Fresenius SE & Co. KGaA 2017/2027	€207 million	Jan. 29, 2027	1.96% / variable	206	207
Fresenius SE & Co. KGaA 2019/2029	€84 million	Sept. 24, 2029	1.10%	84	84
Fresenius US Finance II, Inc. 2016/2021	US$33 million	March 10, 2021	2.66%	–	27
Fresenius US Finance II, Inc. 2016/2023	US$43 million	March 10, 2023	3.12%	37	47
Schuldschein Loans				**1,757**	**1,793**

The variable tranche of US$15.5 million of the Schuldschein Loans of Fresenius US Finance II, Inc. in the amount of US$58 million which were originally due on March 10, 2023, was prematurely redeemed at December 10, 2021.

As of December 31, 2021, the Schuldschein Loans of Fresenius SE & Co. KGaA in the amount of €372 million due on January 31, 2022 and in the amount of €21 million due on April 7, 2022, are shown as current portion of long-term debt in the consolidated statement of financial position.

The Schuldschein Loans of Fresenius SE & Co. KGaA issued before 2017 are guaranteed by Fresenius Kabi AG and Fresenius ProServe GmbH. The Schuldschein Loans of Fresenius US Finance II, Inc. are guaranteed by Fresenius SE & Co. KGaA, Fresenius Kabi AG and Fresenius ProServe GmbH.

Accounts Receivable Facility of Fresenius Medical Care

On August 11, 2021, the asset securitization facility (Accounts Receivable Facility) of Fresenius Medical Care was amended and restated, extending it until August 11, 2024. The maximum capacity of US$900 million (€768 million at August 11, 2021) remains unchanged under the restated Accounts Receivable Facility.

At December 31, 2021 and December 31, 2020, there were no outstanding borrowings under the Accounts Receivable Facility. Fresenius Medical Care had letters of credit outstanding under the Accounts Receivable Facility in the amount of US$13 million (€11 million) at December 31, 2021 and US$13 million (€10 million) at December 31, 2020. These letters of credit are not included above as part of the balance outstanding at December 31, 2021, however, they reduce available borrowings under the Accounts Receivable Facility.

Under the Accounts Receivable Facility, certain receivables are contributed to NMC Funding Corp. (NMC Funding), a wholly owned subsidiary of Fresenius Medical Care. NMC Funding then assigns percentage ownership interests in the accounts receivable to certain bank investors (and their conduit affiliates). Under the terms of the Accounts Receivable Facility, NMC Funding retains the rights in the underlying cash flows of the transferred receivables. Interest is remitted to the bank investors at the end of each tranche period. If NMC Funding requires additional credit, the principal cash flows are reinvested to purchase additional interests in the receivables. Borrowings under the Accounts Receivable Facility are expected to remain long-term. NMC Funding retains significant risks and rewards in the receivables, among other things, the percentage ownership interest assigned requires Fresenius Medical Care to retain first loss risk in those receivables, and Fresenius Medical Care can, at any time, recall all the then outstanding transferred interests in the accounts receivable. Consequently, the receivables remain on the consolidated statement of financial position and the proceeds from the transfer of percentage ownership interests are recorded as long-term debt.

NMC Funding pays interest to the bank investors, calculated based on the commercial paper rates for the particular tranches selected. Refinancing fees, which include legal costs and bank fees, are amortized over the term of the facility.

CREDIT LINES AND OTHER SOURCES OF LIQUIDITY

In addition to the financial liabilities described before, the Fresenius Group maintains credit facilities which have not been utilized, or have only been utilized in part, as of the reporting date. At December 31, 2021, the additional financial headroom resulting from unutilized credit facilities was approximately €5.0 billion. Syndicated credit facilities accounted for €4.0 billion of Fresenius Medical Care AG & Co. KGaA (€2.0 billion) and Fresenius SE & Co. KGaA (€2.0 billion). Furthermore, bilateral facilities with commercial banks of approximately €1.0 billion were available. Moreover, a bilateral loan agreement with the European Investment Bank was concluded in December 2021 in the amount of €400 million, which was disbursed on January 31, 2022 and will be available to Fresenius SE & Co. KGaA until December 2025.

In addition, Fresenius SE & Co. KGaA has a commercial paper program under which short-term notes can be issued. On September 15, 2021, the commercial paper program was amended and the available borrowing capacity increased from €1,000 million to €1,500 million. As of December 31, 2021, the commercial paper program of Fresenius SE & Co. KGaA was utilized in the amount of €1,056 million.

Fresenius Medical Care can also issue short-term notes under a commercial paper program. On October 15, 2021, the commercial paper program was amended and the available borrowing capacity increased from €1,000 million to €1,500 million. As of December 31, 2021, the commercial paper program of Fresenius Medical Care AG & Co. KGaA was utilized in the amount of €715 million.

Additional financing of up to US$900 million (€795 million) can be provided using the Fresenius Medical Care Accounts Receivable Facility which had been utilized with US$13 million (€11 million) as of December 31, 2021.

24. BONDS

Fresenius SE & Co. KGaA and Fresenius Medical Care AG & Co. KGaA each maintain debt issuance programs which enable the companies to issue bonds up to a total volume of €12.5 billion and €10 billion, respectively, each in various currencies and maturities. In 2021, the proceeds of the financing activities were mainly used for general corporate purposes, including refinancing of existing financial liabilities.

As of December 31, bonds of the Fresenius Group net of debt issuance costs consisted of the following:

				Book value € in millions	
	Notional amount	Maturity	Interest rate	**2021**	2020
Fresenius Finance Ireland PLC 2017/2022	€700 million	Jan. 31, 2022	0.875%	–	699
Fresenius Finance Ireland PLC 2017/2024	€700 million	Jan. 30, 2024	1.50%	699	698
Fresenius Finance Ireland PLC 2021/2025	€500 million	Oct. 1, 2025	0.00%	497	–
Fresenius Finance Ireland PLC 2017/2027	€700 million	Feb. 1, 2027	2.125%	695	694
Fresenius Finance Ireland PLC 2021/2028	€500 million	Oct. 1, 2028	0.50%	497	–
Fresenius Finance Ireland PLC 2021/2031	€500 million	Oct. 1, 2031	0.875%	494	–
Fresenius Finance Ireland PLC 2017/2032	€500 million	Jan. 30, 2032	3.00%	496	495
Fresenius SE & Co. KGaA 2014/2021	€450 million	Feb. 1, 2021	3.00%	–	450
Fresenius SE & Co. KGaA 2014/2024	€450 million	Feb. 1, 2024	4.00%	449	450
Fresenius SE & Co. KGaA 2019/2025	€500 million	Feb. 15, 2025	1.875%	497	496
Fresenius SE & Co. KGaA 2020/2026	€500 million	Sep. 28, 2026	0.375%	495	495
Fresenius SE & Co. KGaA 2020/2027	€750 million	Oct. 8, 2027	1.625%	742	740
Fresenius SE & Co. KGaA 2020/2028	€750 million	Jan. 15, 2028	0.75%	745	744
Fresenius SE & Co. KGaA 2019/2029	€500 million	Feb. 15, 2029	2.875%	495	495
Fresenius SE & Co. KGaA 2020/2033	€500 million	Jan. 28, 2033	1.125%	497	497
Fresenius US Finance II, Inc. 2014/2021	US$300 million	Feb. 1, 2021	4.25%	–	244
Fresenius US Finance II, Inc. 2015/2023	US$300 million	Jan. 15, 2023	4.50%	265	243
FMC Finance VII S.A. 2011/2021	€300 million	Feb. 15, 2021	5.25%	–	299
Fresenius Medical Care AG & Co. KGaA 2019/2023	€650 million	Nov. 29, 2023	0.25%	649	648
Fresenius Medical Care AG & Co. KGaA 2018/2025	€500 million	July 11, 2025	1.50%	498	497
Fresenius Medical Care AG & Co. KGaA 2020/2026	€500 million	May 29, 2026	1.00%	496	496
Fresenius Medical Care AG & Co. KGaA 2019/2026	€600 million	Nov. 30, 2026	0.625%	595	594
Fresenius Medical Care AG & Co. KGaA 2019/2029	€500 million	Nov. 29, 2029	1.25%	497	497
Fresenius Medical Care AG & Co. KGaA 2020/2030	€750 million	May 29, 2030	1.50%	746	745
Fresenius Medical Care US Finance, Inc. 2011/2021	US$650 million	Feb. 15, 2021	5.75%	–	529
Fresenius Medical Care US Finance II, Inc. 2012/2022	US$700 million	Jan. 31, 2022	5.875%	618	570
Fresenius Medical Care US Finance II, Inc. 2014/2024	US$400 million	Oct. 15, 2024	4.75%	352	325
Fresenius Medical Care US Finance III, Inc. 2019/2029	US$500 million	June 15, 2029	3.75%	434	400
Fresenius Medical Care US Finance III, Inc. 2020/2031	US$1,000 million	Feb. 16, 2031	2.375%	875	807
Fresenius Medical Care US Finance III, Inc. 2021/2026	US$ 850 million	Dec. 1, 2026	1.875%	744	–
Fresenius Medical Care US Finance III, Inc. 2021/2031	US$ 650 million	Dec. 1, 2031	3.00%	567	–
Bonds				**14,634**	**13,847**

FRESENIUS SE & CO. KGAA

On April 1, 2021, Fresenius Finance Ireland PLC issued bonds with an aggregate volume of €1,500 million. The bonds consist of three tranches with maturities of four and a half, seven and a half and ten and a half years.

On September 28, 2020, Fresenius SE & Co. KGaA issued bonds with an aggregate volume of €1,000 million. The bonds consist of 2 tranches with maturities of 6 years and 12 years and 4 months.

On April 8, 2020, Fresenius SE & Co. KGaA issued bonds with a volume of €750 million. The bonds have a maturity of seven and a half years.

On January 15, 2020, Fresenius SE & Co. KGaA issued bonds in the amount of €750 million. The bonds have a maturity of eight years.

The bonds issued by Fresenius Finance Ireland PLC in the amount of €700 million, which were originally due on January 31, 2022, were redeemed prior to maturity on November 15, 2021.

All bonds of Fresenius US Finance II, Inc. and of Fresenius Finance Ireland PLC are guaranteed by Fresenius SE & Co. KGaA. All bonds issued before 2019, may be redeemed prior to their maturity at the option of the issuers at a price of 100% plus accrued interest and a premium calculated pursuant to the terms of the indentures under observance of certain notice periods.

The holders of Fresenius bonds have the right to request that the issuers repurchase the bonds at 101% of principal plus accrued interest upon the occurrence of a change of control followed by a decline in the rating of the respective bonds.

Fresenius SE & Co. KGaA has agreed to a number of covenants to provide protection to the holders of bonds issued before 2017, which partly restrict the scope of action of Fresenius SE & Co. KGaA and its subsidiaries (excluding Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) and its subsidiaries). These covenants include restrictions on further debt that can be raised, the mortgaging or sale of assets, the entering into sale and leaseback transactions as well as mergers and consolidations with other companies. Some of these restrictions were suspended automatically as the rating of the respective bonds reached investment grade status. As of December 31, 2021, the Fresenius Group was in compliance with all of its covenants.

FRESENIUS MEDICAL CARE AG & CO. KGAA

On May 18, 2021, Fresenius Medical Care US Finance III, Inc. issued bonds with an aggregate volume of US$1,500 million. The bonds consist of two tranches with maturities of five years and seven months and ten years and seven months.

On September 16, 2020, Fresenius Medical Care US Finance III, Inc. issued bonds with a volume of US$1,000 million. The bonds have a maturity of 10 years and 5 months.

On May 29, 2020, Fresenius Medical Care AG & Co. KGaA issued bonds with an aggregate volume of €1,250 million. The bonds consist of 2 tranches with maturities of 6 and 10 years.

As of December 31, 2021, the bonds issued by Fresenius Medical Care US Finance II, Inc. in the amount of US$700 million, which were due on January 31, 2022, are shown as current portion of bonds in the consolidated statement of financial position.

The bonds of Fresenius Medical Care US Finance II, Inc. and Fresenius Medical Care US Finance III, Inc. (wholly owned subsidiaries of FMC-AG & Co. KGaA) are guaranteed jointly and severally by FMC-AG & Co. KGaA and Fresenius Medical Care Holdings, Inc. As for all outstanding U.S. dollar bonds, the issuers may redeem the respective bonds at any time at 100% of principal plus accrued interest and a premium calculated pursuant to the terms of the indentures.

The holders of Fresenius Medical Care bonds have the right to request that the respective issuers repurchase the respective bonds at 101% of principal plus accrued interest upon the occurrence of a change of control of FMC-AG & Co. KGaA followed by a decline in the rating of the respective bonds.

FMC-AG & Co. KGaA has agreed to a number of covenants to provide protection to the holders of bonds issued before 2018 which, under certain circumstances, restrict the scope of action of FMC-AG & Co. KGaA and its subsidiaries. These covenants include restrictions on further debt that can be raised, the mortgaging or sale of assets, the entering into sale and leaseback transactions as well as mergers and consolidations with other companies. Some of these restrictions were suspended automatically as the rating of the respective bonds reached investment grade status. As of December 31, 2021, FMC-AG & Co. KGaA and its subsidiaries were in compliance with all of their covenants under the bonds.

25. CONVERTIBLE BONDS

As of December 31, the convertible bonds of the Fresenius Group net of debt issuance costs consisted of the following:

					Book value € in millions	
	Notional amount	Maturity	Coupon	Current conversion price	2021	2020
Fresenius SE & Co. KGaA 2017/2024	€500 million	Jan. 31, 2024	0.000%	€105.2603	482	474
Convertible bonds					**482**	**474**

The fair value of the derivative embedded in the convertible bonds of Fresenius SE & Co. KGaA was €70 thousand and €117 thousand at December 31, 2021 and December 31, 2020, respectively. Fresenius SE & Co. KGaA purchased stock options (call options) with a corresponding fair value to hedge future fair value fluctuations of this derivative.

Potential conversions are always cash-settled. Any increase of Fresenius' share price above the conversion price would be offset by a corresponding value increase of the call options.

26. PENSIONS AND SIMILAR OBLIGATIONS

GENERAL

The Fresenius Group recognizes pension costs and related pension liabilities for current and future benefits to qualified current and former employees of the Fresenius Group. Fresenius Group's pension plans are structured in accordance with the differing legal, economic and fiscal circumstances in each country. The Fresenius Group currently has two types of plans, defined benefit and defined contribution plans. In general, plan benefits in defined benefit plans are based on all or a portion of the employees' years of services and final salary. Plan benefits in defined contribution plans are determined by the amount of contribution by the employee and the employer, both of which may be limited by legislation, and the returns earned on the investment of those contributions. For the members of the Management Board of Fresenius Management SE, both defined benefit plans as well as defined contribution plans exist. In their basic features, these are similar to the obligations for the employees.

Upon retirement under defined benefit plans, the Fresenius Group is required to pay defined benefits to former employees when the defined benefits become due. Defined benefit plans may be funded or unfunded. The Fresenius Group has funded defined benefit plans in particular in the United States, Norway, the United Kingdom, the Netherlands, Switzerland and Austria. Unfunded defined benefit plans are located in Germany and France.

Actuarial assumptions generally determine benefit obligations under defined benefit plans. The actuarial calculations require the use of estimates. The main factors used in the actuarial calculations affecting the level of the benefit obligations are: assumptions on life expectancy, the discount rate and future salary and benefit levels. Under Fresenius Group's funded plans, assets are set aside to meet future payment obligations. An estimated return on the plan assets is recognized as income in the respective period. Actuarial gains and losses are generated when there are variations in the actuarial assumptions and by differences between the actual and the estimated projected benefit obligations and the return on plan assets for that year. A company's pension liability is impacted by these actuarial gains or losses.

Related to defined benefit plans, the Fresenius Group is exposed to certain risks. Besides general actuarial risks, e.g. the longevity risk and the interest rate risk, the Fresenius Group is exposed to market risk as well as to investment risk.

In the case of Fresenius Group's funded plans, the defined benefit obligation is offset against the fair value of plan assets (deficit or surplus). A pension liability is recognized in the consolidated statement of financial position if the defined benefit obligation exceeds the fair value of plan assets. An asset is recognized and reported under other assets in the consolidated statement of financial position if the fair value of plan assets exceeds the defined benefit obligation and if the Fresenius Group has a right of reimbursement against the fund or a right to reduce future payments to the fund.

Under defined contribution plans, the Fresenius Group pays defined contributions to an independent third party as directed by the employee during the employee's service life which satisfies all obligations of the Fresenius Group to the employee. The employee retains all rights to the contributions made by the employee and to the vested portion of the Fresenius Group paid contributions upon leaving the Fresenius Group. The Fresenius Group has a main defined contribution plan in the United States.

DEFINED BENEFIT PENSION PLANS

At December 31, 2021, the defined benefit obligation (DBO) of the Fresenius Group of €2,240 million (2020: €2,086 million) included €583 million (2020: €522 million) funded by plan assets and €1,657 million (2020: €1,564 million) covered by pension liabilities. Furthermore, the pension liability contains benefit obligations offered by other subsidiaries of Fresenius Medical Care in an amount of €46 million (2020: €44 million). The current portion of the pension liability in an amount of €28 million (2020: €26 million) is recognized in the consolidated statement of financial position within short-term provisions and other short-term liabilities. The non-current portion of €1,675 million (2020: €1,582 million) is recorded as pension liability.

The major part of pension liabilities relates to Germany. At December 31, 2021, 85% of the pension liabilities were recognized in Germany and 12% predominantly in the rest of Europe and North America. 48% of the beneficiaries were located in North America, 36% in Germany and the remainder throughout the rest of Europe and other continents.

79% of the pension liabilities in an amount of €1,703 million relate to the "Versorgungsordnung der Fresenius-Unternehmen" established in 2016 (Pension Plan 2016), which applied for most of the German entities of the Fresenius Group for entries up until December 31, 2019 except Fresenius Helios and Fresenius Vamed. For new entrants from January 1, 2020 onwards, a new defined contribution plan applies for these entities. The remaining pension liabilities relate to individual plans from Fresenius Helios entities in Germany and non-German Group entities.

Plan benefits are generally based on an employee's years of service and final salary. Consistent with predominant practice in Germany, the benefit obligations of the German entities of the Fresenius Group are unfunded. The German Pension Plan 2016 does not have a separate pension asset.

Fresenius Medical Care Holdings, Inc. (FMCH), a subsidiary of Fresenius Medical Care AG & Co. KGaA, has a defined benefit pension plan for its employees in the United States and supplemental executive retirement plans. During the first quarter of 2002, FMCH curtailed these pension plans. Under the curtailment amendment for substantially all employees eligible to participate in the plan, benefits have been frozen as of the curtailment date and no additional defined benefits for future services will be earned. FMCH has retained all employee benefit obligations as of the curtailment date. Each year, FMCH contributes to the plan covering United States employees at least the minimum amount required by the Employee Retirement Income Security Act of 1974, as amended. In 2021, there was no minimum funding requirement for the defined benefit plan. FMCH voluntarily provided €1 million. Expected funding for 2022 is €1 million.

Controlling and managing the administration of the plan in the United States was delegated by Fresenius Medical Care to an administrative committee. This committee has the authority and discretion to manage the assets of the fund and to approve and adopt certain plan amendments. The board of directors of National Medical Care, Inc., a subsidiary of Fresenius Medical Care, reserves the right to approve or adopt all major plan amendments, such as termination, modification or termination of the future benefit accruals and plan mergers with other pension plans.

Benefit plans offered by other subsidiaries of Fresenius Medical Care outside of the United States, Germany and France contain separate benefit obligations. The total pension liability for these other plans was €46 million and €44 million at December 31, 2021 and 2020, respectively. The current pension liability of €4 million (2020: €4 million) is recognized as a current liability in the line item short-term provisions and other short-term liabilities. The non-current pension liability of €42 million (2020: €40 million) for these plans is recorded as pension liability in the consolidated statement of financial position.

Fresenius Group's benefit obligations relating to fully or partly funded pension plans were €716 million. Benefit obligations relating to unfunded pension plans were €1,524 million.

