TABLE OF CONTENTS NOTES

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., the operating activities were split into the following legally independent business segments in the fiscal year 2018:

- 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, 2018, Fresenius Medical Care treated 333,331 patients at 3,928 dialysis clinics. Dialyzers and dialysis machines are among the most important product lines. In addition, Fresenius Medical Care offers dialysis-related services, among others in the field of Care Coordination.

Fresenius Kabi specializes in intravenously administered generic drugs (IV drugs), clinical nutrition, and infusion therapies. The company is also a supplier of medical devices and products of transfusion technology. In addition, Fresenius Kabi is developing products with a focus on oncology and autoimmune diseases within its biosimilars segment.

Fresenius Helios is Europe's leading private hospital operator. The company comprises Helios Germany and Helios Spain (Quirónsalud); both are part of the holding company Helios Health. At the end of 2018, Helios Germany operated a total of 86 hospitals, around 125 outpatient clinics, and 10 prevention centers. Quirónsalud operated 47 hospitals, 57 outpatient centers, and around 300 occupational risk prevention centers at the end of 2018.

Fresenius Vamed manages projects, provides services for hospitals and 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.

Fresenius SE & Co. KGaA owned 30.75% of the subscribed capital of Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) at the end of the fiscal year 2018. 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 and, hence, 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, 2018. Through Fresenius ProServe GmbH, Fresenius SE & Co. KGaA holds 100% in HELIOS Kliniken GmbH and Helios Healthcare Spain S.L. (Quirónsalud) as well as a 77% stake in VAMED AG. In addition, Fresenius SE & Co. KGaA holds interests in companies with holding functions regarding real estate, financing and insurance, as well as in Fresenius Netcare GmbH which offers services in the field of information technology.

The reporting currency in the Fresenius Group is the euro. In order to make the presentation clearer, amounts are mostly shown in million euros. Amounts under €1 million after rounding are marked with "–".

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) applying Section 315e of the German Commercial Code (HGB). The consolidated financial statements of Fresenius SE & Co. KGaA at December 31, 2018 have been prepared and are published in accordance with the Standards valid on the date of the statement of financial position issued by the International Accounting Standards Board (IASB) and the mandatory Interpretations of the International Financial Reporting Interpretations Committee (IFRIC), which are binding to be applied in the EU. The financial statements are also in accordance with IFRS as issued by the IASB.

The Fresenius Group has applied IFRS 15, Revenue from Contracts with Customers, and IFRS 9, Financial Instruments, since January 1, 2018. As a result of the implementation, the Fresenius Group has updated its accounting policies accordingly. Changes in the accounting policies due to the implementation of IFRS 15 and IFRS 9 are described in note 1. III. cc, Recent pronouncements, applied. For all other issues, the accounting policies applied in the accompanying consolidated financial statements are the same as those applied in the consolidated financial statements as of December 31, 2017.

In order to improve readability, 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 is classified on the basis of the maturity of assets and liabilities. 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.

At February 19, 2019, 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 the consolidated financial statements.

III. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a) Principles of consolidation

The financial statements of consolidated entities have been prepared using uniform accounting methods. The acquisitions of companies are accounted for applying the purchase method.

Capital consolidation is performed by offsetting investments in subsidiaries against the underlying revaluated equity at the date of acquisition. The identifiable assets and liabilities of subsidiaries as well as the noncontrolling interest are recognized at their fair values. Any remaining debit balance between the investments in subsidiaries plus the noncontrolling interest and the revaluated equity is recognized as goodwill and is tested at least once a year for impairment.

All significant 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 interest is comprised of the interest of noncontrolling shareholders in the consolidated equity of Group entities and is recognized at its fair value at date of first consolidation. Profits and losses attributable to the noncontrolling interests are separately disclosed in the consolidated statement of income. As far as the Fresenius Group, as option writer on behalf of existing put options, can be obliged to purchase noncontrolling interests held by third parties, the potential purchase price liability is recorded in long-term provisions and other long-term liabilities as well as short-term provisions and other short-term liabilities at fair value at the date of the consolidated financial statements. According to the present access method, noncontrolling interests are further recorded in equity as noncontrolling interests. The initial recognition of the purchase price liability as well as valuation differences are recorded neutral to profit or loss through equity.

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 associated companies. These companies are consolidated using the equity method. Investments that are not classified as in associated companies are recorded at acquisition costs or at fair value, respectively.

b) Composition of the Group

Besides Fresenius SE & Co. KGaA, the consolidated financial statements include all material subsidiaries according to IFRS 10 and IFRS 11, over which Fresenius SE & Co. KGaA has control or significant influence. 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 Fresenius SE & Co. KGaA'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.

Fresenius Vamed participates in project entities which are set up 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 €123 million in sales in 2018 (2017: €119 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 2018 included, in addition to Fresenius SE & Co. KGaA, 2,594 (2017: 2,733) fully consolidated companies and 49 (2017: 50) companies were accounted for under the equity method. In 2018, 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, registered in the Commercial Register of the local court in Bad Homburg v. d. H. under B11852, will be submitted to the electronic Federal Gazette and the electronic companies register.

For the fiscal year 2018, the following fully 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/Other	
Fresenius Biotech Beteiligungs 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 Netcare GmbH	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 Beteiligungs-gesellschaft 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 Digital Lab GmbH	Berlin
Fresenius Kabi Logistik GmbH	Friedberg
MC Medizintechnik GmbH	Alzenau
medi1one medical gmbh	Waiblingen
Fresenius Helios	
Gesundheitsmanagement Elbe-Fläming GmbH	Burg
Helios Agnes-Karll Krankenhaus GmbH	Bad Schwartau
Helios Aukamm-Klinik Wiesbaden GmbH	Wiesbaden
Helios Beteiligungs Aktiengesellschaft	Berlin
Helios Bördeklinik GmbH	Oschersleben
Helios Fachklinik Schleswig GmbH	Schleswig
Helios Fachklinik Vogelsang-Gommern GmbH	Gommern
Helios Fachkliniken Hildburghausen GmbH	Hildburghausen
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 Jerichower Land GmbH	Burg
Helios Klinik Leezen GmbH	Leezen
Helios Klinik Leisnig GmbH	Leisnig
Helios Klinik Lengerich GmbH	Lengerich
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
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-SERVICE GmbH	Wiesbaden
Helios Spital Überlingen GmbH	Überlingen
Helios St. Elisabeth Klinik Oberhausen GmbH	Oberhausen
Helios St. Elisabeth-Krankenhaus Bad Kissingen GmbH	Bad Kissingen
Helios St. Josefs-Hospital GmbH	Bochum
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

Certain items in the consolidated financial statements of 2017 have been reclassified to conform with the presentation in 2018.

In the prior year's comparative consolidated financial statements, finance lease receivables in the amount of €58 million have been reclassified from other currents assets (see note 17, Other current and non-current assets) to trade accounts and other receivables (see note 15, Trade accounts and other receivables) to conform to the current year's presentation.