The following table shows the changes in benefit obligations, the changes in plan assets, the deficit or surplus of the pension plans and the pension liability. Benefits paid as shown in the changes in benefit obligations represent payments made from both the funded and unfunded plans while the benefits paid as shown in the changes in plan assets include only benefit payments from Fresenius Group's funded benefit plans.

The net pension liability has developed as follows:

€ in millions	2021	2020
Benefit obligations at the beginning of the year	**2,086**	**2,132**
Changes in entities consolidated	-2	5
Foreign currency translation	45	-40
Service cost	85	89
Past service cost	0	3
Settlements	0	0
Net interest cost	34	34
Contributions by plan participants	5	4
Transfer of plan participants	9	-101
Remeasurements	36	19
Actuarial losses (gains) arising from changes in financial assumptions	46	15
Actuarial losses (gains) arising from changes in demographic assumptions	-4	1
Actuarial losses (gains) arising from experience adjustments	-6	3
Benefits paid	-58	-59
Benefit obligations at the end of the year	**2,240**	**2,086**
thereof vested	1,828	1,686

€ in millions	2021	2020
Fair value of plan assets at the beginning of the year	**522**	**626**
Foreign currency translation	36	-31
Actual return (cost) on plan assets	31	44
Interest income from plan assets	11	12
Actuarial gains (losses) arising from experience adjustments	20	32
Contributions by the employer	14	21
Contributions by plan participants	5	4
Transfer of plan participants	10	-102
Benefits paid	-35	-40
Fair value of plan assets at the end of the year	**583**	**522**
Net funded position as of December 31	**1,657**	**1,564**
Benefit plans offered by other subsidiaries	45	44
Net pension liability as of December 31	**1,702**	**1,608**

As of December 31, 2021, pension liabilities in the amount of €41 million (December 31, 2020: €46 million) related to the members of the Management Board of Fresenius Management SE.

The plan assets are neither invested in the Fresenius Group nor in related parties of the Fresenius Group.

As of December 31, 2021, the fair value of plan assets relating to individual pension plans exceeded the corresponding benefit obligations by €1 million. As of December 31, 2020, the fair value of plan assets did not exceed the benefit obligations in any pension plan. Furthermore, for the years 2021 and 2020, there were no effects from asset ceiling.

The discount rates for all plans are based upon yields of portfolios of highly rated debt instruments with maturities that mirror the plan's benefit obligation. Fresenius Group's discount rate is the weighted average of these plans based upon their benefit obligations.

The following weighted average assumptions were utilized in determining benefit obligations as of December 31:

in %	2021	2020
Discount rate	1.66	1.61
Rate of compensation increase	2.80	2.79
Rate of pension increase	1.60	1.36

Mainly changes in the discount factor, as well as inflation and mortality assumptions used for the actuarial computation resulted in actuarial losses in 2021 which increased the fair value of the defined benefit obligation. Unrecognized actuarial losses were €853 million (2020: €887 million).

Sensitivity analysis

Increases and decreases in principal actuarial assumptions by 0.5 percentage points would affect the pension liability as of December 31, 2021 as follows:

Development of pension liability € in millions	0.5 pp increase	0.5 pp decrease
Discount rate	-206	236
Rate of compensation increase	36	-35
Rate of pension increase	126	-112

The sensitivity analysis was calculated based on the average duration of the pension obligations determined at December 31, 2021. The calculations were performed isolated for each significant actuarial parameter, in order to show the effect on the fair value of the pension liability separately. The sensitivity analysis for compensation increases and for pension increases excludes the U.S. pension plan, because it is frozen and therefore is not affected by changes from these two actuarial assumptions.

Further explanatory notes

Defined benefit pension plans' net periodic benefit costs of €107 million (2020: €114 million) were comprised of the following components:

€ in millions	2021	2020
Service cost	84	92
Net interest cost	23	22
Net periodic benefit cost	**107**	**114**

Net periodic benefit cost is allocated as personnel expense within cost of sales, selling expenses, general and administrative expenses as well as research and development expenses. The allocation depends upon the area in which the beneficiary is employed.

The following weighted average assumptions were used in determining net periodic benefit cost for the year ended December 31:

in %	2021	2020
Discount rate	2.02	2.03
Rate of compensation increase	2.93	2.89
Rate of pension increase	1.54	1.71

The following table shows the expected benefit payments for the next 10 years:

for the fiscal years	€ in millions
2022	57
2023	59
2024	63
2025	66
2026	70
2027 to 2031	399
Total expected benefit payments	**714**

At December 31, 2021 and at December 31, 2020, the weighted average duration of the defined benefit obligation was 19 years.

The fair values of plan assets by categories were as follows:

€ in millions	December 31, 2021 Quoted prices in active markets for identical assets Level 1	Significant observable inputs Level 2	Significant unobservable inputs Level 3	Total	December 31, 2020 Quoted prices in active markets for identical assets Level 1	Significant observable inputs Level 2	Significant unobservable inputs Level 3	Total
Categories of plan assets								
Equity investments	81	85	–	166	64	79	–	143
Index funds[1]	44	85	–	129	35	79	–	114
Other equity investments	37	–	–	37	29	–	–	29
Fixed income investments	103	220	8	331	109	192	7	308
Government securities[2]	21	0	–	21	25	0	–	25
Corporate bonds[3]	29	212	–	241	28	183	–	211
Other fixed income investments[4]	53	8	8	69	56	9	7	72
Other[5]	74	12	–	86	57	14	–	71
Total	**258**	**317**	**8**	**583**	**230**	**285**	**7**	**522**

[1] This category is mainly comprised of low-cost equity index funds not actively managed that track the S&P 500, S&P 400, Russell 2000, the MSCI Emerging Markets Index and the Morgan Stanley International EAFE Index.
[2] This category is primarily comprised of fixed income investments by the U.S. government and government sponsored entities.
[3] This category primarily represents investment grade bonds of U.S. issuers from diverse industries.
[4] This category is mainly comprised of private placement bonds as well as collateralized mortgage obligations as well as cash and funds that invest in U.S. treasury obligations directly or in U.S. treasury backed obligations.
[5] This category mainly represents cash, money market funds as well as mutual funds comprised of high grade corporate bonds.

The methods and inputs used to measure the fair value of plan assets are as follows:

Index funds are valued based on market quotes.

Other equity investments are valued at their market prices as of the date of the statement of financial position.

Government bonds are valued based on both market prices (Level 1) and market quotes (Level 2).

Corporate bonds and other bonds are valued based on market quotes as of the date of the statement of financial position.

Cash is stated at nominal value which equals the fair value.

U.S. Treasury money market funds as well as other money market and mutual funds are valued at their market prices.

Plan investment policy and strategy in the United States

The Fresenius Group periodically reviews the assumptions for long-term expected return on pension plan assets. As part of the assumptions review, a range of reasonable expected investment returns for the pension plan as a whole was determined based on an analysis of expected future returns for each asset class weighted by the allocation of the assets. The range of returns developed relies both on forecasts, which include the actuarial firm's expected long-term rates of return for each significant asset class or economic indicator, and on broad-market historical benchmarks for expected return, correlation, and volatility for each asset class.

The overall investment strategy for the U.S. pension plan is to achieve a mix of approximately 99% of investments for long-term growth and income and 1% in cash or cash equivalents. Investment income and cash or cash equivalents are used for near-term benefit payments.

Investments are governed by the plan investment policy and include well diversified index funds or funds targeting index performance.

The plan investment policy, utilizing a revised target investment allocation in a range around 26% equity and 74% fixed income investments, considers that there will be a time horizon for invested funds of more than five years. The total portfolio will be measured against a custom index that reflects the asset class benchmarks and the target asset allocation. The plan investment policy does not allow investments in securities of Fresenius Medical Care AG & Co. KGaA or other related party securities. The performance benchmarks for the separate asset classes include: S & P 500 Index, S & P 400 Mid-Cap Index, Russell 2000 Index, MSCI EAFE Index, MSCI Emerging Markets Index, Barclays Capital Long-Corporate Bond Index, Bloomberg Barclays U.S. Corporate High Yield Index, and Bloomberg Barclays U.S. High Yield Fallen Angel 3% Capped Index.

The following schedule describes Fresenius Group's allocation for all of its funded plans.

in %	Allocation 2021	Allocation 2020	Target allocation
Equity investments	28.37	27.45	26.91
Fixed income investments	57.03	59.08	59.46
Other incl. real estate/fonds	14.60	13.47	13.63
Total	**100.00**	**100.00**	**100.00**

Contributions to plan assets for the fiscal year 2022 are expected to amount to €16 million.

DEFINED CONTRIBUTION PLANS

Fresenius Group's total expense under defined contribution plans for 2021 was €201 million (2020: €187 million). Of this amount, €111 million related to contributions by the Fresenius Group to several public supplementary pension funds for employees of Fresenius Helios. This includes €28 million for contributions related to financing the deficit of past service costs. Further €68 million related to contributions to the U.S. savings plan, which employees of Fresenius Medical Care Holdings, Inc. can join.

In accordance with applicable collective bargaining agreements, the Fresenius Group pays contributions for a given number of employees of Fresenius Helios to the Rheinische Zusatzversorgungskasse (a supplementary pension fund) and to other public supplementary pension funds (together referred to as ZVK ÖD) to complement statutory retirement pensions. Given that employees from multiple participating entities are insured by these ZVK ÖDs, these plans are considered Multi-Employer plans.

ZVK ÖDs are defined benefit plans according to IAS 19 since employees are entitled to the statutory benefits regardless of the amounts contributed. The plan assets of the fund necessary to evaluate and calculate the funded status of the Group cannot be obtained from the supplementary pension funds and therefore due to the missing information about future payment obligations, the calculation of a pension liability in accordance with IAS 19 is not possible. Therefore, the obligation is accounted for as defined contribution plan in accordance with IAS 19.34a. The contributions are collected as part of a pay-as-you-go system and are based upon applying a fixed rate to given parts of the employees' gross remuneration.

Paid contributions are accounted for as personnel expenses within cost of sales, selling expenses as well as general and administrative expenses and amounted to €111 million in 2021 (2020: €100 million). Thereof, €64 million (2020: €57 million) were payments to Rheinische Zusatzversorgungskasse, to Versorgungsanstalt des Bundes und der Länder and to Zusatzversorgungskasse Baden-Württemberg (2020: Zusatzversorgungskasse Wiesbaden) (supplementary pension funds). The Group expects to contribute in 2022 €118 million (including payments relating to past service costs).

Under the U.S. savings plan, employees can deposit up to 75% of their pay up to an annual maximum of US$20,500 if under 50 years old (US$27,000 if 50 or over). Fresenius Medical Care will match 50% of the employee deposit up to a maximum company contribution of 3% of the employee's pay. Fresenius Medical Care's total expense under this defined contribution plan for the years ended December 31, 2021 and 2020 was €68 million and €65 million, respectively.

27. NONCONTROLLING INTERESTS

As of December 31, noncontrolling interests in the Fresenius Group were as follows:

€ in millions	2021	2020
Noncontrolling interests in Fresenius Medical Care AG & Co. KGaA	8,609	7,600
Noncontrolling interests in VAMED Aktiengesellschaft	88	91
Noncontrolling interests in the business segments		
Fresenius Medical Care	1,280	1,116
Fresenius Kabi	161	129
Fresenius Helios	134	122
Fresenius Vamed	18	16
Total noncontrolling interests	**10,290**	**9,074**

For further financial information relating to Fresenius Medical Care see the consolidated segment reporting on pages 285 to 286.

Noncontrolling interests changed as follows:

€ in millions	2021
Noncontrolling interests as of December 31, 2020	**9,074**
Noncontrolling interests in profit	1,001
Purchase of noncontrolling interests	98
Stock options	4
Dividend payments	-577
Currency effects and other changes	690
Noncontrolling interests as of December 31, 2021	**10,290**

28. FRESENIUS SE & CO. KGAA SHAREHOLDERS' EQUITY

SUBSCRIBED CAPITAL

Development of subscribed capital

As of January 1, 2021, the subscribed capital of Fresenius SE & Co. KGaA consisted of 557,540,909 bearer ordinary shares.

During the fiscal year 2021, 961,234 stock options were exercised. Consequently, as of December 31, 2021, the subscribed capital of Fresenius SE & Co. KGaA consisted of 558,502,143 bearer ordinary shares. The shares are issued as non-par value shares. The proportionate amount of the subscribed capital is €1.00 per share.

AUTHORIZED CAPITAL

Currently, Fresenius SE & Co. KGaA has a statutory Authorized Capital in the nominal amount of €125,000,000.

The general partner, Fresenius Management SE, is authorized, with the approval of the Supervisory Board, until May 17, 2023, to increase Fresenius SE & Co. KGaA's share capital (subscribed capital) by a total amount of up to €125,000,000 through a single or multiple issues of new bearer ordinary shares against cash contributions and / or contributions in kind (Authorized Capital I).

The number of shares must increase in the same proportion as the subscribed capital. A subscription right must be granted to the shareholders in principle. In defined cases, the general partner is authorized, with the consent of the Supervisory Board, to decide on the exclusion of the shareholders' subscription right (e. g. to eliminate fractional amounts). For cash contributions, the authorization can only be exercised if the issue price is not significantly below the stock exchange price of the already listed shares at the time the issue price is fixed with final effect by the general partner. Furthermore, in case of a capital increase against cash contributions, the proportionate amount of the shares issued with exclusion of subscription rights may not exceed 10% of the subscribed capital. An exclusion of subscription rights in the context of the use of other authorizations concerning the issuance or the sale of the shares of Fresenius SE & Co. KGaA or the issuance of rights which authorize or bind to the subscription of shares of Fresenius SE & Co. KGaA has to be taken into consideration during the duration of the Authorized Capital until its utilization. In the case of a subscription in kind, the subscription right can be excluded only in order to acquire a company, parts of a company or a participation in a company.

The authorizations granted concerning the exclusion of subscription rights can be used by Fresenius Management SE only to such extent that the proportional amount of the total number of shares issued with exclusion of the subscription rights does not exceed 10% of the subscribed capital. An exclusion of subscription rights in the context of the use of other authorizations concerning the issuance or the sale of the shares of Fresenius SE & Co. KGaA or the issuance of rights which authorize or bind to the subscription of shares of Fresenius SE & Co. KGaA has to be taken into consideration during the duration of the Authorized Capital until its utilization.

CONDITIONAL CAPITAL

In order to fulfill the subscription right under the current stock option plan 2013 of Fresenius SE & Co. KGaA, Conditional Capital IV exists (see note 36, Share-based compensation plans). Another Conditional Capital III exists for the authorization to issue option bearer bonds and/or convertible bonds.

The following table shows the development of the Conditional Capital:

in €	Ordinary shares
Conditional Capital I Fresenius AG Stock Option Plan 2003 (expired)	4,735,083
Conditional Capital II Fresenius SE Stock Option Plan 2008 (expired)	3,452,937
Conditional Capital III option bearer bonds and/or convertible bonds	48,971,202
Conditional Capital IV Fresenius SE & Co. KGaA Stock Option Plan 2013	23,786,091
Total Conditional Capital as of January 1, 2021	**80,945,313**
Fresenius SE & Co. KGaA Stock Option Plan 2013 – options exercised	-961,234
Total Conditional Capital as of December 31, 2021	**79,984,079**

As of December 31, 2021, the Conditional Capital was composed as follows:

in €	Ordinary shares
Conditional Capital I Fresenius AG Stock Option Plan 2003 (expired)	4,735,083
Conditional Capital II Fresenius SE Stock Option Plan 2008 (expired)	3,452,937
Conditional Capital III option bearer bonds and/or convertible bonds	48,971,202
Conditional Capital IV Fresenius SE & Co. KGaA Stock Option Plan 2013	22,824,857
Total Conditional Capital as of December 31, 2021	**79,984,079**

CAPITAL RESERVES

Capital reserves are comprised of the premium paid on the issue of shares and the exercise of stock options (additional paid-in capital).

OTHER RESERVES

Other reserves are comprised of earnings generated by Group entities in prior years to the extent that they have not been distributed.

DIVIDENDS

Under the German Stock Corporation Act (AktG), the amount of dividends available for distribution to shareholders is based upon the unconsolidated retained earnings of Fresenius SE & Co. KGaA as reported in its statement of financial position determined in accordance with the German Commercial Code (HGB).

In May 2021, a dividend of €0.88 per bearer ordinary share was approved by Fresenius SE & Co. KGaA's shareholders at the Annual General Meeting and paid afterwards. The total dividend payment was €491 million. Thereby, the Else Kröner-Fresenius-Stiftung was paid the dividend which it is entitled as a shareholder in the ordinary share capital of Fresenius SE & Co. KGaA.

TREASURY STOCK OF FRESENIUS MEDICAL CARE

In 2020, Fresenius Medical Care repurchased 5,687,473 ordinary shares for an amount of €366 million.

On April 1, 2020, Fresenius Medical Care concluded the current share buy-back program.

29. OTHER COMPREHENSIVE INCOME (LOSS)

Other comprehensive income (loss) is comprised of all amounts recognized directly in equity (net of tax) resulting from the currency translation of foreign subsidiaries' financial statements and the effects of measuring financial instruments at their fair value as well as the change in benefit obligation.

Changes in the components of other comprehensive income (loss) in 2021 and 2020 were as follows:

€ in millions	Amount before taxes	Tax effect	Amount after taxes
Positions which will be reclassified into net income in subsequent years			
Cash flow hedges	5	-1	4
Change in unrealized gains/losses	8	-1	7
Realized gains/losses due to reclassifications	-3	0	-3
FVOCI debt instruments	30	-5	25
Foreign currency translation	-2,075	-5	-2,080
Positions which will not be reclassified into net income in subsequent years			
FVOCI equity investments	4	-1	3
Equity method investees - share of OCI	58	0	58
Actuarial gains/losses on defined benefit pension plans	28	-7	21
Total changes 2020	**-1,950**	**-19**	**-1,969**
Positions which will be reclassified into net income in subsequent years			
Cash flow hedges	-6	2	-4
Change in unrealized gains/losses	-22	5	-17
Realized gains/losses due to reclassifications	16	-3	13
FVOCI debt instruments	-10	2	-8
Foreign currency translation	1,475	4	1,479
Positions which will not be reclassified into net income in subsequent years			
FVOCI equity investments	-28	8	-20
Equity method investees - share of OCI	-23	0	-23
Actuarial gains/losses on defined benefit pension plans	-15	8	-7
Total changes 2021	**1,393**	**24**	**1,417**

OTHER NOTES

30. COMMITMENTS AND CONTINGENCIES

As of December 31, 2021, future investment commitments existed in respect to acquired hospitals, which are projected to amount up to €70 million until 2024. No investment commitments relate to the year 2022.

As of December 31, 2020, future investment commitments existed in respect to acquired hospitals, which are projected to amount up to €124 million until 2024. Thereof €66 million related to the year 2021.

Besides the above-mentioned contingent liabilities, the current estimated amount of Fresenius Group's other known individual contingent liabilities is immaterial.

LEGAL AND REGULATORY MATTERS

The Fresenius Group is routinely involved in claims, lawsuits, regulatory and tax audits, investigations and other legal matters arising, for the most part, in the ordinary course of its business of providing health care services and products. Legal matters that the Fresenius Group currently deems to be material or noteworthy are described below. The Fresenius Group records its litigation reserves for certain legal proceedings and regulatory matters to the extent that the Fresenius Group determines an unfavorable outcome is probable and the amount of loss can be reasonably estimated. For the other matters described below, the Fresenius Group believes that the loss is not probable and/or the loss or range of possible losses cannot be reasonably estimated at this time.

The outcome of litigation and other legal matters is always difficult to predict accurately and outcomes that are not consistent with Fresenius Group's view of the merits can occur. The Fresenius Group believes that it has valid defenses to the legal matters pending against it and is defending itself vigorously. Nevertheless, it is possible that the resolution of one or more of the legal matters currently pending or threatened could have a material adverse effect on its business, results of operations and financial condition.