The International Financial Reporting Interpretations Committee (IFRIC) issued an agenda decision in September 2017 relating to the applicability of IAS 12, Income Taxes, to the accounting for interest and penalties related to income taxes. The IFRIC observed in the agenda decision that entities do not have an accounting policy choice between applying IAS 12 and applying IAS 37, Provisions, Contingent Liabilities and Contingent Assets, to interest and penalties. In September 2018, the Accounting Standards Committee of Germany (DRSC) approved this interpretation regarding the accounting for interest and penalties related to German income taxes. The effects identified on the Fresenius Group financial positions are as follows: an increase of interest expense of €26 million, an increase of interest income of €10 million and a decrease of income taxes of €16 million for 2017, an increase of long-term provisions and other long-term liabilities of €44 million, a decrease of long-term accruals for income taxes of €44 million, an increase of short-term provisions and other short-term liabilities of €15 million and a decrease of short-term accruals for income taxes of €15 million as of December 31, 2017.

d) Hyperinflationary accounting

Starting on July 1, 2018, the Fresenius Group's subsidiaries operating in Argentina applied IAS 29, Financial Reporting in Hyperinflationary Economies, due to the inflationary development in Argentina. For the fiscal year 2018, the adoption of IAS 29 resulted in an effect on net income attributable to shareholders of Fresenius SE & Co. KGaA of -€12 million. As of December 31, 2017, this adoption had an effect on Fresenius SE & Co. KGaA shareholders' equity of €15 million.

e) Sales 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. Deductions from rebates and discounts that are contractually agreed are taken into account to determine the expected recoverable amount which is calculated on the basis of historical data.

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

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 IAS 17 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 IAS 17 and IFRS 4, respectively.

Sales 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 is recorded as a liability and as soon as the asset is acquired, the grant is offset against the acquisition costs. Expense-related grants are recognized as income in the periods in which related costs occur.

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 on an established market, as such are considered Europe, the United States, China and Japan.

Research expenses are expensed as incurred. Development expenses that fully meet the criteria for the recognition of an intangible asset are capitalized as intangible asset.

h) Impairment

The Fresenius Group reviews the carrying amounts of its property, plant and equipment, intangible assets and 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 net realizable value and its value in use. The net realizable value of an asset is defined as its fair value less costs to sell. 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 the future cash flows of the corresponding cash generating units.

Impairment losses, except impairment losses recognized on goodwill, are reversed as soon as the reasons for impairment no longer exist. 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. As long as the company intends to sell the asset, it is not depreciated.

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 2018 and 2017, interest of €8 million and €5 million, based on an average interest rate of 3.51% and 4.12%, 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 procedures affecting net income attributable to shareholders of Fresenius SE & Co. KGaA. Deferred tax assets also include claims to future tax reductions which arise from the probably expected usage of existing tax losses available for carryforward. 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.

If it is probable that sufficient taxable income will be available for the utilization of parts or of the entire deferred tax asset, the deferred tax asset is recognized to this certain extent.

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. The Fresenius Group recognizes interest related to its income tax positions as interest expense and penalties as general and administrative expenses.

The Fresenius Group is subject to ongoing and future tax audits in the United States, Germany and other jurisdictions. Different interpretations of tax laws may lead to potential additional tax payments or tax refunds for prior years. To consider income tax accruals or income tax receivables of uncertain tax assessments, management's estimations are based on local tax rules of the respective tax jurisdiction and the interpretation of such. Estimates are adjusted in the period in which there is sufficient evidence which legitimates the adjustment of the assumption.

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, 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 6 to 15 years, the average useful life is 10 years. Non-compete agreements with finite useful lives have useful lives ranging from 2 to 25 years with an average useful life of 6 years. Technology has 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 when the reasons for impairment no longer exist. 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 11 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 depreciated on a straight-line basis over the expected useful lives. In 2018, impairments were recorded for in-process R & D of product approval projects, which were acquired through the acquisition of Fresenius Kabi USA, Inc. (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 acquisition costs.

Any excess of the net fair value of identifiable assets and liabilities over cost (badwill) still existing after reassessing the purchase price allocation is recognized immediately in profit or loss.

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, Latin America, Asia-Pacific and North America). According to the regional organizational structure, the segment Fresenius Helios consists of two CGUs, Germany and Spain. The segment Fresenius Vamed consists of two CGUs (Project business and Service business). At least once a year, the Fresenius Group compares the recoverable amount 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, the difference is at first recorded as an impairment of the carrying amount of the goodwill.

To evaluate the recoverability of separable intangible assets with indefinite useful lives, the Fresenius Group compares the recoverable amounts of these intangible assets with their carrying amounts. An intangible asset's recoverable amount is determined using a discounted cash flow approach or other methods, if appropriate.

The recoverability of goodwill and other separable intangible assets with indefinite useful lives recorded in the Group's consolidated statement of financial position was verified. As a result, the Fresenius Group did not record any impairment losses in 2018 and 2017.

p) Leases

Leased assets assigned to the Fresenius Group based on the risk and rewards approach (finance leases) are recognized as property, plant and equipment and measured on receipt date at the present values of lease payments as long as their fair values are not lower. Leased assets are depreciated in straight-line over their useful lives. If there is doubt as to whether title to the asset passes at a later stage and there is no opportune purchase option, the asset is depreciated over the lease term if this is shorter. An impairment loss is recognized if the recoverable amount is lower than the amortized cost of the leased asset. The impairment loss is reversed if the reasons for impairment no longer exist.

Finance lease liabilities are measured at the present value of the future lease payments and are recognized as a financial liability.

Property, plant and equipment that is rented by the Fresenius Group, is accounted for at its purchase cost. Depreciation is calculated using the straight-line method over the leasing time and its expected residual value.

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 30, 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 which is based on 12-month expected credit losses. Due to the short maturity term of the financial instruments, this corresponds with the lifetime expected loss. A significant increase in credit risk is calculated on the basis of available quantitative and qualitative 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.

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.

Noncontrolling interest subject to put provisions

The Fresenius Group, as option writer on behalf of existing put options, can be obliged to purchase noncontrolling interests held by third parties. If these put provisions 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.

To estimate the fair values of the noncontrolling interest subject to put provisions, the Fresenius Group recognizes the higher of net book value or a multiple of earnings, based on historical earnings, the development stage of the underlying business and other factors. Additionally, there are put provisions that are valued by an external valuation firm. 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 market valuation of the interest effect and the specific risk of the obligation. Depending on the market conditions, the estimated fair values of the noncontrolling interest subject to these put provisions can also fluctuate, the discounted cash flows and the implicit multiple of earnings and/or revenue at which the noncontrolling interest subject to put provisions may ultimately be settled could vary significantly from Fresenius Group's current estimates.

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 30, Financial 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 periodically 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, which normally corresponds to the settlement amount.

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 taxes and 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.

Tax accruals include obligations for the current year and for prior years.

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 funded status 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. These costs are amortized over the term of the related obligation.

w) Share-based compensation plans
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 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 2018, 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	
	Dec. 31, 2018	Dec. 31, 2017	**2018**	2017
U.S. dollar per €	**1.145**	1.199	**1.181**	1.130
Chinese renminbi per €	**7.875**	7.804	**7.808**	7.629
Argentinean peso per €	**43.039**	22.639	**32.984**	18.754
Australian dollar per €	**1.622**	1.535	**1.580**	1.473
Brazilian real per €	**4.444**	3.973	**4.308**	3.605
Japanese yen per €	**125.850**	135.010	**130.396**	126.711
Korean won per €	**1,277.930**	1,279.610	**1,299.071**	1,276.738
Pound sterling per €	**0.895**	0.887	**0.885**	0.877
Russian ruble per €	**79.715**	69.392	**74.026**	65.938
Swedish krona per €	**10.255**	9.844	**10.258**	9.635

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 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 30, 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 discretionary decisions are required in particular for the positions trade accounts receivable, deferred tax assets and pension liabilities as well as 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 16% and 18% 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 2018 and 2017, respectively.

cc) Recent pronouncements, applied

The Fresenius Group has prepared its consolidated financial statements at December 31, 2018 in conformity with IFRS that have to be applied for fiscal years beginning on January 1, 2018.