Internal review/FCPA Compliance

Beginning in 2012, Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) received certain communications alleging conduct in countries outside the United States that might violate the Foreign Corrupt Practices Act or other anti-bribery laws. FMC-AG & Co. KGaA conducted investigations with the assistance of outside counsel and, in a continuing dialogue, advised the Securities and Exchange Commission (SEC) and the United States Department of Justice (DOJ) about these investigations. The DOJ and the SEC also conducted their own investigations, in which FMC-AG & Co. KGaA cooperated.

In the course of this dialogue, FMC-AG & Co. KGaA identified and reported to the DOJ and the SEC, and took remedial actions with respect to, conduct that resulted in the DOJ and the SEC seeking monetary penalties including disgorgement of profits and other remedies. This conduct revolved principally around FMC-AG & Co. KGaA's products business in countries outside the United States.

On March 29, 2019, FMC-AG & Co. KGaA entered into a non-prosecution agreement (NPA) with the DOJ and a separate agreement with the SEC (SEC Order) intended to resolve fully and finally the U.S. government allegations against FMC-AG & Co. KGaA arising from the investigations. Both agreements included terms starting August 2, 2019. The DOJ NPA and SEC Order are both scheduled to terminate on December 31, 2022. In 2019, FMC-AG & Co. KGaA paid a combined total in penalties and disgorgement of approximately US$232 million (€206 million) to the DOJ and the SEC in connection with these agreements. The entire amount paid to the DOJ and the SEC was reserved for in charges that FMC-AG & Co. KGaA recorded in 2017 and 2018 and announced in 2018. As part of the resolution, FMC-AG & Co. KGaA agreed to certain self-reporting obligations and to retain an independent compliance monitor.

Due in part to COVID-19 pandemic restrictions, the monitorship program faced certain delays, but FMC-AG & Co. KGaA is working to complete all its obligations under the resolution with the DOJ and SEC in 2022.

In 2015, FMC-AG & Co. KGaA self-reported to the German prosecutor conduct with a potential nexus to Germany and continues to cooperate with government authorities in Germany in their review of the conduct that prompted FMC-AG & Co. KGaA's and United States government investigations.

Since 2012, FMC-AG & Co. KGaA has made and continues to make further significant investments in its compliance and financial controls and in its compliance, legal and financial organizations. FMC-AG & Co. KGaA's remedial actions included separation from those employees responsible for the above-mentioned conduct. FMC-AG & Co. KGaA is dealing with post-U.S. Foreign Corrupt Practices Act (FCPA) review matters on various levels. FMC-AG & Co. KGaA continues to be fully committed to compliance with the FCPA and other applicable anti-bribery laws.

Product liability litigation

Personal injury and related litigation involving Fresenius Medical Care Holding Inc.'s (FMCH) acid concentrate product, labeled as Granuflo® or Naturalyte®, first arose in 2012. FMCH's insurers agreed to the settlement in 2017 of personal injury litigation and funded US$220 million (€179 million) of the settlement fund under a reciprocal reservation of rights. FMCH accrued a net expense of US$60 million (€49 million) in connection with the settlement, including legal fees and other anticipated costs. Following the settlement, FMCH's insurers in the AIG group initiated litigation against FMCH seeking to be indemnified by FMCH for their US$220 million (€179 million) outlay and FMCH initiated litigation against the AIG group to recover defense and indemnification costs FMCH had borne. National Union Fire Insurance v. Fresenius Medical Care, 2016 Index No. 653108 (Supreme Court of New York for New York County).

Discovery in the litigation is complete. The AIG group abandoned certain of its coverage claims and submitted expert reports on damages asserting that, if AIG prevails on all its remaining claims, it should recover US$60 million (€49 million). FMCH contests all of AIG's claims and submitted expert reports supporting rights to recover US$108 million (€88 million) from AIG, in addition to the US$220 million (€179 million) already funded. A trial date has not been set in the matter.

Subpoena "Maryland"

In August 2014, Fresenius Medical Care Holdings, Inc. (FMCH) received a subpoena from the United States Attorney's Office (USAO) for the District of Maryland inquiring into FMCH's contractual arrangements with hospitals and physicians involving contracts relating to the management of in-patient acute dialysis services. On August 27, 2020, after the USAO declined to pursue the matter by intervening, the United States District Court for Maryland unsealed a 2014 relator's qui tam complaint that gave rise to the investigation. The relator thereafter served the complaint and proceeded on his own in part by filing an amended complaint making broad allegations about financial relationships between FMCH and nephrologists. FMCH's motion to dismiss the amended complaint remains pending. On October 5, 2021, the District Court for Maryland granted FMCH's motion to transfer the case to the United States District Court for Massachusetts, where the litigation continues. Flanagan v. Fresenius Medical Care Holdings, Inc., 1:21-cv-11627.

Civil complaint "Hawaii"

In July 2015, the Attorney General for Hawaii issued a civil complaint under the Hawaii False Claims Act alleging a conspiracy pursuant to which certain Liberty Dialysis subsidiaries of Fresenius Medical Care Holdings, Inc. (FMCH) overbilled Hawaii Medicaid for Liberty's Epogen® administrations to Hawaii Medicaid patients during the period from 2006 through 2010, prior to the time of FMCH's acquisition of Liberty. Hawaii v. Liberty Dialysis - Hawaii, LLC et al., Case No. 15-1-1357-07 (Hawaii 1st Circuit). The State alleges that Liberty acted unlawfully by relying on incorrect and unauthorized billing guidance provided to Liberty by Xerox State Healthcare LLC, which acted as

Hawaii's contracted administrator for its Medicaid program reimbursement operations during the relevant period. With discovery concluded, the State has specified that its demands for relief relate to US$7.7 million (€6.3 million) in overpayments on approximately twenty thousand "claims" submitted by Liberty. After prevailing on motions by Xerox to preclude it from doing so, FMCH is pursuing third-party claims for contribution and indemnification against Xerox. The State's False Claims Act complaint was filed after Liberty initiated an administrative action challenging the State's recoupment of alleged overpayments from sums currently owed to Liberty. The civil litigation and administrative action are proceeding in parallel. Trial in the civil litigation has been postponed because of COVID-19-related administrative issues and has been rescheduled for August 2022.

Subpoenas "Colorado and New York"

On August 31, 2015, Fresenius Medical Care Holdings, Inc. (FMCH) received a subpoena under the False Claims Act from the United States Attorney for the District of Colorado (Denver) inquiring into FMCH's participation in and management of dialysis facility joint ventures in which physicians are partners. FMCH has cooperated in the Denver USAO investigation, which has come to focus on purchases and sales of minority interests in ongoing outpatient facilities between FMCH and physician groups.

On November 25, 2015, FMCH received a subpoena under the False Claims Act from the United States Attorney for the Eastern District of New York (Brooklyn) also inquiring into FMCH's involvement in certain dialysis facility joint ventures in New York. On September 26, 2018, the Brooklyn USAO declined to intervene on the qui tam complaint filed under seal in 2014 that gave rise to this investigation. CKD Project LLC v. Fresenius Medical Care, 2014 Civ. 06646 (E.D.N.Y. November 12, 2014). The District Court unsealed the complaint, allowing the relator to proceed on its own. On August 3, 2021, the District Court granted FMCH's motion to dismiss the relator's amended complaint, dismissed the case with prejudice and declined to allow further amendment. On August 27, 2021, the relator appealed to the United States Court of Appeals for the Second Circuit.

Subpoena "Fresenius Vascular Care" (AAC)

Beginning October 6, 2015, the United States Attorney for the Eastern District of New York (Brooklyn) has led an investigation, through subpoenas issued under the False Claims Act, of utilization and invoicing by Fresenius Medical Care Holdings, Inc.'s (FMCH) subsidiary Azura Vascular Care for a period beginning after FMCH's acquisition of American Access Care LLC (AAC) in October 2011. FMCH is cooperating in the Brooklyn USAO investigation. The Brooklyn USAO has indicated that its investigation is nationwide in scope and is focused on whether certain access procedures performed at Azura facilities were medically unnecessary and whether certain physician assistants employed by Azura exceeded their permissible scope of practice. Allegations against AAC arising in districts in Connecticut, Florida and Rhode Island relating to utilization and invoicing were settled in 2015.

Subpoena "New York" (Shiel)

On November 18, 2016, Fresenius Medical Care Holdings, Inc. (FMCH) received a subpoena under the False Claims Act from the United States Attorney for the Eastern District of New York (Brooklyn) seeking documents and information relating to the operations of Shiel Medical Laboratory, Inc. (Shiel), which FMCH acquired in October 2013. In the course of cooperating in the investigation and preparing to respond to the subpoena, FMCH identified falsifications and misrepresentations in documents submitted by a Shiel salesperson that relate to the integrity of certain invoices submitted by Shiel for laboratory testing for patients in long-term care facilities. On February 21, 2017, FMCH terminated the employee and notified the United States Attorney of the termination and its circumstances. The terminated employee's conduct is expected to result in demands for

FMCH to refund overpayments and to pay related penalties under applicable laws, but the monetary value of such payment demands cannot yet be reasonably estimated. FMCH contends that, under the asset sale provisions of its 2013 Shiel acquisition, it is not responsible for misconduct by the terminated employee or other Shiel employees prior to the date of the acquisition. The Brooklyn USAO continues to investigate a range of issues involving Shiel, including allegations of improper compensation (kickbacks) to physicians, and has disclosed that multiple sealed qui tam complaints underlie the investigation.

On December 12, 2017, FMCH sold to Quest Diagnostics certain Shiel operations that are the subject of this Brooklyn subpoena, including the misconduct reported to the United States Attorney. Under the Quest Diagnostics sale agreement, FMCH retains responsibility for responding to the Brooklyn investigation and for liabilities arising from conduct occurring after its 2013 acquisition of Shiel and prior to its sale of Shiel to Quest Diagnostics. FMCH is cooperating in the investigation.

Subpoena "American Kidney Fund" / CMS Litigation

In May 2017, the United States Attorney for the Middle District of Tennessee (Nashville) issued identical subpoenas to Fresenius Medical Care Holdings, Inc. (FMCH) and two subsidiaries under the False Claims Act concerning FMCH's retail pharmaceutical business. The subpoenas, and the subsequent investigation in which FMCH cooperated, were apparently predicated on but were not limited to a complaint filed on November 6, 2015 by two former employees. United States ex rel. Keasler et al. v. Fresenius Medical Care Rx, LLC, 03:15-Civ-01183 (M.D. Tenn. 2015). On August 17, 2021, the District Court dismissed the case without prejudice after the Nashville USAO declined to intervene and the relators elected not to proceed.

Vifor patent infringement Fresenius Medical Care (Delaware)

On March 12, 2018, Vifor Fresenius Medical Care Renal Pharma Ltd. and Vifor Fresenius Medical Care Renal Pharma France S.A.S. (collectively, VFMCRP), filed a complaint for patent infringement against Lupin Atlantis Holdings SA and Lupin Pharmaceuticals Inc. (collectively, Lupin), and Teva Pharmaceuticals USA, Inc. (Teva) in the U.S. District Court for the District of Delaware (Case 1:18-cv-00390-MN, first complaint). The patent infringement action is in response to Lupin and Teva's filings of Abbreviated New Drug Applications (ANDA) with the U.S. Food and Drug Administration (FDA) for generic versions of Velphoro®. Velphoro® is protected by patents listed in the FDA's Approved Drug Products with Therapeutic Equivalence Evaluations, also known as the Orange Book. The complaint was filed within the 45-day period provided for under the Hatch-Waxman legislation, and triggered a stay of FDA approval of the ANDAs for 30 months (specifically, up to July 29, 2020 for Lupin's ANDA; and August 6, 2020 for Teva's ANDA. In response to another ANDA being filed for a generic Velphoro®, VFMCRP filed a complaint for patent infringement against Annora Pharma Private Ltd., and Hetero Labs Ltd. (collectively, Annora), in the U.S. District Court for the District of Delaware on December 17, 2018. The case was settled among the parties, thus terminating the court action on August 4, 2020. On May 26, 2020, VFMCRP filed a further complaint for patent infringement against Lupin in the U.S. District Court for the District of Delaware (Case No. 1:20-cv-00697-MN) in response to Lupin's ANDA for a generic version of Velphoro® and on the basis of a newly listed patent in the Orange Book. On July 6, 2020, VFMCRP filed an additional complaint for patent infringement against Lupin and Teva in the U.S. District Court for the District of Delaware (Case No. 1:20-cv-00911-MN, second complaint) in response to the companies' ANDA for generic versions of Velphoro® and on the basis of two newly listed patents in the Orange Book. All cases involving Lupin as defendant were settled among the parties, thus terminating the corresponding court actions on December 18, 2020. In relation to the remaining pending cases and the defendant Teva, trial took place for the first complaint between January 19 and 22, 2021. Another patent newly listed in the Orange Book was added to the second complaint on June 23, 2021. Trial is scheduled for the second complaint for June 2022.

Subpoena "Colorado (Denver)"

On December 17, 2018, Fresenius Medical Care Holdings, Inc. (FMCH) was served with a subpoena under the False Claims Act from the United States Attorney for the District of Colorado (Denver) as part of an investigation of allegations against DaVita, Inc. involving transactions between FMCH and DaVita. The subject transactions include sales and purchases of dialysis facilities, dialysis-related products and pharmaceuticals, including dialysis machines and dialyzers, and contracts for certain administrative services. FMCH cooperated in the investigation.

Litigation Tricare Program

On June 28, 2019, certain Fresenius Medical Care Holdings, Inc. (FMCH) subsidiaries filed a complaint against the United States seeking to recover monies owed to them by the United States Department of Defense under the Tricare program, and to preclude Tricare from recouping monies previously paid. Bio-Medical Applications of Georgia, Inc., et al. v. United States, CA 19-947, United States Court of Federal Claims. Tricare provides reimbursement for dialysis treatments and other medical care provided to members of the military services, their dependents and retirees. The litigation challenges unpublished administrative actions by Tricare administrators reducing the rate of compensation paid for dialysis treatments provided to Tricare beneficiaries based on a recasting or "crosswalking" of codes used and followed in invoicing without objection for many years. Tricare administrators have acknowledged the unpublished administrative action and declined to change or abandon it. On July 8, 2020, the U.S. government filed its answer (and confirmed its position) and litigation is continuing. The court has not yet set a date for trial in this matter. FMCH has imposed a constraint on revenue otherwise recognized from the Tricare program that it believes, in consideration of facts currently known, sufficient to account for the risk of this litigation.

Subpoena "Massachusetts ChoiceOne and Medspring"

On August 21, 2020, Fresenius Medical Care Holdings, Inc. (FMCH) was served with a subpoena from the United States Attorney for the District of Massachusetts requesting information and documents related to urgent care centers that FMCH owned, operated, or controlled as part of its ChoiceOne and Medspring urgent care operations prior to its divestiture of and exit from that line of business in 2018. The subpoena appears to be related to an ongoing investigation of alleged upcoding in the urgent care industry, which has resulted in certain published settlements under the federal False Claims Act. FMCH is cooperating in the investigation.

Subpoena "Northern District of Texas (Dallas)"

On March 25, 2021, Fresenius Medical Care Holdings, Inc. (FMCH) received a grand jury subpoena issued from the United States District Court for the Northern District of Texas (Dallas). The subpoena sought documents comprising communications between employees of FMCH and DaVita and partially overlaps in content the 2018 Denver subpoena. The Dallas subpoena is part of a separate investigation by the Anti-Trust Division of the Department of Justice into possible employee "no poaching" and similar agreements to refrain from competition and is related to the indictments in United States v. Surgical Care Affiliates, 3:2021-Cr-0011 (N.D. Tex.) and United States v. DaVita, Inc. et al., 1:21-cr00229 (D. Col.). The unnamed co-conspirators described in the Surgical Care Affiliates and DaVita indictments do not include FMCH, Fresenius Medical Care AG & Co. KGaA, or any of their employees. FMCH understands that it has completed production of material sought under the subpoena.

Subpoena "Nevada"

In November 2014, Fresenius Kabi Oncology Limited (FKOL) received a subpoena from the U.S. Department of Justice (DOJ), U.S. Attorney for the District of Nevada. The subpoena requested documents in connection with the January 2013 inspection by the U.S. Food and Drug Administration (FDA) of FKOL's plant for active pharmaceutical ingredients in Kalyani, India. That inspection resulted in a warning letter from the FDA in July 2013. The subpoena marked the DOJ's criminal and/or civil investigation in this connection and sought information from throughout the Fresenius Kabi group. Fresenius Kabi fully cooperated with the governmental investigation. In January 2021, Fresenius Kabi has entered into a final agreement (Plea Agreement) with the DOJ in which Fresenius Kabi undertakes to make a penalty payment of US$50 million. The agreement includes other measures to ensure that a misconduct of the nature detected in 2013 will not occur again in the future. The final agreement has received court sentencing and was implemented accordingly. The payment was made on the basis of an existing accrual.

Patent Dispute Fresenius Kabi France

Patent dispute between Fresenius Kabi and Eli Lilly in France and other European countries regarding Eli Lilly's originator product Alimta® and Fresenius Kabi's generic Pemetrexed sold in France and further countries in Europe. The Paris Tribunal has now rendered a decision in favor of Eli Lilly holding Fresenius Kabi France to infringe Eli Lilly's patent and to make a preliminary payment of €28 million for patent infringement and damages due to unfair competition, including lost sales and price decrease. This amount is covered by an existing higher accrual. In March 2021, Fresenius Kabi and Eli Lilly have entered into a pan-European settlement pursuant to which, among other provisions, Fresenius Kabi undertakes to make a payment of US$68.5 million to Lilly less the amount of €28 million already paid during the proceedings in France. In parallel, all court proceedings pending in Europe in relation to the patent in dispute are discontinued by the parties, including the proceedings in France. As of June 30, 2021, Fresenius Kabi has made all payments required under the settlement agreement.

General risks

From time to time, the Fresenius Group is a party to or may be threatened with other litigation or arbitration, claims or assessments arising in the ordinary course of its business. Management regularly analyzes current information including, as applicable, the Fresenius Group's defenses and insurance coverage and, as necessary, provides accruals for probable liabilities for the eventual disposition of these matters.

The Fresenius Group, like other health care providers, insurance plans and suppliers, conducts its operations under intense government regulation and scrutiny. The Fresenius Group must comply with regulations which relate to or govern the safety and efficacy of medical products and supplies, the marketing and distribution of such products, the operation of manufacturing facilities, laboratories, hospitals, dialysis clinics and other health care facilities, and environmental and occupational health and safety. With respect to its development, manufacture, marketing and distribution of medical products, if such compliance is not maintained, the Fresenius Group could be subject to significant adverse regulatory actions by the U.S. Food and Drug Administration (FDA) and comparable regulatory authorities outside the United States. These regulatory actions could include warning letters or other enforcement notices from the FDA, and/or comparable foreign regulatory authority which may require the Fresenius Group to expend significant time and resources in order to implement appropriate corrective actions. If the Fresenius Group does not address matters raised in warning letters or other enforcement notices to the satisfaction of the FDA and/or comparable regulatory authorities outside the United States, these regulatory authorities could take additional actions, including product recalls, injunctions against the distribution of products or operation of manufacturing plants, civil penalties, seizures of the Fresenius Group's products and/or criminal prosecution. Fresenius Medical Care Holdings, Inc. completed remediation efforts with respect to one pending FDA warning letter and is awaiting confirmation as to whether the letter is now closed. Fresenius Kabi is currently engaged in remediation efforts with respect to two pending FDA warning letters. The Fresenius Group must also comply with the laws of the United States, including the federal Anti-Kickback Statute, the federal False Claims Act, the federal Stark Law, the federal Civil Monetary Penalties Law and the federal Foreign Corrupt Practices Act as well as other federal and state fraud and abuse laws.

Applicable laws or regulations may be amended, or enforcement agencies or courts may make interpretations that differ from the Fresenius Group's interpretations or the manner in which it conducts its business. Enforcement has become a high priority for the federal government and some states. In addition, the provisions of the False Claims Act authorizing payment of a portion of any recovery to the party bringing the suit encourage private plaintiffs to commence whistleblower actions. By virtue of this regulatory environment, the Fresenius Group's business activities and practices are subject to extensive review by regulatory authorities and private parties, and continuing audits, subpoenas, other inquiries, claims and litigation relating to the Fresenius Group's compliance with applicable laws and regulations. The Fresenius Group may not always be aware that an inquiry or action has begun, particularly in the case of whistleblower actions, which are initially filed under court seal.

The Fresenius Group operates many facilities and handles the personal data of its patients and beneficiaries throughout the United States and other parts of the world, and engages with other business associates to help it carry out its health care activities. In such a widespread, global system, it is often difficult to maintain the desired level of oversight and control over the thousands of individuals employed by many affiliated companies and its business associates. On occasion, the Fresenius Group or its business associates may experience a breach under the Health Insurance Portability and Accountability Act Privacy Rule and Security Rules, the EU's General Data Protection Regulation and/or other similar laws (Data Protection Laws) when there has been impermissible use, access, or disclosure of unsecured personal data or when the Fresenius Group or its business associates neglect to implement the required administrative, technical and physical safeguards of its electronic systems and devices, or a data breach that results in impermissible use, access or disclosure of personal identifying information of its employees, patients and beneficiaries. On those occasions, the Fresenius Group must comply with applicable breach notification requirements.

The Fresenius Group relies upon its management structure, regulatory and legal resources, and the effective operation of its compliance program to direct, manage and monitor the activities of its employees. On occasion, the Fresenius Group may identify instances where employees or other agents deliberately, recklessly or inadvertently contravene the Fresenius Group's policies or violate applicable law. The actions of such persons may subject the Fresenius Group and its subsidiaries to liability under the Anti-Kickback Statute, the Stark Law, the False Claims Act, Data Protection Laws, the Health Information Technology for Economic and Clinical Health Act and the Foreign Corrupt Practices Act, among other laws and comparable state laws or laws of other countries.

Physicians, hospitals and other participants in the health care industry are also subject to a large number of lawsuits alleging professional negligence, malpractice, product liability, worker's compensation or related claims, many of which involve large claims and significant defense costs. The Fresenius Group has been and is currently subject to these suits due to the nature of its business and expects that those types of lawsuits may continue. Although the Fresenius Group maintains insurance at a level which it believes to be prudent, it cannot assure that the coverage limits will be adequate or that insurance will cover all asserted claims. A successful claim against the Fresenius Group or any of its subsidiaries in excess of insurance coverage could have a material adverse effect upon it and the results of its operations. Any claims, regardless of their merit or eventual outcome, could have a material adverse effect on the Fresenius Group's reputation and business.

The Fresenius Group has also had claims asserted against it and has had lawsuits filed against it relating to alleged patent infringements or businesses that it has acquired or divested. These claims and suits relate both to operation of the businesses and to the acquisition and divestiture transactions. The Fresenius Group has, when appropriate, asserted its own claims, and claims for indemnification. A successful claim against the Fresenius Group or any of its subsidiaries could have a material adverse effect upon its business, financial condition, and the results of its operations. Any claims, regardless of their merit or eventual outcome, could have a material adverse effect on the Fresenius Group's reputation and business.

31. LEASES

The Fresenius Group leases land, buildings and improvements, machinery and equipment, as well as IT- and office equipment under various lease agreements.

LEASES IN THE CONSOLIDATED STATEMENT OF INCOME

The following table shows the effects from lease agreements on the consolidated statements of income for 2021 and 2020:

€ in millions	2021	2020
Depreciation on right-of-use assets	878	877
Impairments on right-of-use assets	18	2
Expenses relating to short-term leases	64	67
Expenses relating to leases of low-value assets	46	46
Expenses relating to variable lease payments	22	22
Other expenses/income from lease agreements	-6	-17
Interest expenses on lease liabilities	188	205

LEASES IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

At December 31, the acquisition costs and the accumulated depreciation of right-of-use assets consisted of the following:

ACQUISITION COSTS

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	As of December 31, 2021
Right-of-use assets: Land	121	1	0	13	0	7	128
Right-of-use assets: Buildings and improvements	6,663	373	117	807	-7	124	7,829
Right-of-use assets: Machinery and equipment	579	28	1	95	-53	47	603
Right-of-use assets: Advanced Payments	–	–	–	–	–	–	–
Right-of-use assets	**7,363**	**402**	**118**	**915**	**-60**	**178**	**8,560**

In the fiscal year 2021, reclassifications were mainly made to property, plant and equipment as the Fresenius Group purchased previously leased buildings and equipment from the landlords.

DEPRECIATION

€ in millions	As of January 1, 2021	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2021**
Right-of-use assets: Land	18	0	0	9	0	2	25
Right-of-use assets: Buildings and improvements	1,376	100	-2	762	-6	68	2,162
Right-of-use assets: Machinery and equipment	278	15	0	125	-19	40	359
Right-of-use assets: Advanced Payments	–	–	–	–	–	–	–
Right-of-use assets	**1,672**	**115**	**-2**	**896**	**-25**	**110**	**2,546**

ACQUISITION COSTS

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Right-of-use assets: Land	112	-3	0	15	0	3	121
Right-of-use assets: Buildings and improvements	6,204	-403	29	983	-31	119	6,663
Right-of-use assets: Machinery and equipment	587	-37	1	89	-40	21	579
Right-of-use assets: Advanced Payments	0	0	–	0	0	0	–
Right-of-use assets	**6,903**	**-443**	**30**	**1,087**	**-71**	**143**	**7,363**

In the fiscal year 2020, reclassifications were mainly made to property, plant and equipment as the Fresenius Group purchased previously leased buildings and equipment from the landlords.

DEPRECIATION

€ in millions	As of January 1, 2020	Foreign currency translation	Changes in consolidation	Additions	Reclassifications	Disposals	**As of December 31, 2020**
Right-of-use assets: Land	9	0	0	9	0	0	18
Right-of-use assets: Buildings and improvements	765	-82	-6	726	3	30	1,376
Right-of-use assets: Machinery and equipment	170	-16	0	144	-4	16	278
Right-of-use assets: Advanced Payments	–	–	–	–	–	–	–
Right-of-use assets	**944**	**-98**	**-6**	**879**	**-1**	**46**	**1,672**

CARRYING AMOUNTS

€ in millions	December 31, 2021	December 31, 2020
Right-of-use assets: Land	103	103
Right-of-use assets: Buildings and improvements	5,667	5,287
Right-of-use assets: Machinery and equipment	244	301
Right-of-use assets: Advanced Payments	–	–
Right-of-use assets	**6,014**	**5,691**

Depreciation expense and impairments on right-of-use assets amounted to €896 million for the year ended December 31, 2021 (2020: €879 million). These expenses are allocated within costs of sales, selling, general and administrative and research and development expenses depending upon the area in which the asset is used. In 2021, depreciation expense and impairments on right-of-use assets included impairment losses of €18 million.

As of December 31, 2021, lease liabilities comprised a current portion of €832 million (2020: €766 million) and a non-current portion of €5,758 million (2020: €5,422 million). In 2021, approximately 71% of the lease liabilities related to Fresenius Medical Care, approximately 17% to Fresenius Helios, approximately 7% to Fresenius Vamed and approximately 5% to Fresenius Kabi.

LEASES IN THE CONSOLIDATED STATEMENT OF CASH FLOWS

Total cash outflows from leases were €1,194 million for the year ended December 31, 2021 (2020: €1,212 million).

In the consolidated statement of cash flows, the interest component of recognized leases is shown in net cash provided by/used in operating activities, the amortization component is shown in net cash provided by/used in financing activities.

The following potential future cash outflows were not reflected in the measurement of the lease liabilities:

€ in millions	2021	2020
Potential cash outflows from:		
extension options	7,646	6,781
purchase options	260	267
leases that the Fresenius Group entered into as a lessee that have not yet begun	202	243
residual value guarantees	101	89
variable lease payments	64	67
penalty payments from the exercise of termination options	11	11

Potential future cash outflows resulting from the exercise of options were not reflected in the measurement of the lease liabilities if the exercise of the respective option was not considered reasonably certain.

The major part of the potential future cash outflows resulting from extension options relates to extension options in real estate lease agreements, primarily for dialysis clinics of Fresenius Medical Care in North America. Individual lease agreements include multiple extension options. The Fresenius Group uses extension options to obtain a high degree of flexibility in performing its business. These extension options held are exercisable solely by the Fresenius Group.

32. FINANCIAL INSTRUMENTS

VALUATION OF FINANCIAL INSTRUMENTS

Carrying amounts of financial instruments

As of December 31, the carrying amounts of financial instruments by item of the statement of financial position and structured according to categories were as follows:

	December 31, 2021						
					Relating to no category		
€ in millions	Carrying amount	Amortized cost	Fair value through profit and loss[1]	Fair value through other comprehensive income[2]	Derivatives designated as cash flow hedging instruments at fair value	Put option liabilities measured at fair value	Valuation according to IFRS 16 for leasing receivables and liabilities
Financial assets							
Cash and cash equivalents	2,764	1,936	828				
Trade accounts and other receivables, less allowances for expected credit losses	7,045	6,822	108	34			81
Accounts receivable from and loans to related parties	147	147					
Other financial assets[3]	2,560	1,667	342	412	8		131
Financial assets	**12,516**	**10,572**	**1,278**	**446**	**8**	**–**	**212**
Financial liabilities							
Trade accounts payable	2,039	2,039					
Short-term accounts payable to related parties	92	92					
Short-term debt	2,841	2,841					
Short-term debt from related parties	8	8					
Long-term debt	2,600	2,600					
Lease liabilities	6,590						6,590
Bonds	14,634	14,634					
Convertible bonds	482	482					
Other financial liabilities[4]	4,026	2,407	557		18	1,044	
Financial liabilities	**33,312**	**25,103**	**557**	**–**	**18**	**1,044**	**6,590**

[1] All included financial assets and liabilities are mandatorily measured at fair value through profit and loss according to IFRS 9.
[2] The option to measure equity instruments at fair value through other comprehensive income has been exercised. The option has been used for €85 million other investments (included in other financial assets).
[3] Other financial assets are included in the item other current and non-current assets in the consolidated statement of financial position.
[4] Other financial liabilities are included in the items short-term provisions and other short-term liabilities and long-term provisions and other long-term liabilities in the consolidated statement of financial position.

In the fiscal year 2021, reclassifications between the categories were immaterial.

	December 31, 2020						
					Relating to no category		
€ in millions	Carrying amount	Amortized cost	Fair value through profit and loss[1]	Fair value through other comprehensive income[2]	Derivatives designated as cash flow hedging instruments at fair value	Put option liabilities measured at fair value	Valuation according to IFRS 16 for leasing receivables and liabilities
Financial assets							
Cash and cash equivalents	1,837	1,271	566				
Trade accounts and other receivables, less allowances for expected credit losses	6,937	6,783	45	34			75
Accounts receivable from and loans to related parties	110	110					
Other financial assets[3]	2,111	1,190	357	447	8		109
Financial assets	**10,995**	**9,354**	**968**	**481**	**8**	**–**	**184**
Financial liabilities							
Trade accounts payable	1,816	1,816					
Short-term accounts payable to related parties	67	67					
Short-term debt	245	245					
Short-term debt from related parties	5	5					
Long-term debt	5,154	5,154					
Lease liabilities	6,188						6,188
Bonds	13,847	13,847					
Convertible bonds	474	474					
Other financial liabilities[4,5]	3,702	2,132	654		15	901	
Financial liabilities	**31,498**	**23,740**	**654**	**–**	**15**	**901**	**6,188**

[1] All included financial assets and liabilities are mandatorily measured at fair value through profit and loss according to IFRS 9.
[2] The option to measure equity instruments at fair value through other comprehensive income has been exercised. The option has been used for €149 million (included in other financial assets).
[3] Other financial assets are included in the item other current and non-current assets in the consolidated statement of financial position.
[4] Other financial liabilities are included in the items short-term provisions and other short-term liabilities and long-term provisions and other long-term liabilities in the consolidated statement of financial position.
[5] €1,377 million were reclassified from other financial liabilities to other non-financial liabilities.

During the fiscal year 2020, no material reclassifications of financial instruments were required.

Fair value of financial instruments

The following table shows the carrying amounts and the fair value hierarchy levels as of December 31:

	December 31, 2021				December 31, 2020			
		Fair value				Fair value		
€ in millions	Carrying amount	Level 1	Level 2	Level 3	Carrying amount	Level 1	Level 2	Level 3
Financial assets								
Cash and cash equivalents[1]	828	828			566	566		
Trade accounts and other receivables, less allowances for expected credit losses[1]	142		142		79		79	
Other financial assets[1]								
Debt instruments	422	418	4		401	396	5	
Equity investments	320	122	105	93	393	12	162	219
Derivatives designated as cash flow hedging instruments	8		8		8		8	
Derivatives not designated as hedging instruments	12		12		10		10	
Financial liabilities								
Long-term debt	2,600		2,626		5,154		5,210	
Bonds	14,634	15,201			13,847	14,847		
Convertible bonds	482	499			474	490		
Other financial liabilities[1]								
Put option liabilities	1,044			1,044	901			901
Accrued contingent payments outstanding for acquisitions	528			528	581			581
Derivatives designated as cash flow hedging instruments	18		18		15		15	
Derivatives not designated as hedging instruments	29		29		73		73	

[1] Fair value information is not provided for financial instruments, if the carrying amount is a reasonable estimate of the fair value due to the relatively short period of maturity of these instruments.

The significant methods and assumptions used to estimate the fair values of financial instruments as well as classification of fair value measurements according to the three-tier fair value hierarchy are as follows:

Cash and cash equivalents include short-term financial investments that are measured at fair value through profit and loss. The fair value of these assets, which are quoted in an active market, is based on price quotations at the date of the consolidated financial statements (Level 1).

Trade accounts receivable from factoring contracts are measured on the basis of observable market information (Level 2).

The majority of debt instruments included in other financial assets are bonds that are quoted in an active market and therefore measured at fair value (Level 1) which is based on price quotations at the date of the consolidated financial statements. Further debt instruments give rise to cash flows on specified dates (Level 2).

Equity investments are not held for trading. At initial recognition, the Fresenius Group elected, on an instrument-by-instrument basis, to represent subsequent changes in the fair value of individual strategic investments in other comprehensive income (loss). All equity investments for which changes in fair value are recorded in other comprehensive income (loss) relate to purchases of publicly traded shares or percentage ownership of companies in the health sciences or adjacent fields and are made up of individually non-significant investments. At December 31, 2021, the Fresenius Group held 70 non-listed equity investments (December 31, 2020: 85) with a fair value of €85 million (December 31, 2020: €137 million) and no listed equity investments. At December 31, 2020, the Fresenius Group held one listed equity investment with a fair value of €12 million.

During 2021, gains of €34 million (December 31, 2020: €0 million) were transferred from other comprehensive income (loss) to retained earnings as two investments were disposed of. Of this amount, €11 million was attributable to the shareholders of Fresenius SE & Co. KGaA. In 2021, the Fresenius Group recognized dividends of €2 million from these equity investments.

The fair values of equity investments are based on observable market information (Level 2). From time to time the Fresenius Group engages external valuation firms to determine the fair value of Level 3 equity investments. The external valuation uses a discounted cash flow model, which includes significant unobservable inputs such as investment specific forecasted financial statements, weighted average cost of capital, that reflects current market assessments as well as a terminal growth rate. The fair values of other equity investments that are traded in an active market, are based on price quotations at the date of the consolidated financial statements (Level 1).

The fair values of major long-term financial instruments are calculated on the basis of market information. Liabilities for which market quotes are available are measured with the market quotes at the reporting date (Level 1). The fair values of the other long-term financial liabilities are calculated at the present value of respective future cash flows. To determine these present values, the prevailing interest rates and credit spreads for the Fresenius Group as of the date of the statement of financial position are used (Level 2).

The valuation of the put option liabilities is determined using significant unobservable inputs (Level 3). From time to time, the Fresenius Group engages external valuation firms for these valuations. The method for calculating the fair value is described in note 1.III.q, Financial instruments. For the purpose of analyzing the impact of changes in unobservable inputs on the fair value measurement of put option liabilities, the Fresenius Group assumes an increase on earnings of 10% compared to the actual estimation as of the balance sheet date. The corresponding increase in fair value is then compared to the total liabilities and the shareholder's equity of the Fresenius Group. This analysis shows that an increase of 10% in the relevant earnings would have an effect of less than 1% on the total liabilities and less than 1% on the shareholder's equity of the Fresenius Group. 95% of the put option liabilities related to Fresenius Medical Care at December 31, 2021 (December 31, 2020: 98%).

Contingent payments outstanding for acquisitions are recognized at their fair value. The estimation of the individual fair values is based on the key inputs of the arrangement that determine the future contingent payment as well as the Fresenius Group's expectation of these factors (Level 3). The Fresenius Group assesses the likelihood and timing of achieving the relevant objectives. The underlying assumptions are reviewed regularly.

The following table shows the changes of the fair values of financial instruments classified as Level 3 in the fiscal years 2021 and 2020:

€ in millions	Equity investments	Accrued contingent payments outstanding for acquisitions	Put option liabilities
As of January 1, 2020	**183**	**595**	**952**
Transfer from Level 2	7	1	–
Additions	–	26	51
Disposals	–	-73	-99
Gain/loss recognized in profit or loss	46	35	0
Gain/loss recognized in equity	–	–	74
Currency effects and other changes	-17	-3	-77
As of December 31, 2020	**219**	**581**	**901**
Transfer to Level 1	-159	–	–
Additions	21	25	146
Disposals	–	-27	-19
Gain/loss recognized in profit or loss	-1	-52	0
Gain/loss recognized in equity	–	0	-57
Currency effects and other changes	13	1	73
As of December 31, 2021	**93**	**528**	**1,044**

At September 30, 2021, Fresenius Medical Care transferred its investment in Humacyte, Inc. (Humacyte) with a carrying amount of €159 million from Level 3 to Level 1, after Humacyte completed its merger with Alpha Healthcare Acquisition Corporation, a special purpose acquisition company. The shares in Alpha Healthcare Acquisition Corporation (now called Humacyte) received by Fresenius Medical Care as a result of this merger and in a contemporaneous private placement are quoted in an active market, and Humacyte has registered shares held by Fresenius Medical Care for resale under the Securities Act of 1933.

Derivatives, mainly consisting of interest rate swaps and foreign exchange forward contracts, are valued as follows: The fair value of interest rate swaps is calculated by discounting the future cash flows on the basis of the market interest rates applicable for the remaining term of the contract as of the date of the statement of financial position. To determine the fair value of foreign exchange forward contracts, the contracted forward rate is compared to the current forward rate for the remaining term of the contract as of the date of the statement of financial position. The result is then discounted on the basis of the market interest rates prevailing at the date of the statement of financial position for the respective currency.

Fresenius Group's own credit risk is incorporated in the fair value estimation of derivatives that are liabilities. Counterparty credit risk adjustments are factored into the valuation of derivatives that are assets. The Fresenius Group monitors and analyzes the credit risk from derivative financial instruments on a regular basis. For the valuation of derivative financial instruments, the credit risk is considered in the fair value of every individual instrument. The basis for the default probability are Credit Default Swap Spreads of each counterparty appropriate for the duration. The calculation of the credit risk considered in the valuation is done by multiplying the default probability appropriate for the duration with the expected discounted cash flows of the derivative financial instrument.

Derivatives not designated as hedging instruments comprise derivatives embedded in convertible bonds and call options which have been purchased to hedge the convertible bonds. The fair value of the embedded derivatives is calculated using the difference between the market value of the particular convertible bonds and the market value of an adequate straight bond discounted with the market interest rates as of the reporting date. The fair value of the call options is calculated from price quotations.

For the calculation of the fair value of derivative financial instruments, the Fresenius Group uses market quoted input parameters. Therefore, these are classified as Level 2 in accordance with the defined fair value hierarchy levels.

Derivative financial instruments are marked to market each reporting period, resulting in carrying amounts equal to fair values at the reporting date.