In 2018, the Fresenius Group applied the following new standards relevant for its business for the first time:

IFRS 15

In May 2014, the International Accounting Standards Board (IASB) issued **IFRS 15, Revenue from Contracts with Customers**. This new standard specifies how and when companies reporting under IFRS will recognize revenue and provides users of financial statements with more informative and relevant disclosures. IFRS 15 supersedes IAS 18, Revenue, IAS 11, Construction Contracts, and a number of revenue-related interpretations. This standard applies to nearly all contracts with customers, the main exceptions are leases, financial instruments and insurance contracts. In September 2015, the IASB issued the amendment **Effective Date of IFRS 15**, which defers the effective date of IFRS 15 by one year to fiscal years beginning on or after January 1, 2018. The Fresenius Group adopted this standard as of January 1, 2018. In accordance with the transition provisions in IFRS 15, the new principles have been adopted only to those contracts that were not completed contracts as of January 1, 2018 following the cumulative effect method with no restatement of the comparative periods presented.

IFRS 15 requires the consideration of implicit price concessions when determining the transaction price which, upon adoption, resulted in the implicit price concessions in the business segment Fresenius Medical Care directly reducing revenue in the amount of €468 million for the fiscal year 2018. Prior to the adoption of IFRS 15, these price concessions were included in the general and administrative expenses as an allowance for doubtful accounts in the amount of €486 million for the fiscal year 2017. Consequently, there is no effect on net income as the implicit price concessions are merely presented in different lines within the consolidated statement of income.

In the business segment Fresenius Vamed, sales from long-term production contracts are no longer recognized using the percentage of completion method (PoC method) but according to the IFRS 15 guidance for performance obligations satisfied over time, which did not result in any changes to the consolidated statement of income. In the consolidated statement of financial position, the amounts that were included in inventory under the PoC method will generally be recognized as contract assets according to IFRS 15. Contract assets are included in other current and other non-current assets in the consolidated statement of financial position. At the end of the reporting period, €430 million were included in other current assets that would have been included in inventories according to the former principle.

Other contract assets relate to medical treatments that have been started but not completed at the respective reporting date. They were previously recognized as trade accounts receivable. The reported contract liabilities primarily relate to advance payments from customers and to sales of dialysis machines.

IFRS 9

In July 2014, the IASB issued a new version of **IFRS 9, Financial Instruments**. This IFRS 9 version is considered the final and complete version, thus, mainly replacing IAS 39 as soon as IFRS 9 is applied. It includes all prior guidance on the classification and measurement of financial assets and financial liabilities as well as hedge accounting and introduces requirements for impairment of financial instruments as well as modified requirements for the measurement categories of financial assets. The impairment provisions reflect a model that relies on expected losses (expected loss model). This model comprises a three stage approach: Upon recognition, an entity shall recognize losses that are expected within the next 12 months. If credit risk deteriorates significantly, from that point in time impairment losses shall amount to lifetime expected losses. In case of objective evidence of impairment, there is an assignment to stage 3. The provisions for classification and measurement are amended by introducing an additional third measurement category for certain debt instruments. Such instruments shall be measured at fair value with changes recognized in other comprehensive income (loss) (fair value through other comprehensive income). The standard is accompanied by additional disclosure requirements and is effective for fiscal years beginning on or after January 1, 2018.

In accordance with IAS 39 and IFRS 9, the majority of the non-derivative financial assets are measured at amortized costs. The impact on the measurement of non-derivative financial assets under IFRS 9 has not been significant. For individual equity instruments, the Fresenius Group has opted to present changes in fair value in other comprehensive income (loss). The requirements for the classification and measurement of non-derivative financial liabilities have not changed significantly. Thus, IFRS 9 has a limited impact on the consolidated financial statements. Derivatives not designated as hedging instruments will continue to be classified and measured at fair value through profit and loss.

The Fresenius Group follows the modified retrospective method without restatement of previous periods for adopting IFRS 9.

Differences in the carrying amounts of financial assets and financial liabilities as of December 31, 2017, according to IAS 39 and as of January 1, 2018, according to IFRS 9 are recognized in other reserves in the amount of -€19 million (see note 30, Financial instruments).

IFRS 9 has an impact on the accounting policies for classifying financial instruments, on the methodology to assess the impairment of financial instruments and on the hedge accounting requirements.

dd) Recent pronouncements, not yet applied

The International Accounting Standards Board (IASB) issued the following new standards, which are relevant for the Fresenius Group and mandatory for fiscal years commencing on or after January 1, 2019:

IFRS 17

In May 2017, the IASB issued **IFRS 17, Insurance Contracts**. 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. IFRS 17 is effective for fiscal years beginning on or after January 1, 2022. 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 IFRS 17 is still outstanding.

IFRS 16

In January 2016, the IASB issued **IFRS 16, Leases**, which supersedes the current standard on lease accounting, IAS 17, as well as the interpretations IFRIC 4, SIC-15 and SIC-27. IFRS 16 significantly changes lessee accounting. For almost all leases, a lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. Only leases with a total maximum term of 12 months (short-term leases) and leases for underlying assets of low-value are exempted from balance sheet recognition. Depreciation of the right-of-use asset and interest on the lease liability must be recognized in the income statement for every lease contract. Therefore, straight-line rental expenses will no longer be shown for the vast majority of the leases. The lessor accounting requirements in IAS 17 are substantially carried forward. In this regard, no material effects are expected for the Fresenius Group. The standard is effective for fiscal years beginning on or after January 1, 2019. Earlier application is permitted for entities that have also adopted IFRS 15, Revenue from Contracts with Customers. The Fresenius Group decided that IFRS 16 will not be adopted early. The Fresenius Group expects a balance sheet extension due to the on balance sheet recognition of right-of-use assets and liabilities for agreed lease payment obligations, currently classified as operating leases, resulting in particular from leased clinics and buildings. Based on an impact analysis, using certain options and exemptions, the Fresenius Group expects a financial debt increase of approximately €5.5 billion, additional right-of-use assets of approximately €5.2 billion and a reduction of equity by €0.3 billion.

Referring to the consolidated statement of income, the Fresenius Group expects an EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization) improvement of approximately €1.0 billion as well as an operating income improvement of approximately €0.1 billion due to the split of rent expenses of approximately €1.0 billion in depreciation of approximately €0.9 billion and interest expenses of approximately €0.2 billion, by having unchanged cash outflows. The net income attributable to shareholders of Fresenius SE & Co. KGaA is expected to decrease by approximately €30 million. In addition, the Fresenius Group anticipates for Fresenius Medical Care a reduction of sales by €0.1 billion due to changes in the accounting treatment of sale and leaseback transactions.

The Fresenius Group also expects that its Leverage Ratio will increase by about 0.3 to 0.4.

The change in presentation of the repayment component of operate lease payments will result in a corresponding improvement of cash flows from operating activities and a decline in cash flows from financing activities.