FAIR VALUES OF DERIVATIVE FINANCIAL INSTRUMENTS

	December 31, 2021		December 31, 2020	
€ in millions	**Assets**	**Liabilities**	Assets	Liabilities
Foreign exchange contracts (current)	8	18	8	15
Foreign exchange contracts (non-current)	0	0	0	0
Derivatives in cash flow hedging relationships	**8**	**18**	**8**	**15**
Interest rate contracts (current)	–	0	–	–
Interest rate contracts (non-current)	–	–	–	0
Foreign exchange contracts (current)	10	29	10	73
Foreign exchange contracts (non-current)	2	0	–	–
Derivatives embedded in the convertible bonds	–	0	–	0
Call options to secure the convertible bonds	0	–	0	–
Derivatives not designated as hedging instruments	**12**	**29**	**10**	**73**

Derivatives not designated as hedging instruments, which are derivatives that do not qualify for hedge accounting, are also solely entered into to hedge economic business transactions and not for speculative purposes.

The current portion of derivatives indicated as assets in the preceding table is recognized within other current assets in the consolidated statement of financial position, while the current portion of those indicated as liabilities is included in short-term provisions and other short-term liabilities. The non-current portions indicated as assets or liabilities are recognized in other non-current assets or in long-term provisions and other long-term liabilities, respectively. The derivatives embedded in the convertible bonds and the call options to secure the convertible bonds are recognized in other current and non-current liabilities / assets in the consolidated statement of financial position.

To reduce the credit risk arising from derivatives, the Fresenius Group concluded master netting agreements with banks. Through such agreements, positive and negative fair values of the derivative contracts could be offset against one another if a partner becomes insolvent. This offsetting is valid for transactions where the aggregate amount of obligations owed to and receivable from are not equal. If insolvency occurs, the party which owes the larger amount is obliged to pay the other party the difference between the amounts owed in the form of one net payment.

These master netting agreements do not provide a basis for offsetting the fair values of derivative financial instruments in the consolidated statement of financial position as the offsetting criteria under International Financial Reporting Standards are not satisfied.

At December 31, 2021 and December 31, 2020, the Fresenius Group had €18 million and €16 million of derivative financial assets subject to netting arrangements and €41 million and €87 million of derivative financial liabilities subject to netting arrangements. Offsetting these derivative financial instruments would have resulted in net assets of €12 million and €7 million as well as net liabilities of €35 million and €78 million at December 31, 2021 and December 31, 2020, respectively.

Effects of financial instruments recorded in the consolidated statement of income

In 2021, the net gains and losses from financial instruments consisted of allowances for expected credit losses (including recoveries) in an amount of €71 million (2020: €94 million) and expenses from foreign currency transactions of €25 million (2020: €41 million). In 2021, interest income of €124 million resulted mainly from trade accounts and other receivables recognized at amortized cost and from interest income related to the release of interest accruals on tax positions. In 2020, interest income of €93 million resulted mainly from the valuation of the derivatives embedded in the convertible bonds of Fresenius SE & Co. KGaA, trade accounts and other receivables and loans to related parties. Interest expense of €630 million (2020: €752 million) resulted mainly from Fresenius Group's financial liabilities, which are recognized at amortized cost. Moreover, €188 million (2020: €205 million) related to lease liabilities.

During 2021, the Fresenius Group recognized net losses of €56 million (2020: net gains of €44 million) from changes in the fair value of equity investments and debt instruments that are measured at fair value through profit and loss within other operating income and expenses.

Income of €52 million (2020: expenses of €35 million) resulted from the valuation of contingent payments outstanding. Income and expense from financial instruments recorded in other comprehensive income (loss) related to derivatives in cash flow hedging relationships and to equity investments and debt instruments measured at fair value through other comprehensive income.

The changes of cash flow hedges on the consolidated statement of comprehensive income (loss) before tax for the years 2021 and 2020 are as follows:

EFFECT OF DERIVATIVES ON THE CUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

	2021				
	Cash Flow Hedge Reserve		Costs of Hedging Reserve		
€ in millions	Changes of the unrealized gains/losses in other comprehensive income (loss)	Reclassifications from other comprehensive income (loss)[1]	Changes of the unrealized gains/losses in other comprehensive income (loss)	Reclassifications from other comprehensive income (loss)[1]	Affected line item in the consolidated statement of income/consolidated statement of financial position
Interest rate contracts	–	2	n.a.	n.a	Interest income/expense
Foreign exchange contracts	-21	13	-1	1	
thereof		1		1	Sales
		-1		-1	Cost of sales
		0		–	General and administrative expenses
		12		3	Other operating income/expenses
		–		-2	Interest income/expense
		1		0	Inventories
Derivatives in cash flow hedging relationships	**-21**	**15**	**-1**	**1**	

	2020				
	Cash Flow Hedge Reserve		Costs of Hedging Reserve		
€ in millions	Changes of the unrealized gains/losses in other comprehensive income (loss)	Reclassifications from other comprehensive income (loss)[1]	Changes of the unrealized gains/losses in other comprehensive income (loss)	Reclassifications from other comprehensive income (loss)[1]	Affected line item in the consolidated statement of income/consolidated statement of financial position
Interest rate contracts	-1	2	n.a.	n.a	Interest income/expense
Foreign exchange contracts	10	-8	-1	3	
thereof		-5		2	Sales
		-2		4	Cost of sales
		-1		–	General and administrative expenses
		0		-1	Other operating income/expenses
		–		-2	Interest income/expense
		0		0	Inventories
Derivatives in cash flow hedging relationships	**9**	**-6**	**-1**	**3**	

[1] In the consolidated statement of income, no gains or losses from ineffectiveness and only immaterial gains/losses from a hedged underlying transaction, that is no longer expected to occur, are recognized. Gains are shown with a negative sign and losses with a positive sign.

The Fresenius Group solely designates the spot element of the foreign exchange forward contracts as hedging instrument in cash flow hedges. Changes of the fair value of derivative financial instruments that are designated as cash flow hedges are recorded within other comprehensive income (loss).

The effective portion of changes in fair value of the spot element of the hedging instruments is accumulated in a cash flow hedge reserve within other comprehensive income (loss). The forward points of the foreign exchange forward contract is accounted for as cost of hedging reserve within other comprehensive income (loss).

For all cash flow hedges, except for foreign currency risk associated with forecasted purchases of non-financial assets, the amounts accumulated in the cash flow hedge reserve are reclassified to profit or loss as a reclassification adjustment in the same period as the hedged forecasted cash flows affect profit or loss. For cash flow hedges of foreign currency risk associated with forecasted purchases of non-financial assets, the amounts accumulated in the cash flow hedge reserve are instead included directly in the initial cost of the asset when it is recognized. The same approach applies to the amounts accumulated in the costs of hedging reserve.

EFFECT OF DERIVATIVES ON THE CONSOLIDATED STATEMENT OF INCOME

	Gain or loss recognized in the consolidated statement of income		
€ in millions	**2021**	2020	Affected line item in the consolidated statement of income
Interest rate contracts	0	0	Interest income/expense
Foreign exchange contracts	87	-73	Other operating income/expense
Foreign exchange contracts	5	5	Interest income/expense
Derivatives embedded in the convertible bonds	0	2	Interest income/expense
Call options to secure the convertible bonds	0	-2	Interest income/expense
Derivatives not designated as hedging instruments	**92**	**-68**	

In 2021, gains (2020: losses) from foreign exchange contracts not designated as hedging instruments recognized in the consolidated statement of income are faced by losses (2020: gains) from the underlying transactions in the corresponding amount.

MARKET RISK

The Fresenius Group is exposed to effects related to foreign exchange fluctuations in connection with its international business activities that are denominated in various currencies. In order to finance its business operations, the Fresenius Group issues bonds and commercial papers and enters into long-term credit agreements and Schuldschein Loans with banks. Due to these financing activities, the Fresenius Group is exposed to interest risk caused by changes in variable interest rates and the risk of changes in the fair value of statement of financial position items bearing fixed interest rates.

In order to manage the risk of interest rate and foreign exchange rate fluctuations, the Fresenius Group enters into certain hedging transactions with financial institutions within the limits approved by the Management Board, which are set depending on the counterparty's rating. The counterparties generally have an investment grade rating. Derivative financial instruments are not entered into for trading purposes.

The Fresenius Group makes sure that hedge accounting relationships are aligned with its Group risk management objectives and strategy and that a qualitative and forward-looking approach is used for assessing hedge effectiveness.

In general, the Fresenius Group conducts its derivative financial instrument activities under the control of a single centralized department. The Fresenius Group has established guidelines derived from best practice standards in the banking industry for risk assessment procedures and supervision concerning the use of financial derivatives. These guidelines require amongst other things a clear segregation of duties in the areas of execution, administration, accounting and controlling. Risk limits are continuously monitored and, where appropriate, the use of hedging instruments is adjusted to that extent.

The Fresenius Group defines benchmarks for individual exposures in order to quantify interest and foreign exchange risks. The benchmarks are derived from achievable and sustainable market rates. Depending on the individual benchmarks, hedging strategies are determined and implemented. The Fresenius Group makes sure there is an economic relationship between the hedged item and the hedging instrument and ensures reasonable hedge ratios of the designated hedged items with interest and currency risks. This is achieved by matching to a large extent the critical terms of the interest and foreign exchange derivatives with the critical terms of the underlying exposures. Therefore, the earnings of the Fresenius Group were not materially affected by hedge ineffectiveness in the reporting period. In principle, sources of inefficiency are risk of credit default and time lags of underlying exposures.

Foreign exchange risk management

The Fresenius Group has determined the euro as its financial reporting currency. Therefore, foreign exchange translation risks resulting from the fluctuation of exchange rates between the euro and the local currencies, in which the financial statements of the foreign subsidiaries are prepared, have an impact on results of operations and financial positions reported in the consolidated financial statements.

Besides translation risks, foreign exchange transaction risks exist. These mainly relate to transactions denominated in foreign currencies, such as purchases and sales, projects and services as well as intragroup sales of products to other Fresenius Group entities in different currency areas. Therefore, the subsidiaries are affected by changes of foreign exchange rates between the invoicing currencies and the local currencies in which they conduct their businesses. Solely for the purpose of hedging existing and foreseeable foreign exchange transaction exposures, the Fresenius Group applies appropriate financial instruments. For loans in foreign currencies, the Fresenius Group enters into foreign exchange swap contracts. The Fresenius Group solely designates the spot element of the foreign exchange forward contract as hedging instrument in cash flow hedges and uses a hedge ratio for designated risks of 1 : 1. The fair value of foreign exchange contracts designated as cash flow hedges used to hedge operating transaction risks was -€13 million (December 31, 2020: -€1 million) and in relation with loans in foreign currencies €3 million (December 31, 2020: -€6 million).

As of December 31, 2021, the notional amounts of foreign exchange contracts totaled €2,917 million (December 31, 2020: €3,230 million). Thereof €2,671 million (December 31, 2020: €3,228 million) were due in less than 12 months. As of December 31, 2021, the Fresenius Group was party to foreign exchange contracts with a maximum remaining term to maturity of 33 months. The Fresenius Group uses a Cash-Flow-at-Risk (CFaR) model in order to estimate and quantify such transaction risks from foreign currencies. The basis for the analysis of the currency risks are the foreign currency cash flows that are reasonably expected to arise within the following 12 months, less any hedges. Under the CFaR approach, the potential currency fluctuations of these net exposures are shown as probability distributions based on historical volatilities and correlations, using the values of the last 50 exchange rates with an interval of 21 trading days. The calculation is made assuming a confidence level of 95% and a holding period of up to one year.

The aggregation of currency risks has risk-mitigating effects due to correlations between the transactions concerned, i. e. the overall portfolio's risk exposure is generally less than the sum total of the underlying individual risks. As of December 31, 2021, the Fresenius Group's cash flow at risk amounted to €44 million based on a net exposure of €1,990 million. This means, with a probability of 95%, a potential loss in relation to the forecasted foreign exchange cash flows of the next 12 months will be not higher than €44 million.

The following table shows the average hedging rates and nominal amounts of foreign exchange contracts for material currency pairs at December 31, 2021.

	Nominal amount in € millions	Average hedging rate
Euro/U.S. dollar	673	1.1569
Euro/Swedish krona	515	10.2869
Euro/Chinese renminbi	399	7.5521

Interest rate risk management

Fresenius Group's interest rate risks mainly arise from money market and capital market transactions of the Group for financing its business activities.

The Fresenius Group applies appropriate financial instruments in order to protect against the risk of rising interest rates. These interest rate derivatives are exclusively designated as cash flow hedges and have been entered into in order to convert payments based on variable interest rates into payments at a fixed interest rate and in anticipation of future long-term debt issuances (pre-hedges). As of December 31, 2021, the euro denominated interest rate swap had a notional volume of €482 thousand (December 31, 2020: €1 million). The fair value was -€12 thousand (December 31, 2020: -€43 thousand). The euro interest rate swap expires in 2022. It bears an interest rate of 3.39%. As of December 10, 2020, U.S. dollar denominated interest rate swaps in the amount of US$200 million (€165 million on December 10, 2020) with an original maturity on March 10, 2021 were closed out. Accordingly, the underlying was redeemed prior to maturity.

The pre-hedges are used to hedge interest rate exposures with regard to interest rates which are relevant for the future long-term debt issuance and which could rise until the respective debt is actually issued. These pre-hedges are settled at the issuance date of the corresponding long-term debt with the settlement amount recorded in accumulated other comprehensive income (loss) amortized to interest expense over the life of the debt. At December 31, 2021 and December 31, 2020, the Fresenius Group had a loss of €8 million, respectively, related to such settlements of pre-hedges deferred in accumulated other comprehensive income (loss), net of tax.

Interest payables and interest receivables in connection with the swap agreements are accrued and recorded as an adjustment to the interest expense at each reporting date.

Concerning interest rate contracts, unscheduled repayments or the renegotiation of hedged items may in some cases lead to the de-designation of the hedging instrument, which existed up to that point. From that date, the respective hedging transactions are recognized in the consolidated statement of income.

For purposes of analyzing the impact of changes in the relevant reference interest rates on Fresenius Group's results of operations, the Group calculates the portion of financial debt which bears variable interest rates and which has not been hedged by means of interest rate swaps or options against rising interest rates. For this particular part of its liabilities, the Fresenius Group assumes an increase in the reference rates of 0.5% compared to the actual rates as of the date of the statement of financial position. The corresponding additional annual interest expense is then compared to the net income attributable to shareholders of Fresenius SE & Co. KGaA. This analysis shows that an increase of 0.5% in the relevant reference rates would have an effect of approximately 0.8% on the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA and an effect of less than 0.1% on Fresenius SE & Co. KGaA shareholders' equity.

Management of the Interest Rate Benchmark Reform (IBOR-Reform)

A fundamental reform of major interest rate benchmarks is being undertaken globally. This includes the replacement of certain interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as IBOR reform). The Fresenius Group has exposures to relevant IBORs through its financial instruments, which will be affected as part of this market-wide initiative.

As of December 31, 2021, the LIBOR referencing loans amount to less than €500 million. The majority of the exposure is related to U.S. dollar LIBOR linked loan contracts in the amount of €441 million. For these U.S. dollar loans, it is planned to replace the current LIBOR reference interest rates with SOFR (Secured Overnight Financing Rate) reference interest rates as the new interest basis in due course.

The Syndicated Credit Facilities of Fresenius SE & Co. KGaA and Fresenius Medical Care AG & Co. KGaA, both in the amount of €2 billion, have a certain level of London Inter-Bank Offered Rate (LIBOR) exposure due to the possibility of multicurrency drawings in U.S. dollar as well as in euro and will be amended before the expected cessation of the U.S. dollar LIBOR in 2023.

Beyond the measures described above, the Fresenius Group continuously analyzes the extent to which contracts which reference other IBOR cash flows besides LIBOR currencies will need to be adjusted and how to manage communication regarding the ongoing IBOR reform with counterparties.

CREDIT RISK

The Fresenius Group is exposed to potential losses regarding financial instruments in the event of non-performance by counterparties. With respect to derivative financial instruments, it is not expected that any counterparty will fail to meet its obligations as the counterparties are highly rated financial institutions (generally investment grade). The maximum credit exposure of derivatives is represented by the fair value of those contracts with a positive fair value amounting to €20 million (December 31, 2020: €18 million) for foreign exchange derivatives. At December 31, 2021 and at December 31, 2020, the Fresenius Group's interest rate derivative did not bear a credit risk. The maximum credit risk resulting from the use of non-derivative financial instruments is defined as the total amount of all receivables. In order to control this credit risk, the Management of the Fresenius Group performs an aging analysis of trade accounts receivable. For details on trade accounts receivable and on the allowances for expected credit losses, please see note 16, Trade accounts and other receivables.

LIQUIDITY RISK

The liquidity risk is defined as the risk that a company is potentially unable to meet its financial obligations. The Management of the Fresenius Group manages the liquidity of the Group by means of effective working capital and cash management as well as an anticipatory evaluation of refinancing alternatives. The Management of the Fresenius Group believes that existing credit facilities as well as the cash generated by operating activities and additional short-term and long-term borrowings are sufficient to meet the company's foreseeable demand for liquidity (see note 23, Debt).

The following table shows the future undiscounted contractual cash flows (including interests) resulting from recognized financial liabilities and derivative financial instruments:

	2021				2020			
€ in millions	up to 1 year	1 to 3 years	3 to 5 years	more than 5 years	up to 1 year	1 to 3 years	3 to 5 years	more than 5 years
Non-derivative financial instruments								
Long-term debt (including Accounts Receivable Facility)[1]	86	594	75	111	1,209	2,924	540	653
Short-term debt	2,853	–	–	–	250	–	–	–
Lease liabilities	1,008	1,834	1,399	3,580	926	1,686	1,259	3,451
Bonds	886	2,889	4,216	8,501	1,807	2,599	2,814	8,512
Convertible bonds	–	500	–	–	–	–	500	–
Trade accounts payable	2,039	–	–	–	1,816	–	–	–
Other financial liabilities[2]	2,502	3	1	1	2,208	3	1	0
Contingent payments outstanding for acquisitions	41	256	83	160	56	267	97	183
Put option liabilities	683	231	171	90	646	103	112	74
Total non-derivative financial instruments	**10,098**	**6,307**	**5,945**	**12,443**	**8,918**	**7,582**	**5,323**	**12,873**
Derivative financial instruments								
Derivatives designated as cash flow hedging instruments								
Inflow	-667	-2	–	–	-520	0	–	–
Outflow	688	3	–	–	537	0	–	–
Net derivatives designated as cash flow hedging instruments	**21**	**1**	**–**	**–**	**17**	**0**	**–**	**–**
Derivatives not designated as hedging instruments								
Inflow	-1,039	-1	–	–	-1,844	–	–	–
Outflow	1,074	1	–	–	1,918	0	0	–
Net derivatives not designated as hedging instruments	**35**	**0**	**–**	**–**	**74**	**0**	**0**	**–**
Total derivative financial instruments	**56**	**1**	**–**	**–**	**91**	**0**	**0**	**–**
Total non-derivative and derivative financial instruments	**10,154**	**6,308**	**5,945**	**12,443**	**9,009**	**7,582**	**5,323**	**12,873**

[1] Future interest payments for financial liabilities with variable interest rates were calculated using the latest interest rates fixed prior to December 31, 2021.
[2] €1,378 million were reclassified from other financial liabilities to other non-financial liabilities.

33. INFORMATION ON CAPITAL MANAGEMENT

The Fresenius Group has a solid financial profile. Capital management includes both equity and debt. Principal objectives of Fresenius Group's capital management are to ensure financial flexibility, to limit refinancing risks and to optimize the weighted average cost of capital. Further, it is sought to achieve a balanced mix of equity and debt.

Due to the company's diversification within the health care sector and the strong market positions of the business segments in global, growing and non-cyclical markets, predictable and sustainable cash flows are generated. They allow a reasonable proportion of debt. Moreover, Fresenius Group's customers are generally of high credit quality.

Measures to strengthen the equity base may also be considered in exceptional cases to ensure long-term growth, for instance to finance a major acquisition.

Shareholders' equity and debt have developed as follows:

SHAREHOLDERS' EQUITY

€ in millions	December 31, 2021	December 31, 2020
Shareholders' equity	29,288	26,023
Total assets	71,962	66,646
Equity ratio	40.7%	39.0%

Fresenius SE & Co. KGaA is not subject to any capital requirements provided for in its articles of association. Fresenius SE & Co. KGaA has obligations to issue shares out of the Conditional Capital relating to the exercise of stock options on the basis of the existing 2013 Stock Option Plan (see note 36, Share-based compensation plans).

DEBT

€ in millions	December 31, 2021	December 31, 2020
Debt	27,155	25,913
Total assets	71,962	66,646
Debt ratio	37.7%	38.9%

Assuring financial flexibility is the top priority in the Group's financing strategy. This flexibility is achieved through a broad spread of maturities, a wide range of financing instruments and a high degree of diversification of investors and banks. Fresenius Group's maturity profile displays a broad spread of maturities with a high proportion of medium- and long-term financing. In the choice of financing instruments, market capacity, investor diversification, capital cost, flexibility, credit conditions and the existing maturity profile are taken into account.

The leverage ratio on the basis of net debt/EBITDA is a key financial figure for the Fresenius Group. As of December 31, 2021, the leverage ratio, calculated on the basis of year-end exchange rates, before special items was 3.55 (December 31, 2020: 3.4).

Fresenius Group's solid financing strategy is reflected in its investment grade credit ratings. The Fresenius Group is covered by the rating agencies Moody's, Standard & Poor's and Fitch.

The following table shows the company rating of Fresenius SE & Co. KGaA:

RATING OF FRESENIUS SE & CO. KGAA

	December 31, 2021	December 31, 2020
Standard & Poor's		
Corporate Credit Rating	BBB	BBB
Outlook	stable	stable
Moody's		
Corporate Credit Rating	Baa3	Baa3
Outlook	stable	stable
Fitch		
Corporate Credit Rating	BBB -	BBB -
Outlook	stable	stable

In 2021 and 2020, Fresenius Group's rating remained unchanged.

34. SUPPLEMENTARY INFORMATION ON THE CONSOLIDATED STATEMENT OF CASH FLOWS

The consolidated statements of cash flows of the Fresenius Group for the fiscal years 2021 and 2020 are shown on pages 281 and 282.

Cash funds reported in the consolidated statement of cash flows and in the consolidated statement of financial position are comprised of cash on hand, checks, securities and cash at bank which are readily convertible within three months and are subject to insignificant risk of changes in value.

In 2021, Fresenius Helios has used subsidies for investments in property, plant and equipment in the amount of €99 million (2020: €97 million), that were offset in purchases of property, plant and equipment in the consolidated statement of cash flows.

Cash paid for acquisitions consisted of the following:

€ in millions	2021	2020
Assets acquired	1,057	1,098
Liabilities assumed	-35	-273
Noncontrolling interests	-120	-37
Debt assumed	-86	-182
Cash paid	**816**	**606**
Cash acquired	-55	-27
Cash paid for acquisitions, net	**761**	**579**
Cash paid for investments, net of cash acquired	206	108
Cash paid for intangible assets, net	32	33
Total cash paid for acquisitions and investments and purchases of intangible assets	**999**	**720**

In 2021, €129 million of cash paid for investments, net of cash acquired, related to investments in securities in the business segment Fresenius Medical Care.

Proceeds from the sale of subsidiaries were €54 million in 2021 (2020: €32 million.)

The following table shows a reconciliation of debt to cash flow from financing activities in 2021 and 2020:

			Non-cash changes					
€ in millions	January 1, 2021	Cash flow	Assumed as part of acquisitions	Foreign currency translation	Amortization of debt issuance costs	New lease contracts	Other[1]	**December 31, 2021**
Short-term debt	245	2,591	1	1	–	–	3	2,841
Long-term debt, less Accounts Receivable Facility of Fresenius Medical Care	5,154	-2,569	24	62	6	–	-77	2,600
Lease liabilities	6,188	-880	121	319	–	915	-73	6,590
Bonds	13,847	461	–	300	17	–	9	14,634
Convertible bonds	474	–	–	–	8	–	–	482
Accounts Receivable Facility of Fresenius Medical Care	–	–	–	–	–	–	–	–

[1] Under the effective interest method, non-cash changes result from the compounding interest on lease liabilities in the amount of €188 million.

€ in millions	January 1, 2020	Cash flow	Non-cash changes: Assumed as part of acquisitions	Non-cash changes: Foreign currency translation	Non-cash changes: Amortization of debt issuance costs	Non-cash changes: New lease contracts	Non-cash changes: Other[1]	December 31, 2020
Short-term debt	2,475	-2,247	5	-8	–	–	20	245
Long-term debt, less Accounts Receivable Facility of Fresenius Medical Care	6,629	-1,377	145	-128	-1	–	-114	5,154
Lease liabilities	6,439	-937	35	-377	–	1,087	-59	6,188
Bonds	10,467	3,640	–	-290	9	–	21	13,847
Convertible bonds	865	-400	–	–	1	–	8	474
Accounts Receivable Facility of Fresenius Medical Care	380	-374	–	-6	–	–	–	–

[1] Under the effective interest method, non-cash changes result from the compounding interest on lease liabilities in the amount of €205 million.

Interest payments are included in the consolidated statement of cash flows under net cash provided by operating activities. In fiscal year 2021, cash payments related to interest amounted to €502 million (2020: €609 million). Accrued interest on debt and bonds is reported in the consolidated statement of financial position under short-term provisions and other short-term liabilities.

35. NOTES ON THE CONSOLIDATED SEGMENT REPORTING

GENERAL

The consolidated segment reporting tables shown on pages 285 to 286 of this Annual Report are an integral part of the notes.

The Fresenius Group has identified the business segments Fresenius Medical Care, Fresenius Kabi, Fresenius Helios and Fresenius Vamed, which corresponds to the internal organizational and reporting structures (Management Approach) at December 31, 2021.

The key data disclosed in conjunction with the consolidated segment reporting correspond to the key data of the internal reporting system of the Fresenius Group. Internal and external reporting and accounting correspond to each other; the same key data and definitions are used.

Sales and proceeds between the segments are indicative of the actual sales and proceeds agreed with third parties. Administrative services are billed in accordance with service level agreements.

The business segments were identified in accordance with IFRS 8, Operating Segments, which defines the segment reporting requirements in the annual financial statements and interim reports with regard to the operating business, product and service businesses and regions.

The business segments of the Fresenius Group are as follows:

- Fresenius Medical Care
- Fresenius Kabi
- Fresenius Helios
- Fresenius Vamed

The column Corporate is comprised of the holding functions of Fresenius SE & Co. KGaA as well as Fresenius Digital Technology GmbH, which provides services in the field of information technology. Furthermore, Corporate includes intersegment consolidation adjustments as well as special items (see note 3, Special items).

Details on the business segments are shown on page 288 of the notes.

Segment reporting by region takes account of geographical factors and the similarity of markets in terms of opportunities and risks. The allocation to a particular region is based on the domicile of the customers.

NOTES ON THE BUSINESS SEGMENTS

The key figures used by the Management Board to assess segment performance, have been selected in such a way that they include all items of income and expenses which fall under the area of responsibility of the business segments. The Management Board is convinced that the most suitable performance indicator is the operating income (EBIT). The Management Board believes that, in addition to the operating income, the figure for earnings before interest, taxes and depreciation/amortization (EBITDA) can also help investors to assess the ability of the Fresenius Group to generate cash flows and to meet its financial obligations.

Depreciation and amortization is presented for property, plant and equipment and intangible assets with definite useful lives of the respective business segment.

Net interest is comprised of interest expenses and interest income.

Net income attributable to shareholders of Fresenius SE & Co. KGaA is defined as earnings after income taxes and noncontrolling interests.

The operating cash flow is the cash provided by / used in operating activities.

The cash flow before acquisitions and dividends is the operating cash flow less net capital expenditure.

Debt is comprised of bank loans, bonds, convertible bonds, lease liabilities, liabilities relating to outstanding acquisitions as well as intercompany liabilities.

Other operating liabilities include the sum of short-term and long-term liabilities, less debt and less liabilities for deferred taxes.

Capital expenditure mainly contains additions to property, plant and equipment, including non-cash effective items.

Acquisitions refer to the purchase of shares in legally independent companies and the acquisition of business divisions and intangible assets (e.g. licenses). The key figures shown with regard to acquisitions present the contractual purchase prices comprising amounts paid in cash (less cash acquired), debts assumed and the issuance of shares, whereas for the purposes of the statement of cash flows, only cash purchase price components less acquired cash and cash equivalents are reported.

The EBITDA margin is calculated as a ratio of EBITDA to sales.

The EBIT margin is calculated as a ratio of EBIT to sales.

The return on operating assets (ROOA) is defined as the ratio of EBIT to average operating assets. Operating assets are defined as total assets less deferred tax assets, trade accounts payable and advance payments from customers as well as guaranteed subsidies.

In addition, the key indicators "Depreciation and amortization in % of sales" and "Operating cash flow in % of sales" are also disclosed.

RECONCILIATION OF KEY FIGURES TO CONSOLIDATED EARNINGS

€ in millions	**2021**	2020
Total EBIT of reporting segments	4,296	4,648
Special items	-94	-227
General corporate expenses Corporate (EBIT)	-44	-36
Group EBIT	**4,158**	**4,385**
Interest expenses	-630	-752
Interest income	124	93
Income before income taxes	**3,652**	**3,726**

RECONCILIATION OF NET DEBT WITH THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

€ in millions	**Dec. 31, 2021**	Dec. 31, 2020
Short-term debt	2,841	245
Short-term debt from related parties	8	5
Current portion of long-term debt	473	1,132
Current portion of lease liabilities	832	766
Current portion of bonds	618	1,522
Long-term debt, less current portion	2,127	4,022
Lease liabilities, less current portion	5,758	5,422
Bonds, less current portion	14,016	12,325
Convertible bonds	482	474
Debt	**27,155**	**25,913**
less cash and cash equivalents	2,764	1,837
Net debt	**24,391**	**24,076**

Net debt excluding lease liabilities amounted to €17,801 million at December 31, 2021 (December 31, 2020: €17,888 million).

The following table shows the long-lived assets by geographical region:

€ in millions	Dec. 31, 2021	Dec. 31, 2020
Germany	11,270	10,233
Spain	7,671	7,196
Europe (excluding Germany and Spain)	3,765	4,090
North America	26,147	23,797
Asia-Pacific	2,612	2,480
Latin America	874	1,052
Africa	73	66
Total long-lived assets[1]	**52,412**	**48,914**

[1] The aggregate amount of long-lived assets is the sum of non-current assets less deferred tax assets and less other non-current financial assets.

In 2021, the Fresenius Group generated sales of €8,461 million (2020: €8,059 million) in Germany. Sales in the United States were €14,088 million at actual rates (2020: €14,540 million) and €14,587 million in constant currency in 2021.

In 2021, the segment Fresenius Medical Care generated other sales in the amount of €516 million (2020: €409 million), Fresenius Kabi €3 million (2020: €3 million), Fresenius Helios €12 million (2020: €12 million) and Fresenius Vamed €4 million (2020: €0 million). All other sales are sales from contracts with customers.

36. SHARE-BASED COMPENSATION PLANS

COMPENSATION COST IN CONNECTION WITH THE SHARE-BASED COMPENSATION PLANS OF THE FRESENIUS GROUP

In 2021, the Fresenius Group recognized compensation cost in an amount of €1 million for stock options granted in 2017 for the last time. In 2020, the Fresenius Group recognized €6 million in income in relation to stock options granted since 2016. The amount recognized in income was mainly due to the non-achievement of the plan targets and the resulting forfeiture of three quarters of the stock options granted in 2017. For stock incentive plans which are performance-based, the Fresenius Group recognizes compensation cost over the vesting periods, based on the market values of the underlying stock at the grant date.

The expenses related to cash-settled share-based payment transactions are determined based upon the fair value at measurement date and the number of phantom stocks or performance shares granted which will be recognized over the vesting period. In 2021, the Fresenius Group recognized expenses of €27 million (2020: €31 million) in connection with cash-settled share-based payment transactions. At December 31, 2021, the Fresenius Group has accrued €72 million (December 31, 2020: €83 million) for its share-based compensation plans.

SHARE-BASED COMPENSATION PLANS OF FRESENIUS SE & CO. KGAA

Description of the Fresenius SE & Co. KGaA share-based compensation plans in place

As of December 31, 2021, Fresenius SE & Co. KGaA had two share-based compensation plans in place: the Fresenius SE & Co. KGaA Long Term Incentive Program 2013 (2013 LTIP) which is based on stock options and phantom stocks and the Long Term Incentive Plan 2018 (LTIP 2018) which is solely based on performance shares. Currently, solely LTIP 2018 can be used to grant performance shares.

LTIP 2018

On April 12, 2018 and March 15, 2018, respectively, the Management Board and Supervisory Board of the general partner, Fresenius Management SE, resolved the Long Term Incentive Plan 2018 (LTIP 2018).

The LTIP 2018 is based solely on virtual stocks (performance shares). The performance shares issued through the plan are non-equity-backed, virtual compensation instruments. When performance targets are reached and other prerequisites are met, they guarantee the entitlement to a cash payment by Fresenius SE & Co. KGaA or one of its affiliated companies.

The plan is available both for members of the Management Board (with the exception of Mr. Rice Powell, who receives his compensation from Fresenius Medical Care Management AG) and other executives. Performance shares may be granted once annually over a period of five years. The grant to the members of the Management Board is made by the Supervisory Board of the general partner, Fresenius Management SE, the grant to the other executives is made by the Management Board of Fresenius Management SE, in each case on the basis of a grant value determined at its discretion. The grant value is determined in consideration of the personal performance and the responsibilities of the concerned plan participant. The number of performance shares granted is calculated through applying the grant value and the average stock market price of the Fresenius share over the period of 60 stock exchange trading days prior to the grant date.

The number of performance shares may change over a period of four years, depending on the level of achievement of the performance targets described in more detail below. This could entail the entire loss of all performance shares or also – at maximum – the doubling of their number. The resulting number of performance shares, which is determined after a performance period of four years and based on the respective level of target achievement, is deemed finally earned four years after the date of the respective grant. The number of vested performance shares is then multiplied by the average stock exchange price of Fresenius SE & Co. KGaA's share over a period of 60 stock exchange trading days prior to the lapse of this vesting period plus the total of the dividends per share of Fresenius SE & Co. KGaA paid by Fresenius SE & Co. KGaA between the grant date and the vesting date. The resulting amount will be paid to the respective plan participant in cash. The potential disbursement entitlement of each member of the Management Board is limited to a maximum value of 250% of the grant value, the entitlement of all other plan participants is limited to a maximum value of 400%.

The LTIP 2018 has two equally weighted performance targets: firstly, the growth rate of the adjusted consolidated net income (adjusted for currency effects) and, secondly, the relative Total Shareholder Return based on the STOXX Europe 600 Health Care Index. Disbursement entitlement requires that at least one of the two performance targets must be reached or surpassed over the four-year performance period.

For the performance target "Net Income Growth Rate" a level of target achievement of 100% is reached when the same is at least 8% over the four-year performance period. If the growth rate falls below or corresponds to only 5%, the level of target achievement is 0%. If the growth rate is between 5% and 8%, the level of target achievement is between 0% and 100%, while, where the growth rate is between 8% and 20%, the level of target achievement will be between 100% and 200%. Intermediate values are calculated through linear interpolation. The net income is the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA reported in the consolidated financial statements of Fresenius SE & Co. KGaA prepared in accordance with IFRS, adjusted for extraordinary effects.

The determination of the adjusted net income (adjusted for currency effects) and the change in comparison with the adjusted net income (not adjusted for currency effects) of the previous Fresenius Group fiscal year will be verified in a binding manner by the auditors of Fresenius SE & Co. KGaA on the basis of the audited consolidated financial statements. For the ascertainment of the currency translation effects, all line items of the income statements of the companies that are included in the consolidated financial statements and which have a functional currency other than the reporting currency (euro) of the Fresenius Group are translated with the average exchange rates of the Fresenius Group fiscal year of the consolidated financial statements that are the basis for the comparison.

For the "Total Shareholder Return" performance target, a target achievement of 100% is met when the Total Shareholder Return of Fresenius SE & Co. KGaA in comparison with the Total Shareholder Return of the other companies of the STOXX Europe 600 Health Care Index achieves an average ranking within the benchmark companies, i. e. exactly in the middle (50th percentile), over the four-year performance period. If the ranking corresponds to the 25th percentile or less, the level of target achievement is 0%. Where the ranking is between the 25th percentile and the 50th percentile, the level of target achievement is between 0% and 100%; and, for a ranking between the 50th percentile and the 75th percentile, between 100% and 200%. Intermediate values will also be calculated through linear interpolation. Total Shareholder Return denotes the percentage change in the stock market price within the performance period including reinvested dividends and all capital measures, whereby capital measures are to be calculated through rounding down to the fourth decimal place.

The ranking values are determined using the composition of STOXX Europe 600 Health Care on the grant date. For equalization purposes, the relevant market price is the average market price in the period of 60 stock exchange trading days prior to the beginning and end of a performance period; the relevant currency is that of the main stock exchange of a company, which was listed in STOXX Europe 600 Health Care on the grant date.

A level of target achievement in excess of 200% is not possible for both performance targets.

To calculate the level of overall target achievement, the level of target achievement of the two performance targets are given equal weighting. The total number of performance shares vested on each plan participant is calculated through multiplying the number of performance shares granted by the overall target achievement.

The performance targets for the 2018 grant were not achieved. Therefore, the performance shares granted in 2018 forfeited.

In the event of violation of compliance rules, the Supervisory Board of Fresenius Management SE, in due exercise of its discretion, is entitled to reduce the number of performance shares vested on a member of the Management Board to zero. Regarding all other plan participants, such decision is made by the Management Board of Fresenius Management SE. Furthermore, Fresenius SE & Co. KGaA is entitled to a complete or partial reimbursement in the event of violation of compliance rules in the period of three years following disbursement.

2013 LTIP

The 2013 LTIP is comprised of the Fresenius SE & Co. KGaA Stock Option Plan 2013 (2013 SOP) and the Fresenius SE & Co. KGaA Phantom Stock Plan 2013 (2013 PSP). It combines the granting of stock options with the granting of phantom stock awards which entitle the holder to receive cash payments upon exercising the phantom stock. Each of the 2013 SOP and 2013 PSP making up the 2013 LTIP have been established under a stand-alone legal documentation.

2013 SOP

Under the 2013 SOP, which was approved by the Annual General Meeting of Fresenius SE & Co. KGaA on May 17, 2013, Fresenius Management SE was originally authorized to issue up to 8.4 million subscription rights for an amount of 8.4 million non-par value ordinary bearer shares of Fresenius SE & Co. KGaA until May 16, 2018.

Of the up to 8.4 million options, up to 1.6 million options were designated for members of the Management Board of Fresenius Management SE; up to 4.4 million options were designated for members of the management of directly or indirectly affiliated companies (except for Fresenius Medical Care) and up to 2.4 million options were designated for executive employees of Fresenius SE & Co. KGaA and its affiliated companies (except for Fresenius Medical Care).

In connection with the stock split in 2014, the total volume of not yet granted subscription rights increased in the same proportion as the subscribed capital (factor 3) as far as options had not yet been granted under the 2013 SOP. The same applies to the subsets of the subscription rights that are attributable to individual groups of participants. For stock options that were granted before the stock split 2014 came into effect, the entitlement of the participants to receive new shares through the exercise of stock options increased in the same proportion as the subscribed capital (factor 3). The participants are now entitled to receive three bearer ordinary shares of Fresenius SE & Co. KGaA. The exercise price was reduced proportionally.

The granting of the options occurred in five annual tranches, each to the last Monday in July or the first Monday in December. With respect to new options, the Supervisory Board of Fresenius Management SE determined the stock options granted to members of Fresenius Management SE's Management Board, whereas the Management Board of Fresenius Management SE determined the other participants in the 2013 SOP and the stock options granted to them.