The Fresenius Group applies the modified retrospective method in accordance with IFRS 16 as the transition method. Accordingly, the cumulative effect from first-time application is recognized in the opening balance of retained earnings as of January 1, 2019 without adjustments to the comparative information of the previous period.

In the application of the modified retrospective method, the carrying amount of the lease liability at the date of the initial application is determined by discounting the remaining lease payments of lease agreements that were classified as operating leases under IAS 17 using the incremental borrowing rate at date of initial application. Furthermore, right-of-use assets are to be recognized. In the application of the modified retrospective method, the carrying amount of the right-of-use asset equals the carrying amount of the lease liability (adjusted for any prepaid or accrued lease payments). For a part of the existing contracts, the Fresenius Group recognizes the right-of-use asset with its carrying amount assuming the new standard had been applied since the commencement date of the lease discounted using its incremental borrowing rate at the date of initial application.

Regarding the options and exemptions available upon the initial application of IFRS 16 the Fresenius Group adopted the following approach:

- IFRS 16 is only applied to contracts that were previously identified as leases under IAS 17 and IFRIC 4.
- Recognition, valuation and disclosure principles of IFRS 16 are not applied to lease contracts with a lease term ending in less than 12 months from the date of the initial application. The respective lease contracts are accounted for as if they were short-term leases and recognized as an expense accordingly.
- Material initial direct costs are included in the measurement of a right-of-use asset with the carrying amount assuming the new standard was applied since the commencement date of the lease.
- Upon initial recognition, no impairment review is performed. The right-of-use assets are adjusted for onerous contract provisions, recognized on the consolidated statement of financial position immediately before the date of initial application.

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, prepayments on right-of-use assets are presented separately. Right-of-use assets from lease contracts and lease obligations are presented separately from property, plant and equipment and other financial debt in the consolidated statement of financial position.

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.

In the Fresenius Group's view, all other pronouncements issued by the IASB do not have a material impact on the consolidated financial statements, as expected.

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, 2018 and December 31, 2017, the carrying amount of these was €25,915 million and €25,480 million, respectively. This represented 46% and 48%, 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. 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 7%. In Asia-Pacific, the average growth is in the upper single-digit range for Fresenius Medical Care and in the low double-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, 2018: €10,128 million and €4,167 million, respectively) as well as the CGUs of Fresenius Helios in Germany and Spain (carrying amounts of goodwill as of December 31, 2018: €4,443 million and €3,414 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 5.99% and the WACC in the business segment Fresenius Kabi consisted of a basic rate of 5.79% for 2018, 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 2018, WACCs (after tax) for the CGUs of Fresenius Medical Care ranged from 5.99% to 13.52% and WACCs (after tax) for the CGUs of Fresenius Kabi ranged from 6.40% to 12.08%. In the CGU Fresenius Helios (Germany) and the business segment Fresenius Vamed, the WACC (after tax) was 5.79%, country-specific adjustments did not occur. In the CGU Fresenius Helios (Spain), the WACC (after tax) was 7.11%. The WACCs (after tax) of the main CGUs of Fresenius Medical Care and Fresenius Kabi in North America were 5.99% and 6.66%, respectively. If the value in use of the CGU is less than its carrying amount, the difference is recorded as an impairment of the fair value of the goodwill at first. An increase of the WACC (after tax) by 0.5 percentage points would not have resulted in the recognition of an impairment loss in 2018.

Additional sensitivity analyses were carried out for the CGUs in Latin America. An increase of the WACC of the CGU Fresenius Medical Care Latin America (carrying amount of goodwill as of December 31, 2018: €137 million) by 0.27 percentage points would have led to the fair value being equal to the carrying amount. An increase of the WACC of the CGU Fresenius Kabi Latin America (carrying amount of goodwill as of December 31, 2018: €146 million) by 1 percentage point would not have led to the recognition of an impairment loss. An increase of the WACC by 3.29 percentage points would have led to the fair value 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 the manufacture of products 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 effect on the financial position, results of operations or cash flows of the Fresenius Group. For details, please see note 29, 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) Allowance for doubtful accounts

Trade accounts receivable are a significant asset and the allowance for doubtful accounts is a significant estimate made by the Management. Trade accounts receivable were €6,540 million and €6,260 million in 2018 and 2017, respectively, net of allowance. Approximately 51% 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 17%, private insurers in the United States with 7% as well as the public health authority of the region of Madrid with 12%, at December 31, 2018. Other than that, the Fresenius Group has no significant risk concentration, due to its international and heterogeneous customer structure.

The allowance for doubtful accounts was €323 million and €741 million as of December 31, 2018 and December 31, 2017, 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 management review, 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 doubtful accounts. 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 €1,086 million and €6,852 million in 2018 and 2017, respectively. In 2018, of this amount, €1,070 million was paid in cash and €16 million was assumed obligations.

Fresenius Medical Care

In 2018, Fresenius Medical Care spent €957 million on acquisitions, mainly on investments in financial assets, the purchase of dialysis clinics as well as an equity investment in Humacyte, Inc., a medical research, discovery and development company, to gain a 19% ownership stake as well as a related exclusive global distribution right to Humacyte's bioengineered human acellular vessels.

Divestment of Sound Inpatient Physicians Holdings, LLC, United States

On June 28, 2018, Fresenius Medical Care completed the divestment of its controlling interest in Sound Inpatient Physicians Holdings, LLC to an investment consortium led by Summit Partners, L.P. The total transaction proceeds were US$1,771 million (€1,531 million), net of related tax payments. The pre-tax gain related to divestitures for care coordination activities was €809 million, which primarily related to this divestiture, the effect of the six month impact from the increase in valuation of Sound's share based payment program, incentive compensation expense and other costs caused by the divestment of Sound.

Acquisition of NxStage Medical, Inc.

On August 7, 2017, Fresenius Medical Care announced the acquisition of NxStage Medical, Inc. (NxStage), a U.S.-based medical technology and services company, for a total transaction value of approximately US$2.0 billion (€1.7 billion). On October 27, 2017, the shareholders of NxStage approved the acquisition. The transaction remains subject to regulatory approvals and other customary closing conditions. Fresenius Medical Care expects the closing of the transaction to occur at the beginning of 2019.

In 2017, Fresenius Medical Care spent €683 million on acquisitions, mainly on the purchase of dialysis clinics as well as the acquisition of an operator of day hospitals in Australia.

Fresenius Kabi

In 2018, Fresenius Kabi spent €43 million on acquisitions, mainly for already planned acquisition related milestone payments relating to the acquisition of the biosimilars business as well as one acquisition in the areas of medical technology and IV drugs, respectively.

Termination of the merger agreement with Akorn, Inc.

On April 24, 2017, Fresenius announced that Fresenius Kabi has agreed to acquire Akorn, Inc. (Akorn), a U.S.-based manufacturer and marketer of prescription and over-the-counter pharmaceutical products, for approximately US$4.3 billion, or US$34 per share, plus the prevailing net debt at closing of the transaction.

Fresenius conducted an independent investigation, using external experts, into alleged breaches of FDA data integrity requirements relating to product development at Akorn.

Fresenius decided on April 22, 2018 to terminate the merger agreement with Akorn, due to Akorn's failure to fulfill several closing conditions.

Fresenius' decision was based on, among other factors, material breaches of FDA data integrity requirements relating to Akorn's operations found during Fresenius' independent investigation. Fresenius offered to delay its decision in order to allow Akorn additional opportunity to complete its own investigation and present any information it wished Fresenius to consider, but Akorn declined that offer.

Akorn disagreed with Fresenius' position and filed a lawsuit on April 23, 2018 purporting to enforce the merger agreement.

Fresenius filed a counterclaim on April 30, 2018. The trial of the lawsuit took place in the Delaware Court of Chancery from July 9 to 13 and on August 23, 2018.

On October 1, 2018, the Court of Chancery in the U.S. state of Delaware ruled in favor of Fresenius in the lawsuit by Akorn, Inc. against Fresenius for the consummation of the April 2017 merger agreement.

Akorn appealed on October 18, 2018 against this ruling to the Delaware Supreme Court. On December 7, 2018, the Delaware Supreme Court, being the highest court and final instance in Delaware, affirmed the ruling of the Court of Chancery in favor of Fresenius. Fresenius intends to hold Akorn liable for damages suffered as a result of lost acquisition expenses.

In 2017, Fresenius Kabi spent €157 million on acquisitions, thereof €156 million for the acquisition of the biosimilars business of Merck KGaA.

Acquisition of the biosimilars business of Merck KGaA

On August 31, 2017, Fresenius Kabi has successfully closed the acquisition of Merck KGaA's biosimilars business. The transaction comprises a development pipeline and about 70 employees located in Aubonne and Vevey, Switzerland. The product pipeline has a focus on oncology and autoimmune diseases. The biosimilars business has been consolidated as of September 1, 2017.

The consideration transferred of €748 million is composed of €156 million, which were paid in cash upon closing, and risk-adjusted discounted success-related payments expected for the coming years with a fair value of €592 million, which are strictly tied to achievements of agreed development and sales targets.

The transaction was accounted for as a business combination. The following table comprises the final fair values of assets acquired and liabilities assumed at the date of the acquisition.

€ in millions	
Working capital and other assets	2
Property, plant and equipment and other non-current assets	2
Intangible assets	343
Liabilities	-7
Goodwill	408
Consideration transferred	**748**

The goodwill in the amount of €408 million that was acquired as part of the acquisition will be deductible for tax purposes.

Goodwill mainly represents the value of future opportunities due to the acquisition of biosimilars products and their platform. The platform with highly qualified biosimilars experts will enable Fresenius to develop further products in this market segment and bring them on the market in the future. Furthermore, Fresenius acquired the opportunity to sell biosimilars products in other markets.

Fresenius Helios

In 2018, Fresenius Helios spent €60 million on acquisitions, mainly for the purchase of outpatient clinics in Germany and an acute care hospital in Spain.

On July 1, 2018, Fresenius Helios transferred 38 health care facilities and 13 service companies in Germany specializing in inpatient post-acute and nursing care to Fresenius Vamed.

In 2017, Fresenius Helios spent €5,979 million on acquisitions, mainly for the acquisition of 100% of the share capital in IDCSalud Holding S.L.U. (Quirónsalud), Spain.

Acquisition of IDCSalud Holding S.L.U. (Quirónsalud)

On January 31, 2017, Fresenius Helios closed the acquisition of 100% of the share capital in IDCSalud Holding S.L.U. (Quirónsalud), Spain's largest private hospital operator. Quirónsalud has been consolidated as of February 1, 2017.

Quirónsalud's network is comprised of 47 hospitals, 57 outpatient centers and around 300 Occupational Risk Prevention centers located in every metropolitan region of Spain. The company offers the full spectrum of inpatient and outpatient care. With the acquisition, Fresenius Helios strengthens its position as Europe's largest private hospital operator.

€5.36 billion of the total purchase price in the amount of €5.76 billion had already been financed by means of different debt instruments and paid in cash on January 31, 2017. The balance of €400 million was paid in the form of 6,108,176 new shares of Fresenius SE & Co. KGaA issued on January 31, 2017 from Authorized Capital excluding subscription rights. In April 2017, a compensation payment in the amount of €174 million was made for working capital taken over.

The transaction was accounted for as a business combination. The following table comprises the final fair values of assets acquired and liabilities assumed at the date of the acquisition.

€ in millions	
Trade accounts receivable	776
Working capital and other assets	74
Property, plant and equipment and other non-current assets	1,775
Intangible assets	1,306
Liabilities	-1,315
Goodwill	3,336
Noncontrolling interest	-21
Consideration transferred	**5,931**

The goodwill in the amount of €3,336 million that was acquired as part of the acquisition is not deductible for tax purposes.

Goodwill mainly represents the market position of the acquired hospitals, health centers and health care facilities, the economies of scale of the significantly grown largest private European hospital operator and the know-how of the employees.

The noncontrolling interests acquired as part of the acquisition are stated at fair value.

Fresenius Vamed

In 2018, Fresenius Vamed spent €496 million on acquisitions, mainly for 38 health care facilities and 13 service companies in Germany specializing in inpatient post-acute and nursing care which Fresenius Helios transferred to Fresenius Vamed on July 1, 2018. The transaction had a total volume of €468 million. It was financed within the Group.

In 2017, Fresenius Vamed spent €33 million on acquisitions for the puchase of a service provider for the decontamination of sterile medical devices in Germany and a post-acute care clinic in Switzerland.

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

In the fiscal year 2018, all acquisitions have been accounted for applying the purchase method and accordingly have been consolidated starting with the date of acquisition. The excess of the total acquisition costs over the fair value of the net assets acquired was €777 million and €6,135 million in 2018 and 2017, respectively.

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 €495 million and the other intangible assets were €282 million. Of this goodwill, €328 million is attributable to the acquisitions of Fresenius Medical Care, €44 million to Fresenius Kabi's acquisitions, €102 million to the acquisitions of Fresenius Helios and €21 million to the acquisitions of Fresenius Vamed.

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 versus building a similar business.

The acquisitions completed in 2018 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	2018
Sales	370
EBITDA	68
EBIT	46
Net interest	-12
Net income attributable to shareholders of Fresenius SE & Co. KGaA	21

The acquisitions increased the total assets of the Fresenius Group by €466 million.

NOTES ON THE CONSOLIDATED STATEMENT OF INCOME

3. SPECIAL ITEMS

Net income attributable to shareholders of Fresenius SE & Co. KGaA for the year 2018 in the amount of €2,027 million includes special items relating to divestitures of Care Coordination activities (mainly Sound Inpatient Physicians) and the terminated merger agreement with Akorn, Inc. With regard to the latter, these mainly comprise transaction costs in the form of legal and consulting expenses as well as financing commitment expenses for the Akorn transaction. Furthermore, special items due to FCPA (Foreign Corrupt Practices Act) investigations and revaluations of biosimilars contingent liabilities are included in net income attributable to shareholders of Fresenius SE & Co. KGaA.

The special items had the following impact on the consolidated statement of income of 2018:

€ in millions	EBIT	Interest expenses	Net income attributable to shareholders of Fresenius SE & Co. KGaA
Earnings 2018, before special items	4,561	-570	1,871
Gain related to divestitures of Care Coordination activities	809	0	207
Transaction-related effects of Akorn	-35	-17	-37
FCPA related expenses	-77	0	-9
Revaluations of biosimilars contingent liabilities	-7	0	-5
Earnings 2018 according to IFRS	**5,251**	**-587**	**2,027**

Net income attributable to shareholders of Fresenius SE & Co. KGaA for the year 2017 in the amount of €1,814 million included special items due to the acquisition of Merck KGaA's biosimilars business and the announced acquisition of shares of Akorn, Inc. Furthermore, the impact of FCPA (Foreign Corrupt Practices Act) related expenses and a book gain from the remeasurement of deferred tax assets and liabilities due to the U.S. tax reform were included in net income attributable to shareholders of Fresenius SE & Co. KGaA.