The exercise price of an option equals the volume-weighted average stock market price (closing price) of the non-par value ordinary bearer share of Fresenius SE & Co. KGaA in the electronic Xetra trading of Deutsche Börse AG in Frankfurt am Main, or a comparable successor system, on the last 30 calendar days prior to the respective grant date.

Options granted have an eight-year term but can be exercised only after a four-year vesting period. The exercise of options is subject to the condition precedent, in each case, that the annual success target within a four-year waiting period is achieved. The success target is achieved in each case if, after the granting of the options to the respective entitled person, either (i) the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS, adjusted for extraordinary effects and on a constant currency basis, has increased by at least 8% per annum in comparison to the previous year in each case within the waiting period, or (ii) – if this is not the case – the compounded annual growth rate of the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS, adjusted for extraordinary effects and on a constant currency basis, during the four years of the waiting period amounts to at least 8%. In the event that the success target within the four-year waiting period is not achieved for the individual years or for the compounded annual growth rate, the options issued in each case are forfeited in proportion to the non-achievement of the success target within the waiting period, i. e. by one quarter, two quarters, three quarters, or completely. In the years 2013 to 2019, the performance targets for stock options granted in 2013 to 2016 were met. For stock options granted in 2017, only one quarter of the performance target was achieved. Therefore, in 2020, three quarters of the stock options granted in 2017 were forfeited.

The adjusted net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS (currency adjusted) and changes thereto compared to the adjusted net income according to IFRS (without currency adjustment) of the relevant comparison year shall be verified with binding effect in each case by the auditors of Fresenius SE & Co. KGaA on the basis of the audited consolidated financial statements. Upon exercise of vested options, Fresenius SE & Co. KGaA has the right to grant treasury shares in lieu of increasing capital by the issuance of new shares.

After the expiration of the waiting period, all options in respect of which the success target has been achieved may be exercised at any time outside the designated blackout periods.

The last options were granted in 2017.

2013 PSP

Fresenius SE & Co. KGaA's 2013 PSP was established in May 2013, together with the 2013 SOP in line with the 2013 LTIP. Awards of phantom stocks can be granted on each stock option grant date. Phantom stocks awarded under the 2013 PSP may be granted to the members of Fresenius Management SE's Management Board, the members of the management of directly or indirectly affiliated companies (except for Fresenius Medical Care) and to executive employees of Fresenius SE & Co. KGaA and its affiliated companies (except for Fresenius Medical Care).

The holders of phantom stocks, that had been issued before the stock split 2014 came into effect, were granted an economic compensation through retroactively tripling the number of phantom stocks granted before the stock split 2014 came into effect.

As under the 2013 SOP, the Supervisory Board of Fresenius Management SE determined the phantom stocks granted to members of Fresenius Management SE's Management Board, whereas the Management Board of Fresenius Management SE determined the other participants in the 2013 PSP and the phantom stocks granted to them.

Phantom stock awards under the 2013 PSP entitle the holder to receive a cash payment. Each phantom stock award shall entitle the holder to receive the volume-weighted average stock market price (closing price) of the non-par value ordinary bearer share of Fresenius SE & Co. KGaA in the electronic Xetra trading of Deutsche Börse AG in Frankfurt am Main, or a comparable successor system, during the last three months prior to the date the phantom stock is exercised.

The exercise of phantom stock is subject to the condition precedent, in each case, that the annual success target within a four-year waiting period is achieved. The success target is achieved in each case if, after the granting of the subscription rights to the respective entitled person, either (i) the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS, adjusted for extraordinary effects and on a constant currency basis, has increased by at least 8% per annum in comparison to the previous year in each case within the waiting period, or (ii) – if this is not the case – the compounded annual growth rate of the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS, adjusted for extraordinary effects and on a constant currency basis, during the four years of the waiting period amounts to at least 8%. In the event that the success target within the four-year waiting period is not achieved for the individual years or for the compounded annual growth rate, the phantom stock awards issued in each case are forfeited in proportion to the non-achievement of the success target within the waiting period, i. e. by one quarter, two quarters, three quarters, or completely. In the years 2013 to 2019, the performance targets for phantom stocks granted in 2013 to 2016 were met. For phantom stocks granted in 2017, only one quarter of the performance target was achieved. Therefore, in 2020, three quarters of the phantom stocks granted in 2017 were forfeited.

The adjusted net income attributable to shareholders of Fresenius SE & Co. KGaA according to IFRS (currency adjusted) and changes thereto compared to the adjusted net income according to IFRS (without currency adjustment) of the relevant comparison year shall be verified with binding effect in each case by the auditors of Fresenius SE & Co. KGaA on the basis of the audited consolidated financial statements.

After the expiration of the waiting period, all exercisable phantom stocks will be deemed to be exercised and cashed out on March 1 following the end of the waiting period (or the following banking day). At December 31, 2021, the provision for phantom stocks issued in 2017 that will be exercised and paid out on March 1, 2022, amounted to €1 million. At December 31, 2020, the provision for phantom stocks issued in 2016 that were exercised and paid out on March 1, 2021, amounted to €7 million.

The last phantom stocks were granted in 2017.

Transactions during 2021 and 2020

On September 13, 2021, Fresenius SE & Co. KGaA awarded 915,105 performance shares under the LTIP 2018, the total fair value at the grant date being €41 million, including 193,800 performance shares valued at €9 million to the members of the Management Board of Fresenius Management SE. The fair value per performance share at the grant date was €44.75.

On September 14, 2020, Fresenius SE & Co. KGaA awarded 924,237 performance shares under the LTIP 2018, the total fair value at the grant date being €39 million, including 183,420 performance shares valued at €8 million to the members of the Management Board of Fresenius Management SE. The fair value per performance share at the grant date was €41.98.

During the fiscal year 2021, Fresenius SE & Co. KGaA received cash of €32 million from the exercise of 961,234 stock options. The average stock price of the ordinary share at the exercise date was €44.32.

During the fiscal year 2020, Fresenius SE & Co. KGaA received cash of €5 million from the exercise of 160,930 stock options. The average stock price of the ordinary share at the exercise date was €40.63.

At December 31, 2021, 4,967,507 stock options issued under the 2013 LTIP were outstanding and exercisable. The members of the Fresenius Management SE Management Board held 603,281 stock options. 38,592 phantom stocks issued under the 2013 LTIP were outstanding at December 31, 2021. The members of the Fresenius Management SE Management Board held 5,059 phantom stocks. At December 31, 2021, the Management Board members of Fresenius Management SE held 582,234 performance shares and employees of Fresenius SE & Co. KGaA held 2,367,562 performance shares under the LTIP 2018.

Of the 6,117,024 outstanding stock options issued under the 2013 LTIP, 5,633,679 were exercisable at December 31, 2020. The members of the Fresenius Management SE Management Board held 890,156 stock options. 231,684 phantom stocks issued under the 2013 LTIP were outstanding at December 31, 2020. The members of the Fresenius Management SE Management Board held 35,464 phantom stocks. At December 31, 2020, the Management Board members of Fresenius Management SE held 467,335 performance shares and employees of Fresenius SE & Co. KGaA held 1,684,235 performance shares under the LTIP 2018.

Stock option transactions are summarized as follows:

Ordinary shares December 31	Number of options	Weighted average exercise price in €	Number of options exercisable
Balance 2019	**8,435,555**	**58.34**	**4,245,296**
exercised	160,930	33.78	
forfeited	2,157,601	71.23	
Balance 2020	**6,117,024**	**54.44**	**5,633,679**
exercised	961,234	32.82	
forfeited	168,033	63.77	
expired	20,250	32.12	
Balance 2021	**4,967,507**	**58.40**	**4,967,507**

The following tables provide a summary of outstanding and exercisable options for ordinary shares at December 31:

	December 31, 2021		
	Options outstanding and exercisable		
Range of exercise prices in €	Number of options	Weighted average remaining contractual life in years	Weighted average exercise price in €
35,01 – 40,00	1,144,742	0.58	36.92
60,01 – 65,00	1,616,095	1.59	60.66
65,01 – 70,00	1,741,963	2.57	66.05
70,01 – 75,00	464,707	3.58	74.77
	4,967,507	**1.89**	**58.40**

	December 31, 2020					
	Options outstanding			Options exercisable		
Range of exercise prices in €	Number of options	Weighted average remaining contractual life in years	Weighted average exercise price in €	Number of options	Weighted average remaining contractual life in years	Weighted average exercise price in €
30,01 – 35,00	868,831	0.63	32.27	868,831	0.63	32.27
35,01 – 40,00	1,261,520	1.58	36.92	1,261,520	1.58	36.92
60,01 – 65,00	1,683,220	2.59	60.66	1,675,440	2.58	60.64
65,01 – 70,00	1,827,888	3.57	66.05	1,827,888	3.57	66.05
70,01 – 75,00	475,565	4.58	74.77	–		
	6,117,024	**2.55**	**54.44**	**5,633,679**	**2.38**	**52.71**

At December 31, 2021, the aggregate intrinsic value of exercisable options for ordinary shares was -€114 million (December 31, 2020: -€84 million).

At December 31, 2021, there was no unrecognized compensation cost related to non-vested options granted under the 2013 LTIP (December 31, 2020: €1 million).

SHARE-BASED COMPENSATION PLANS OF FRESENIUS MEDICAL CARE AG & CO. KGAA

As of December 31, 2021, Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) has various share-based compensation plans, which may either be equity- or cash-settled.

Fresenius Medical Care AG & Co. KGaA long-term incentive plans during 2016 – 2021 (Performance Shares)

As of May 11, 2016, the issuance of stock options and phantom stocks under the FMC-AG & Co. KGaA Long Term Incentive Program 2011 (LTIP 2011) terminated. Furthermore, as of January 1, 2019, the issuance of performance shares under the FMC-AG & Co. KGaA Long Term Incentive Plan 2016 (LTIP 2016) terminated. Furthermore, as of January 1, 2020, the issuance of performance shares under the Fresenius Medical Care Management Board Long Term Incentive Plan 2019 (MB LTIP 2019) is no longer possible. In order to continue to enable the members of the Management Board, the members of the management boards of affiliated companies and managerial staff members to adequately participate in the long-term, sustained success of Fresenius Medical Care, successor programs were introduced. For members of the Management Board, the Supervisory Board of Fresenius Medical Care Management AG (FMC Management AG) has approved and adopted the Fresenius Medical Care Management Board Long Term Incentive Plan 2020 (MB LTIP 2020) effective January 1, 2020. For the members of the management boards of affiliated companies and managerial staff members, the Management Board of FMC Management AG has approved and adopted the FMC-AG & Co. KGaA Long Term Incentive Plan 2019 (LTIP 2019) effective January 1, 2019.

The LTIP 2016, the MB LTIP 2019, the LTIP 2019 and the MB LTIP 2020 are each variable compensation programs with long-term incentive effects which allocate or allocated so-called performance shares. Performance shares are non-equity, cash-settled virtual compensation instruments which may entitle plan participants to receive a cash payment depending on the achievement of predefined performance targets further defined below as well as FMC-AG & Co. KGaA's share price development.

The following table provides an overview of these plans.

	MB LTIP 2020	LTIP 2019	MB LTIP 2019	LTIP 2016
Eligible persons	Members of the Management Board	Other plan participants	Members of the Management Board	Members of the Management Board and other plan participants
Years in which an allocation occurred	2020 - 2021	2019 - 2021	2019	2016 - 2018
Months in which an allocation occurred	November (2020), March (2021)	July, December	July, December	July, December

Under the current compensation system, the Supervisory Board of FMC Management AG defines an initial value for each Management Board member's allocation by applying a multiplier to the relevant base salary. Such allocation value equals 135% (multiplier of 1.35) of the relevant base salary. In case of appointments to the Management Board during a fiscal year, the amount to be allocated to such member can be pro-rated. For plan participants other than the members of the Management Board, the determination of the allocation value will be made by the Management Board, taking into account the individual responsibility of each plan participant. The initial allocation value is determined in the currency in which the respective participant receives his or her base salary at the time of the allocation. In order to determine the number of performance shares each plan participant receives, the respective allocation value will be divided by the value per performance share at the time of the allocation, which is mainly determined based on the average price of FMC-AG & Co. KGaA's shares over a period of 30 calendar days prior to the respective allocation date.

The number of allocated performance shares may change over the performance period of three years, depending on the level of achievement of the following: (i) revenue growth at constant currency (revenue growth), (ii) growth of the net income attributable to the shareholders of FMC-AG & Co. KGaA at constant currency (net income growth) and (iii) return on invested capital (ROIC).

In addition to the three performance targets above, and for the LTIP 2019 exclusively, the level of achievement for performance shares allocated in year 2019 may be subject to an increase if certain targets in relation to the second phase of FMC-AG & Co. KGaA's Global Efficiency Program (GEP-II targets) and in relation to the free cash flow (free cash flow target) are achieved.

Revenue, net income and ROIC are determined according to FMC-AG & Co. KGaA's consolidated reported and audited figures in euro for the financial statements prepared in accordance with IFRS, applying the respective plan terms. Revenue growth, net income growth and the fulfillment of the GEP-II targets, for the purpose of the relevant plan, are determined at constant currency.

Performance targets

The performance targets and the target values to be applied for the fiscal year 2021 for performance shares allocated in the fiscal year under the MB LTIP 2020 and under the LTIP 2019 are presented in the table below.

	Target values	Target achievement	Weight
Performance target 1: Revenue Growth	≤1%	0%	1/3
	6%	100%	
	≥11%	200%	
Performance target 2: Net Income Growth	≤0%	0%	1/3
	5%	100%	
	≥10%	200%	
Performance target 3: ROIC	≤5.5%	0%	1/3
	6%	100%	
	≥6.5%	200%	

If revenue growth, net income growth or ROIC range between these values, the respective degree of target achievement will be linearly interpolated between these values.

For performance shares allocated in 2020, for the fiscal years 2020 and 2021, an annual target achievement level of 100% will be reached for the revenue growth performance target if revenue growth is 6%; revenue growth of 1% will lead to a target achievement level of 0% and the maximum target achievement level of 200% will be reached in case of revenue growth of at least 11%. If revenue growth ranges between these values, the degree of target achievement will be linearly interpolated between these values.

For performance shares allocated in 2020, for the fiscal years 2020 and 2021, an annual target achievement level of 100% for the net income growth performance target will be reached if net income growth is 5%. In case of net income growth of 0%, the target achievement level will also be 0%; the maximum target achievement of 200% will be reached in the case of net income growth of at least 10%. If net income growth ranges between these values, the degree of target achievement will be linearly interpolated between these values.

For performance shares allocated in 2020, for the fiscal years 2020 and 2021, an annual target achievement level of 100% for the ROIC performance target will be reached if ROIC is 6.0%. In case of a ROIC of 5.5%, the target achievement level will be 0%; the maximum target achievement of 200% will be reached in the case of a ROIC of at least 6.5%. Between these values, the degree of target achievement will be determined by means of linear interpolation.

For performance shares allocated throughout 2016 to 2019, for each individual year of the three-year performance period, an annual target achievement level of 100% will be reached for the revenue growth performance target if revenue growth is 7%; revenue growth of 0% will lead to a target achievement level of 0% and the maximum target achievement level of 200% will be reached in case of revenue growth of at least 16%. If revenue growth ranges between these values, the degree of target achievement will be linearly interpolated between these values.

For performance shares allocated throughout 2016 to 2019, for each individual year of the three-year performance period, an annual target achievement level of 100% for the net income growth performance target will be reached if net income growth is 7%. In case of net income growth of 0%, the target achievement level will also be 0%; the maximum target achievement of 200% will be reached in the case of net income growth of at least 14%. Between these values, the degree of target achievement will be determined by means of linear interpolation.

For Performance Shares allocated throughout 2016 to 2019, an annual target achievement level of 100% for ROIC will be reached if the target ROIC as defined for the applicable year is reached. For performance shares allocated throughout 2016 to 2019, the target ROIC is 7.3% for 2016, 7.5% for 2017, 7.7% for 2018, 7.9% for 2019, 8.1% for 2020 and 8.1% for 2021. A target achievement level of 0% will be reached if the ROIC falls below the target ROIC for the applicable year by 0.2 percentage points or more, whereas the maximum target achievement level of 200% will be reached if the target ROIC for the respective year is exceeded by 0.2 percentage points or more. The degree of target achievement will be determined by means of linear interpolation if the ROIC ranges between these values. In case the annual ROIC target achievement level in the third year of a performance period for performance shares allocated throughout years 2016 to 2019 is equal to or higher than the ROIC target achievement level in each of the two previous years of such performance period, the ROIC target achievement level of the third year is deemed to be achieved for all years of the applicable performance period.

For all plans, the achievement level for each of the three performance targets will be weighted annually at one-third to determine the yearly target achievement for each year of the three-year performance period. The level of overall target achievement over the three-year performance period will then be determined on the basis of the mean of these three average yearly target achievements. The overall target achievement can be in a range of 0% to 200%. For performance shares allocated in fiscal year 2019 under the LTIP 2019, the overall target achievement shall be increased by 20 percentage points if the GEP-II targets achievement is 100%. Furthermore, the overall target achievement for performance shares allocated in year 2019 under the LTIP 2019 shall be increased by 20 percentage points if the free cash flow target achievement is 200%. In case of a GEP-II targets achievement between 0% and 100% and a free cash flow target achievement between 0% and 200%, the increase of the overall target achievement will be calculated by means of linear interpolation. The overall target achievement shall not exceed 200%.

The number of performance shares allocated to the plan participants at the beginning of the performance period will each be multiplied by the level of overall target achievement in order to determine the final number of performance shares.

Vesting conditions

For the MB LTIP 2020, the final number of performance shares is generally deemed earned three years after the day of an allocation. The number of such vested performance shares is then multiplied by the average FMC-AG & Co. KGaA share price over a period of 30 calendar days prior to the lapse of this vesting period. The respective resulting amount, which is capped in total at an amount equaling 400% of the allocation value received by the participant and which can be reduced to meet the respective maximum compensation of the participant, less taxes and contributions, is transferred to a credit institution which uses it for the purchase of shares of FMC-AG & Co. KGaA on the stock exchange on behalf of the participant. The shares acquired in this way are subject to a holding period of at least one year. After the lapse of this holding period, the participant can decide to further hold or sell these shares.

For the LTIP 2019, the final number of performance shares is generally deemed earned three years after the day of a respective allocation. The number of such vested performance shares is then multiplied by the average FMC-AG & Co. KGaA share price over a period of 30 calendar days prior to the lapse of this vesting period. The respective resulting amount, which is capped in total at an amount equaling 400% of the allocation value received by the participant, will then be paid to the plan participants as cash compensation.

For the MB LTIP 2019, the final number of performance shares is generally deemed earned four years after the day of a respective allocation. The number of such vested performance shares is then multiplied by the average FMC-AG & Co. KGaA share price over a period of 30 calendar days prior to the lapse of this vesting period. The resulting amount will then be paid to the plan participants as cash compensation.

For the LTIP 2016, the final number of performance shares is generally deemed earned four years after the day of an allocation. The number of such vested performance shares is then multiplied by the average FMC-AG & Co. KGaA share price over a period of 30 calendar days prior to the lapse of this vesting period. The resulting amount will then be paid to the plan participants as cash compensation.

Fresenius Medical Care AG & Co. KGaA Long Term Incentive Program 2011 (stock options and phantom stocks)

On May 12, 2011, the Fresenius Medical Care AG & Co. KGaA Stock Option Plan 2011 (2011 SOP) was established by resolution of Fresenius Medical Care AG & Co. KGaA's (FMC-AG & Co. KGaA) Annual General Meeting. The 2011 SOP, together with the Phantom Stock Plan 2011, which was established by resolution of FMC Management AG's Management and Supervisory Boards, forms FMC-AG & Co. KGaA's Long Term Incentive Program 2011 (LTIP 2011). Under the LTIP 2011, participants were granted awards, which consisted of a combination of stock options and phantom stocks. The final grant under the LTIP 2011 was made in December 2015. Awards under the LTIP 2011 were subject to a four-year vesting period. Vesting of the awards granted was subject to achievement of predefined performance targets. The 2011 SOP was established with a conditional capital increase up to €12 million subject to the issue of up to 12 million non-par value bearer ordinary shares with a nominal value of €1.00 per share.