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

€ in millions	EBIT	Interest expenses	Net income attributable to shareholders of Fresenius SE & Co. KGaA
Earnings 2017, before special items	4,830	-652	1,816
Acquisition-related expenses	-41	-15	-43
FCPA related expenses	-200	0	-62
Book gain from U.S. tax reform	0	0	103
Earnings 2017 according to IFRS	**4,589**	**-667**	**1,814**

4. SALES

In the year 2018, sales by activity according to the IFRS 15 categorization were as follows:

€ in millions	**2018**
Sales from contracts with customers	**33,206**
thereof sales of services	**22,898**
thereof sales of products and related services	**9,590**
thereof sales from long-term production contracts	**710**
thereof further sales from contracts with customers	**8**
Other sales	**324**
Sales	**33,530**

Other sales include sales from insurance and lease contracts.

In the year 2017, sales by activity according to the categorization used until year end 2017 were as follows:

€ in millions	2017
Sales of services	23,792
Sales of products and related goods	9,480
Sales from long-term production contracts	607
Other sales	7
Sales	33,886

The changes in activity classification are due to the first time use of the new IFRS 15 classification in the first quarter of 2018.

As of December 31, 2018 the 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.

€ in millions	2019	2020	2021	2022	2023	thereafter	Total
Transaction price of the unsatisfied or partially unsatisfied performance obligations	1,197	953	809	556	348	432	**4,295**

A sales analysis by business segment and region is shown in the segment information on pages 170 to 171.

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	2018	2017
Cost of raw materials, supplies and purchased components	**7,899**	7,766
Cost of purchased services	**1,467**	1,266
Cost of materials	**9,366**	9,032

6. PERSONNEL EXPENSES

Cost of sales, selling expenses, general and administrative expenses and research and development expenses included personnel expenses of €13,426 million and €13,496 million in 2018 and 2017, respectively.

Personnel expenses were comprised of the following:

€ in millions	2018	2017
Wages and salaries	**10,753**	10,811
Social security contributions, cost of retirement pensions and social assistance	**2,673**	2,685
thereof retirement pensions	**338**	317
Personnel expenses	**13,426**	13,496

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

	2018	2017
Production	**40,825**	39,207
Service	**194,691**	191,706
Administration	**25,973**	24,772
Sales and marketing	**11,587**	10,985
Research and development	**2,927**	2,679
Total employees (per capita)	**276,003**	269,349

7. RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses of €673 million (2017: €558 million) included expenditures for research and non-capitalizable development costs as well as regular depreciation and amortization expenses relating to capitalized development costs of €16 million (2017: €15 million). Furthermore, in 2018, research and development expenses included impairments on capitalized development expenses of €7 million. These related to in-process R & D of product approval projects, which were acquired through the acquisition of Fresenius Kabi USA, Inc. The expenses for the further development of the biosimilars business included in the research and development expenses amounted to €153 million (2017: €59 million).

8. GENERAL AND ADMINISTRATIVE EXPENSES

General and administrative expenses amounted to €3,857 million (2017: €4,606 million) and were related to expenditures for administrative functions not attributable to research and development, production or selling. Furthermore, in 2018, general and administrative expenses included expenses of €77 million (2017: €200 million) in regards to Foreign Corrupt Practices Act (FCPA) investigations.

In 2017, general and administrative expenses included impairment expenses due to implicit price concessions of €486 million. The adoption of IFRS 15 resulted in the implicit price concessions directly reducing revenue as from the fiscal year 2018.

9. OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses mainly included foreign exchange gains and losses, as well as income from at equity valuations and the release of provisions.

10. NET INTEREST

Net interest of -€587 million included interest expenses of €942 million and interest income of €355 million. The main portion of the interest expenses resulted from Fresenius Group's financial liabilities, which are recognized at amortized cost (see note 30, Financial instruments). The main portion of interest income resulted from the valuation of the derivatives embedded in the convertible bonds of Fresenius SE & Co. KGaA and of Fresenius Medical Care AG & Co. KGaA (see note 24, Convertible bonds).

11. TAXES

INCOME TAXES

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

€ in millions	2018	2017
Germany	**476**	492
International	**4,188**	3,430
Total	**4,664**	3,922

Income tax expenses (benefits) for 2018 and 2017 consisted of the following:

€ in millions	Current taxes	Deferred taxes	Income taxes
2018			
Germany	**153**	**-65**	**88**
International	**697**	**165**	**862**
Total	**850**	**100**	**950**
2017			
Germany	163	-13	150
International	956	-217	739
Total	1,119	-230	889

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 30.6% for the fiscal year 2018 (2017: 30.7%).

€ in millions	2018	2017
Computed "expected" income tax expense	**1,427**	1,203
Increase (reduction) in income taxes resulting from:		
Items not recognized for tax purposes	**80**	140
Tax rate differential	**-396**	3
Tax rate changes	**-2**	-270
Tax-free income	**-51**	-67
Taxes for prior years	**-88**	-38
Noncontrolling interests	**-62**	-106
Other	**42**	24
Income tax	**950**	889
Effective tax rate	**20.4%**	22.7%

In the United States, the tax reform was enacted by signature of the president of the Tax Cuts and Jobs Act on December 22, 2017. The Act reduces the U.S. corporate income tax rate from 35% to 21% effective from January 1, 2018. Deferred tax assets and liabilities expected to reverse in 2018 and beyond have been remeasured using the corporate income tax rate that was enacted by the balance sheet date and will apply for future fiscal years. For the year ended December 31, 2017, the remeasurement of deferred tax assets and liabilities resulted in a deferred tax benefit of €266 million, which was recognized in tax expense, affecting profit and loss and included in the balance of €270 million in the reconciling item tax rate changes.

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	2018	2017
Deferred tax assets		
Accounts receivable	**50**	42
Inventories	**170**	136
Other current assets	**102**	127
Other non-current assets	**134**	136
Provisions and other liabilities	**262**	278
Benefit obligations	**204**	187
Losses carried forward from prior years	**177**	222
Deferred tax assets	**1,099**	1,128
Deferred tax liabilities		
Accounts receivable	**35**	22
Inventories	**28**	36
Other current assets	**163**	117
Other non-current assets	**857**	779
Provisions and other liabilities	**523**	540
Deferred tax liabilities	**1,606**	1,494
Net deferred taxes	**-507**	-366

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

€ in millions	2018	2017
Deferred tax assets	**777**	744
Deferred tax liabilities	**1,284**	1,110
Net deferred taxes	**-507**	-366

As of December 31, 2018, Fresenius Medical Care has not recognized a deferred tax liability on approximately €8 billion of undistributed earnings of its foreign subsidiaries, because those earnings are considered indefinitely reinvested.

NET OPERATING LOSSES

The expiration of net operating losses is as follows:

for the fiscal years	€ in millions
2019	35
2020	36
2021	26
2022	46
2023	38
2024	6
2025	9
2026	10
2027	10
2028 and thereafter	66
Total	**282**

The total remaining operating losses of €1,080 million can mainly be carried forward for an unlimited period. The total amount of the existing operating losses as of December 31, 2018 includes an amount of €860 million (2017: €823 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, 2018.

12. NONCONTROLLING INTEREST

As of December 31, noncontrolling interest in net income in the Fresenius Group was as follows:

€ in millions	2018	2017
Noncontrolling interest in Fresenius Medical Care	**1,372**	889
Noncontrolling interest in Fresenius Vamed	**17**	11
Noncontrolling interest in the business segments		
Fresenius Medical Care	**244**	274
Fresenius Kabi	**43**	39
Fresenius Helios	**10**	5
Fresenius Vamed	**1**	1
Total noncontrolling interest	**1,687**	1,219

In the fiscal year 2018, Fresenius Medical Care AG & Co. KGaA paid dividends to noncontrolling interests in the amount of €225 million (2017: €203 million).

13. EARNINGS PER SHARE

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

	2018	2017
Numerators, € in millions		
Net income attributable to shareholders of Fresenius SE & Co. KGaA	**2,027**	1,814
less effect from dilution due to Fresenius Medical Care shares	**2**	1
Income available to all ordinary shares	**2,025**	1,813
Denominators in number of shares		
Weighted-average number of ordinary shares outstanding	**555,543,954**	554,124,656
Potentially dilutive ordinary shares	**1,760,548**	3,382,324
Weighted-average number of ordinary shares outstanding assuming dilution	**557,304,502**	557,506,980
Basic earnings per share in €	**3.65**	3.27
Fully diluted earnings per share in €	**3.63**	3.25

NOTES ON THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

14. CASH AND CASH EQUIVALENTS

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

€ in millions	2018	2017
Cash	1,273	1,139
Time deposits and securities (with a maturity of up to 90 days)	1,436	497
Total cash and cash equivalents	**2,709**	1,636

As of December 31, 2018 and December 31, 2017, earmarked funds of €123 million and €183 million, respectively, were included in cash and cash equivalents.

The Fresenius Group operates a multi-currency notional pooling cash management system. The Fresenius Group met the conditions to offset balances within this cash pool for reporting purposes. At December 31, 2018, €134 million (December 31, 2017: €378 million) of the cash balances and the equivalent amount of the overdraft balances were offset. Thereof €122 million related to Fresenius Medical Care.

15. TRADE ACCOUNTS AND OTHER RECEIVABLES

As of December 31, 2018, January 1, 2018 and December 31, 2017, trade accounts and other receivables were as follows:

€ in millions	Dec. 31, 2018	January 1, 2018 Book value according to IFRS 9 and IFRS 15	January 1, 2018 Adjustment due to the initial application of IFRS 9	January 1, 2018 Adjustment due to the initial application of IFRS 15	Dec. 31, 2017
Trade accounts and other receivables	6,863	6,547	-7	-447	7,001
less allowance for doubtful accounts	323	312	35	-464	741
Trade accounts and other receivables, net	**6,540**	6,235	-42	17	6,260

Within trade accounts and other receivables, net, as of December 31, 2018, €6,473 million relate to revenue from contracts with customers as defined by IFRS 15. This amount includes €322 million of allowance for doubtful accounts. Further trade accounts and other receivables, net, relate to other sales.

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 €18 million (2017: €25 million) are included in other non-current assets.

The following table shows the development of the allowance for doubtful accounts during the fiscal year:

€ in millions	2018	2017
Allowance for doubtful accounts at the beginning of the year	**741**	700
Adjustment due to the initial application of IFRS 9 and IFRS 15	-429	0
As of January 1, 2018, adjusted	**312**	700
Change in valuation allowances as recorded in the consolidated statement of income	33	518
Write-offs and recoveries of amounts previously written-off	-21	-416
Foreign currency translation	-1	-61
Allowance for doubtful accounts at the end of the year	**323**	741

Further allowances for expected credit losses are included in other current and non-current assets (see note 17, Other current and non-current assets). As of December 31, 2018, the Fresenius Group had total allowances for expected credit losses of €372 million (2017: €752 million).

The following table shows the credit risk rating grades of trade accounts receivable and their allowance for doubtful accounts:

	December 31, 2018			January 1, 2018	
€ in millions	Total	thereof overdue	thereof credit impaired	Total	thereof overdue
Trade accounts and other receivables	6,863	2,446	671	7,001	2,657
less allowance for doubtful accounts	323	284	253	741	667
Trade accounts and other receivables, net	6,540	2,162	418	6,260	1,990

16. INVENTORIES

As of December 31, inventories consisted of the following:

€ in millions	2018	2017
Raw materials and purchased components	761	653
Work in process	326	715
Finished goods	2,245	2,024
less reserves	114	140
Inventories, net	3,218	3,252

In 2018 and in 2017, no reversals of write-downs of inventory were made.

The companies of the Fresenius Group are obliged to purchase approximately €1,030 million of raw materials and purchased components under fixed terms, of which €597 million was committed at December 31, 2018 for 2019. The terms of these agreements run 1 to 11 years. Advance payments from customers of €682 million (2017: €560 million) have been offset against inventories. These exclusively related to long-term construction contracts.

Upon implementation of IFRS 15, €311 million relating to long-term production contracts from Fresenius Vamed have been reclassified from work in process within inventory to contract assets within other current and non-current assets.

17. OTHER CURRENT AND NON-CURRENT ASSETS

As of December 31, other current and non-current assets were comprised of the following:

€ in millions	2018	thereof short-term	2017	thereof short-term
At equity investments	650	0	647	0
Tax receivables	615	586	418	378
Contract assets	535	535	0	0
Accounts receivable resulting from German hospital law	150	137	175	143
Advances made	102	88	99	86
Prepaid rent and insurance	86	86	78	78
Prepaid expenses	76	43	73	43
Other assets	517	381	595	446
Other non-financial assets, net	2,731	1,856	2,085	1,174
Debt instruments	334	100	3	3
Equity investments	245	0	88	6
Compensation receivable resulting from German hospital law	154	147	124	121
Leasing receivables	108	0	79	0
Long-term loans	92	18	93	19
Deposits	87	31	78	25
Derivative financial instruments	77	45	335	22
Discounts	68	68	49	49
Other assets	325	29	278	20
Other financial assets, net	1,490	438	1,127	265
Other assets, net	4,221	2,294	3,212	1,439
Allowances	49	45	11	8
Other assets, gross	4,270	2,339	3,223	1,447

At equity investments mainly related to the joint venture named Vifor Fresenius Medical Care Renal Pharma Ltd. between Fresenius Medical Care and Galenica Ltd. In 2018, income of €73 million (2017: €67 million) resulting from this valuation 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.

Since the implementation of IFRS 15 on January 1, 2018, other current and non-current assets also include contract assets within non-financial assets. As of December 31, 2018, they amount to €535 million. Thereof, €311 million relating to long-term production contracts from Fresenius Vamed have been reclassified from inventory (work in process) upon the initial application of IFRS 15 as of January 1, 2018.

Contract assets mainly relate to long-term production contracts for which revenue is recognized over time. As of December 31, 2018, they include €0.1 million of allowance for doubtful accounts. Moreover, in the fiscal years 2018 and 2017, depreciation in an immaterial amount was recognized on other non-current assets.