Stock options granted under the LTIP 2011 have an eight-year term and can be exercised for the first time after a four-year vesting period. The exercise price of stock options granted under the LTIP 2011 shall be the average stock exchange price on the Frankfurt Stock Exchange of FMC-AG & Co. KGaA's shares during the 30 calendar days immediately prior to each grant date. Stock options granted under the LTIP 2011 to U.S. participants are non-qualified stock options under the United States Internal Revenue Code of 1986, as amended. Stock options under the LTIP 2011 are not transferable by a participant or a participant's heirs, and may not be pledged, assigned, or disposed of otherwise.

Phantom stock awards under the LTIP 2011 entitled the holders to receive payment in euro from FMC-AG & Co. KGaA upon exercise of the phantom stock. The payment per phantom stock in lieu of the issuance of such stock was based upon the share price on the Frankfurt Stock Exchange of one of FMC-AG & Co. KGaA's shares on the exercise date. Phantom stock awards had a five-year term and could be exercised for the first time after a four-year vesting period. For participants who were U.S. taxpayers, the phantom stock was deemed to be exercised in any event in the month of March following the end of the vesting period.

Transactions during 2021 and 2020

During 2021, FMC-AG & Co. KGaA allocated 192,446 performance shares under the MB LTIP 2020 at a measurement date weighted average fair value of €54.69 each and a total fair value of €11 million, which will be revalued if the fair value changes. The total fair value will be amortized over the vesting period.

During 2021, FMC-AG & Co. KGaA allocated 935,814 performance shares under the LTIP 2019 at a measurement date weighted average fair value of €53.27 each and a total fair value of €50 million, which will be revalued if the fair value changes. The total fair value will be amortized over the vesting period.

During 2020, FMC-AG & Co. KGaA allocated 159,607 performance shares under the MB LTIP 2020 at a measurement date weighted average fair value of €64.20 each and a total fair value of €10 million, which will be revalued if the fair value changes. The total fair value will be amortized over the vesting period.

During 2020, FMC-AG & Co. KGaA allocated 800,165 performance shares under the LTIP 2019 at a measurement date weighted average fair value of €64.06 each and a total fair value of €51 million, which will be revalued if the fair value changes. The total fair value will be amortized over the vesting period.

During 2021, FMC-AG & Co. KGaA received cash of €6 million from the exercise of stock options. The intrinsic value of stock options exercised in 2021 was €2 million.

During 2020, FMC-AG & Co. KGaA received cash of €12 million from the exercise of stock options. The intrinsic value of stock options exercised in 2020 was €4 million.

Information on holdings under share-based plans

At December 31, the members of the Management Board and plan participants other than the members of the Management Board held the following performance shares under the share-based plans:

	2021			2020		
Performance Shares	**Members of the Management Board**	**Other plan participants**	**Total**	Members of the Management Board	Other plan participants	Total
MB LTIP 2020	352,053	–	352,053	159,607	–	159,607
LTIP 2019	8,869	2,399,649	2,408,518	8,869	1,522,102	1,530,971
MB LTIP 2019	102,435	12,564	114,999	102,435	12,564	114,999
LTIP 2016	56,624	366,059	422,683	135,473	947,133	1,082,606

Additionally, at December 31, 2021, the members of the Management Board of FMC Management AG held 455,970 stock options (December 31, 2021: 465,308) and plan participants other than the members of the Management Board held 2,557,339 stock options (December 31, 2021: 2,735,766) under the 2011 SOP.

The table below provides reconciliations for options outstanding at December 31, 2021, 2020 and 2019:

Stock options for shares	Number of options in thousands	Weighted average exercise price in €
Balance at December 31, 2019	**3,489**	**70.32**
exercised[1]	235	53.00
expired	53	75.65
Balance at December 31, 2020	**3,201**	**71.50**
exercised[2]	128	49.83
expired	60	70.60
Balance at December 31, 2021	**3,013**	**72.44**

[1] The average share price at the date of exercise of the options was €71.75.
[2] The average share price at the date of exercise of the options was €65.92.

The following tables provide a summary of fully vested options outstanding and exercisable at December 31, 2021 and December 31, 2020, respectively:

Range of exercise prices in €	December 31, 2021 Number of options	Weighted average remaining contractual life in years	Weighted average exercise price in €
45,01 – 50,00	488,745	0.57	49.93
55,01 – 60,00	31,080	0.92	58.63
75,01 – 80,00	2,493,484	1.58	77.02
	3,013,309	**1.41**	**72.44**

Range of exercise prices in €	December 31, 2020 Number of options	Weighted average remaining contractual life in years	Weighted average exercise price in €
45,01 – 50,00	630,870	1.44	49.91
55,01 – 60,00	31,080	1.92	58.63
75,01 – 80,00	2,539,124	2.58	77.03
	3,201,074	**2.35**	**71.50**

37. RELATED PARTY TRANSACTIONS

In 2021, €18 million (2020: €12 million) were paid to Fresenius Management SE as compensation for the Management Board and the Supervisory Board, general partners' fees and other reimbursements of out-of pocket expenses. At December 31, 2021, there were outstanding liabilities payable to Fresenius Management SE in the amount of €49 million (December 31, 2020: €41 million), consisting mainly of pension obligations and Management Board compensation (see page 234 ff.).

The aforementioned payments are net amounts. In addition, VAT was paid.

In 2021 and 2020, the Else Kröner-Fresenius-Stiftung was paid the dividends which it is entitled as a shareholder in the ordinary share capital of Fresenius SE & Co. KGaA.

Fresenius Medical Care has entered into exclusive supply agreements to purchase certain pharmaceuticals from, as well as certain exclusive distribution agreements with, its associate Vifor Fresenius Medical Care Renal Pharma Ltd. Under the terms of certain unconditional purchase agreements, Fresenius Medical Care is obligated to purchase approximately €1,240 million of pharmaceuticals, of which €298 million is committed at December 31, 2021 for 2022. The terms of these agreements extend over four years. In the fiscal year 2021, the Fresenius Group purchased goods and services in a total amount of €446 million from Vifor Fresenius Medical Care Renal Pharma Ltd. (2020: €474 million).

38. SUBSEQUENT EVENTS

The months of January and February were characterized worldwide by a regionally varying development of the COVID-19 pandemic with again significantly rising infection numbers, particularly due to the Omikron variant. Large-scale constraints of public and private life are still enacted in various countries in order to curtail the spread of COVID-19. The vaccination programs were continued worldwide and the development in each country differs. The further development of the global situation and its impact on Fresenius remain uncertain. Cost inflation and supply chain disruption continue to be a theme on a global level.

Beyond that, there have been no significant changes in the Fresenius Group's operating environment following the end of the fiscal year 2021 until February 21, 2022. No other events of material importance on the assets and liabilities, financial position, and results of operations of the Group have occurred following the end of the fiscal year.

39. COMPENSATION OF THE MANAGEMENT BOARD AND THE SUPERVISORY BOARD

Detailed and individualized information regarding the compensation of the members of the Management Board and of the Supervisory Board is disclosed in the Compensation Report.

The compensation of the Management Board of Fresenius Management SE is, as a whole, performance-based and geared towards promoting sustainable corporate development. It is composed of the following elements:

- non-performance-based compensation (fixed compensation and fringe benefits)
- short-term performance-based compensation (one-year variable compensation (bonus))
- components with long-term incentive effects (multi-year variable compensation comprising performance shares and postponed payments of the one-year variable compensation / of the bonus)

The cash compensation paid to the Management Board for the performance of its responsibilities was €16,057 thousand (2020: €15,017 thousand). Thereof, €8,602 thousand (2020: €6,669 thousand) is not performance-based and €7,455 thousand (2020: €8,348 thousand is performance-based. The amount of the short-term performance-based compensation depends on the achievement of targets relating to the net income and the sales of the Fresenius Group and the business segments as well as on the achievement of sustainability criteria. As a long-term incentive component, the members of the Management Board received 193,800 performance shares of Fresenius SE & Co. KGaA (2020: 183,420) and 40,894 performance shares of Fresenius Medical Care AG & Co. KGaA (2020: 35.030) in the equivalent value of €10,979 thousand (2020: €9,870 thousand).

The total compensation of the Management Board was €27,036 thousand (2020: €25,070 thousand).

In the fiscal year 2021, the Fresenius Group recognized expense, under IFRS, from share-based compensation plans for the Management Board of €1,131 thousand (2020: income of €1,374 thousand), a cost for pension plans for the members of the Management Board of €5,774 thousand (2020: income of €424 thousand) and expenses for early termination of service agreements of €6,336 thousand (2020: €1,210 thousand). In accordance with IFRS, the total compensation expense for the Management Board recognized in the statement of income amounted to €29,298 thousand (2020: €14,429thousand). In addition, there were outstanding balances of €53,158 thousand (2020: €61,096 thousand) for members of the Management Board at the end of the fiscal year, mainly for pension commitments and performance-related compensation. Terms and conditions of long-term variable compensation are detailed under note 36, Share-based compensation plans. Pension commitments arise under defined benefit and defined contribution plans. The amount of the benefits is calculated based on the amount of the pensionable income and is generally paid out in installments or as a lump sum upon retirement or attainment of retirement age.

The total compensation paid to the Supervisory Board of Fresenius SE & Co. KGaA and its committees was €2,502 thousand in 2021 (2020: €1,990 thousand). The total compensation paid to the Supervisory Board of Fresenius Management SE and its committees was €1,353 thousand in 2021 (2020: €940 thousand).

The members of the Supervisory Board receive a fixed compensation, fringe benefits (consisting of reimbursement of expenses and insurance coverage) and, if they perform any duties on the Audit Committee of the Supervisory Board, remuneration for this committee activity. At the end of the fiscal year, there were outstanding balances for the remuneration of the members of the supervisory boards amounting to €3,855 thousand (2020: €2,930 thousand). In addition, the employee representatives on the Supervisory Board receive a regular salary from their respective employment contracts.

In 2021, based on pension commitments to former members of the Management Board, €8,102 thousand (2020: €1,461 thousand) was paid. The pension obligation according to IFRS for these persons amounted to €34,714 thousand in 2021 (2020: €23,867 thousand).

In the fiscal years 2021 and 2020, no loans or advance payments on future compensation components were granted to any member of the Management Board of Fresenius Management SE.

40. AUDITOR'S FEES

In 2021 and 2020, fees for the auditor PricewaterhouseCoopers GmbH, Frankfurt am Main (PwC), and its affiliates were expensed as follows:

	2021		2020	
€ in millions	**Total**	**Germany**	**Total**	**Germany**
Audit fees	23	8	20	7
Audit-related fees	3	3	3	2
Tax consulting fees	1	–	1	0
Other fees	2	2	5	5
Total auditor's fees	**29**	**13**	**29**	**14**

The leading auditor has been responsible for the audit of the consolidated financial statements since 2020.

In the fiscal year 2021, both worldwide and in Germany, audit-related fees and other fees mainly related to the review of quarterly financial statements, audit services for the German hospitals of the Fresenius Group and in connection with financing activities and consulting fees with regard to corporate governance. In 2021, tax consulting fees related to general tax consulting.

41. CORPORATE GOVERNANCE

For each consolidated stock exchange listed entity, the declaration pursuant to Section 161 of the German Stock Corporation Act (Aktiengesetz) has been issued and made available to shareholders on the website of Fresenius SE & Co. KGaA (www.fresenius.com/corporate-governance), and of Fresenius Medical Care AG & Co. KGaA (www.freseniusmedicalcare.com).

42. PROPOSAL FOR THE DISTRIBUTION OF EARNINGS

The general partner and the Supervisory Board of Fresenius SE & Co. KGaA propose to the Annual General Meeting that the earnings for 2021 of Fresenius SE & Co. KGaA are distributed as follows:

in €	
Payment of a dividend of €0.92 per bearer ordinary share on the 558,502,143 ordinary shares entitled to dividend	513,821,971.56
Balance to be carried forward	52,789.29
Retained earnings	**513,874,760.85**

The Management Board of Fresenius Management SE will propose a scrip dividend to the Supervisory Board. Fresenius wants to give its shareholders the opportunity to opt to receive a portion of the dividend (Dividend Option Portion) in Fresenius SE & Co. KGaA shares. The remaining portion of the dividend (Dividend Base Portion) will always be paid in cash.

Bad Homburg v. d. H., February 21, 2022

Fresenius SE & Co. KGaA,
represented by:
Fresenius Management SE, its general partner

The Management Board

S. Sturm | Dr. S. Biedenkopf | Dr. F. De Meo | R. Empey

R. Powell | M. Sen | Dr. E. Wastler

RESPONSIBILITY STATEMENT

"To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group."

Bad Homburg v. d. H., February 21, 2022

Fresenius SE & Co. KGaA,
represented by:
Fresenius Management SE, its general partner

The Management Board

S. Sturm

Dr. S. Biedenkopf

Dr. F. De Meo

R. Empey

R. Powell

M. Sen

Dr. E. Wastler

The following copy of the auditor's report also includes a "Report on the audit of the electronic renderings of the consolidated financial statements and the group management report prepared for disclosure purposes in accordance with § 317 Abs. 3b HGB" ("Separate report on ESEF conformity"). The subject matter (ESEF documents to be audited) to which the separate report on ESEF conformity relates is not attached. The audited ESEF documents can be inspected in or retrieved from the Federal Gazette.

Note: This is a translation of the German original. Solely the original text in German language is authoritative.

INDEPENDENT AUDITOR'S REPORT

To Fresenius SE & Co. KGaA, Bad Homburg v. d. Höhe

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of Fresenius SE & Co. KGaA, Bad Homburg v. d. Höhe, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2021, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2021, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Fresenius SE & Co. KGaA for the financial year from 1 January to 31 December 2021.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2021, and of its financial performance for the financial year from 1 January to 31 December 2021, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2021. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matter of most significance in our audit was as follows:

I. Recoverability of goodwill

Our presentation of this key audit matter has been structured as follows:

1. Matter and issue
2. Audit approach and findings
3. Reference to further information

Hereinafter we present the key audit matter:

I. Recoverability of goodwill

1. In the Company's consolidated financial statements goodwill amounting in total to EUR 28.943 Mio (40,2% of total assets or 98,8% of equity) is reported under the "Goodwill" balance sheet item. Goodwill is tested for impairment by the Company once a year or when there are indications of impairment to determine any possible need for write-downs. The impairment test is carried out at the level of the cash-generating units to which the relevant goodwill is allocated individually or as a group. The carrying amount of the relevant cash-generating units, including goodwill, is compared with the corresponding recoverable amount in the context of the impairment test. The recoverable amount is generally determined using the value in use. The present value of the future cash flows from the respective cash-generating units normally serves as the basis of valuation. Present values are calculated using discounted cash flow models. For this purpose, the approved three-year budgets as well as projections for years 4 to 10 of the respective cash-generating units form the starting point which are extrapolated based on assumptions about long-term rates of growth. Expectations relating to future market developments and assumptions about the development of macroeconomic factors are also taken into account. In addition, expectations about the continuation of the Corona pandemic were formed and the corresponding effects on the budgets of the respective cash-generating units were taken into account. The discount rate used is the weighted average cost of capital for the respective cash-generating units. The impairment test determined that no write-downs were necessary.

   The outcome of this valuation is dependent to a large extent on the estimates made by the executive directors with respect to the future cash inflows from the respective cash-generating units, the discount rate used, the rate of growth and other assumptions, and is therefore also against the background of the ongoing Corona pandemic, subject to considerable uncertainty. Against this background and due to the complex nature of the valuation, this matter was of particular significance in the context of our audit.

2. As part of our audit, we assessed with the support of our internal valuation specialists the methodology used for the purposes of performing the impairment test, among other things. In doing so, we also assessed the acceptability of projecting beyond the budget period. Moreover, we reconciled, among other things, the future cash inflows used for the calculation with the approved three-year budgets and projections for years 4 to 10 of the respective cash-generating units. In doing so, we also assessed the appropriateness of the calculation including the applied growth rates, in particular by reconciling it with underlying documentation, the expected growth rate in respective markets and general and sector-specific market expectations. In this connection, we also evaluated the assessment of the executive directors regarding the effects of the Corona pandemic on the budgets of the respective cash-generating units and examined how they were taken into account in estimating the future cash flows. In addition, we assessed the appropriate consideration of the costs of Group functions. In the knowledge that even relatively small changes in the discount rate or the growth rates applied can have a material impact on the value of the entity calculated in this way, we focused our testing in particular on the parameters used to determine the discount rate as well as growth rates applied, and assessed the calculation models. In order to reflect the uncertainty

inherent in the projections, we evaluated the sensitivity analyses performed by the Company and carried out our own sensitivity analyses for those groups of cash-generating units with low headroom (recoverable amount compared to carrying amount) and verified that the necessary disclosures were made in the notes to the consolidated financial statements.

Overall, the valuation parameters and assumptions used by the executive directors are in line with our expectations and are also within the ranges considered by us to be reasonable.

3. The Company's disclosures on the balance sheet item "Goodwill" are contained in note 1. III. o), note 1.IV. a) and note 20 of the notes to the consolidated financial statements.

Other Information

The executive directors are responsible for the other information.

The other information comprises

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB
- the separate non-financial group report pursuant to § 315b Abs. 3 HGB
- the remuneration report pursuant to § 162 AktG [Aktiengesetz: German Stock Corporation Act], for which the supervisory board is also responsible
- all remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information mentioned above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report disclosures audited in terms of content or with 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.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined 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 executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

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 whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs will always detect a material misstatement. 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 and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, 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 audit opinions. 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 controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive 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 the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. 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 be able 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 present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance 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 those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, 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.

OTHER LEGAL AND REGULATORY REQUIREMENTS

REPORT ON THE ASSURANCE ON THE ELECTRONIC RENDERING OF THE CONSOLIDATED FINANCIAL STATEMENTS AND THE GROUP MANAGEMENT REPORT PREPARED FOR PUBLICATION PURPOSES IN ACCORDANCE WITH § 317 ABS. 3A HGB

Assurance Opinion

We have performed assurance work in accordance with § 317 Abs. 3a HGB to obtain reasonable assurance as to whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the electronic file FSE_KGaA_KA_KLB_ESEF-2021-12-31.zip and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within these renderings nor to any other information contained in the electronic file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 January to 31 December 2021 contained in the "Report on the Audit of the Consolidated Financial Statements and on the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the electronic file identified above.

Basis for the Assurance Opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above in accordance with § 317 Abs. 3a HGB and the IDW Assurance Standard: Assurance Work on the Electronic

Rendering, of Financial Statements and Management Reports, Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB (IDW AsS 410 (10.2021)) and the International Standard on Assurance Engagements 3000 (Revised). Our responsibility in accordance therewith is further described in the "Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents" section. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic renderings of the consolidated financial statements and the group management report in accordance with § 328 Abs. 1 Satz 4 Nr. [number] 1 HGB and for the tagging of the consolidated financial statements in accordance with § 328 Abs. 1 Satz 4 Nr. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF documents that are free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The supervisory board is responsible for overseeing the process for preparing the ESEF documents as part of the financial reporting process.

Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance work on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e., whether the electronic file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version in force at the date of the consolidated financial statements on the technical specification for this electronic file.
- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, in the version in force at the date of the consolidated financial statements, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

FURTHER INFORMATION PURSUANT TO ARTICLE 10 OF THE EU AUDIT REGULATION

We were elected as group auditor by the annual general meeting on 21 May 2021. We were engaged by the supervisory board on 13 October 2021. We have been the group auditor of the Fresenius SE & Co. KGaA, Bad Homburg v. d. Höhe, without interruption since the financial year 2020.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

REFERENCE TO AN OTHER MATTER – USE OF THE AUDITOR'S REPORT

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be published in the Federal Gazette – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the "Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB" and our assurance opinion contained therein are to be used solely together with the assured ESEF documents made available in electronic form.

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Dr. Bernd Roese.

Frankfurt am Main, February 21, 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

(Original German Version signed by:)

Dr. Ulrich Störk	Dr. Bernd Roese
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)