18. 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 Jan. 1, 2018	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2018
Land and land facilities	814	3	–	4	10	10	**821**
Buildings and improvements	7,129	106	29	168	335	90	**7,677**
Machinery and equipment	7,844	75	-31	712	247	288	**8,559**
Machinery, equipment and rental equipment under capital leases	187	4	–	7	60	3	**255**
Construction in progress	1,198	19	6	1,065	-710	9	**1,569**
Property, plant and equipment	17,172	207	4	1,956	-58	400	**18,881**

DEPRECIATION

€ in millions	As of Jan. 1, 2018	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2018
Land and land facilities	14	–	–	1	–	1	**14**
Buildings and improvements	2,819	64	9	366	-5	57	**3,196**
Machinery and equipment	4,685	42	-22	744	-20	245	**5,184**
Machinery, equipment and rental equipment under capital leases	93	3	–	19	1	3	**113**
Construction in progress	6	–	0	3	–	1	**8**
Property, plant and equipment	7,617	109	-13	1,133	-24	307	**8,515**

ACQUISITION AND MANUFACTURING COSTS

€ in millions	As of Jan. 1, 2017	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2017
Land and land facilities	561	-9	251	5	14	8	**814**
Buildings and improvements	6,068	-351	968	135	457	148	**7,129**
Machinery and equipment	7,396	-424	178	693	279	278	**7,844**
Machinery, equipment and rental equipment under capital leases	192	-8	–	11	-5	3	**187**
Construction in progress	1,184	-77	18	839	-760	6	**1,198**
Property, plant and equipment	15,401	-869	1,415	1,683	-15	443	**17,172**

DEPRECIATION

€ in millions	As of Jan. 1, 2017	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2017
Land and land facilities	13	–	0	1	0	–	**14**
Buildings and improvements	2,722	-188	-1	383	-3	94	**2,819**
Machinery and equipment	4,446	-244	-3	728	2	244	**4,685**
Machinery, equipment and rental equipment under capital leases	77	-4	-3	27	-1	3	**93**
Construction in progress	4	–	0	0	2	0	**6**
Property, plant and equipment	7,262	-436	-7	1,139	–	341	**7,617**

CARRYING AMOUNTS

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Land and land facilities	**807**	800
Buildings and improvements	**4,481**	4,310
Machinery and equipment	**3,375**	3,159
Machinery, equipment and rental equipment under capital leases	**142**	94
Construction in progress	**1,561**	1,192
Property, plant and equipment	**10,366**	9,555

Depreciation on property, plant and equipment for the years 2018 and 2017 was €1,133 million and €1,139 million, 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.

LEASING

Machinery and equipment as of December 31, 2018 and 2017 included medical devices which Fresenius Medical Care and Fresenius Kabi lease to customers, patients and physicians under operating leases in an amount of €868 million and €788 million, respectively.

19. 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 Jan. 1, 2018	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifications	Disposals	As of Dec. 31, 2018
Goodwill	25,285	598	-200	31	0	1	**25,713**
Customer relationships	840	5	-125	0	-3	0	**717**
Tradenames with finite useful lives	699	2	-7	–	5	0	**699**
Capitalized development costs	828	12	3	53	2	3	**895**
Patents, product and distribution rights	674	28	0	62	–	5	**759**
Software	599	8	-11	175	60	10	**821**
Technology	415	13	0	0	0	0	**428**
Tradenames with indefinite useful lives	192	7	0	–	0	0	**199**
Non-compete agreements	314	13	6	1	–	5	**329**
Management contracts	3	–	0	0	0	0	**3**
Other	418	4	6	35	-24	21	**418**
Goodwill and other intangible assets	30,267	690	-328	357	40	45	**30,981**

AMORTIZATION

€ in millions	As of Jan. 1, 2018	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifications	Disposals	As of Dec. 31, 2018
Goodwill	0	0	0	0	0	0	**0**
Customer relationships	123	2	-53	50	–	–	**122**
Tradenames with finite useful lives	48	–	-6	42	6	0	**90**
Capitalized development costs	229	6	0	23	–	3	**255**
Patents, product and distribution rights	386	15	0	34	–	3	**432**
Software	337	6	-4	88	15	9	**433**
Technology	154	6	–	75	0	0	**235**
Tradenames with indefinite useful lives	0	0	0	0	0	0	**0**
Non-compete agreements	262	11	-1	15	–	5	**282**
Management contracts	0	0	0	0	0	0	**0**
Other	271	4	-1	35	-1	19	**289**
Goodwill and other intangible assets	1,810	50	-65	362	20	39	**2,138**

ACQUISITION COST

€ in millions	As of Jan. 1, 2017	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2017
Goodwill	22,901	-1,988	4,330	44	0	2	**25,285**
Customer relationships	332	-33	541	0	0	0	**840**
Tradenames with finite useful lives	0	-6	661	–	45	1	**699**
Capitalized development costs	425	-17	343	71	7	1	**828**
Patents, product and distribution rights	748	-79	-1	6	2	2	**674**
Software	474	-27	30	118	15	11	**599**
Technology	462	-44	2	0	0	5	**415**
Tradenames with indefinite useful lives	227	-25	0	–	-10	0	**192**
Non-compete agreements	347	-40	11	0	-2	2	**314**
Management contracts	3	–	0	0	0	0	**3**
Other	469	-45	24	26	-53	3	**418**
Goodwill and other intangible assets	26,388	-2,304	5,941	265	4	27	**30,267**

AMORTIZATION

€ in millions	As of Jan. 1, 2017	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Disposals	As of Dec. 31, 2017
Goodwill	0	0	0	0	0	0	**0**
Customer relationships	98	-11	-25	61	0	0	**123**
Tradenames with finite useful lives	0	-2	0	38	12	0	**48**
Capitalized development costs	232	-9	0	15	-9	–	**229**
Patents, product and distribution rights	392	-40	0	34	2	2	**386**
Software	290	-16	–	75	-3	9	**337**
Technology	141	-17	0	30	0	0	**154**
Tradenames with indefinite useful lives	0	0	0	0	0	0	**0**
Non-compete agreements	278	-34	0	22	-2	2	**262**
Management contracts	0	0	0	0	0	0	**0**
Other	293	-31	–	23	-11	3	**271**
Goodwill and other intangible assets	1,724	-160	-25	298	-11	16	**1,810**

CARRYING AMOUNTS

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Goodwill	**25,713**	25,285
Customer relationships	**595**	717
Tradenames with finite useful lives	**609**	651
Capitalized development costs	**640**	599
Patents, product and distribution rights	**327**	288
Software	**388**	262
Technology	**193**	261
Tradenames with indefinite useful lives	**199**	192
Non-compete agreements	**47**	52
Management contracts	**3**	3
Other	**129**	147
Goodwill and other intangible assets	**28,843**	28,457

Amortization and impairments on intangible assets amounted to €362 million and €298 million for the years 2018 and 2017, 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.

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

AMORTIZABLE INTANGIBLE ASSETS

€ in millions	Dec. 31, 2018			Dec. 31, 2017		
	Acquisition cost	Accumulated amortization	Carrying amount	Acquisition cost	Accumulated amortization	Carrying amount
Customer relationships	717	122	595	840	123	717
Tradenames	699	90	609	699	48	651
Capitalized development costs	895	255	640	828	229	599
Patents, product and distribution rights	759	432	327	674	386	288
Software	821	433	388	599	337	262
Technology	428	235	193	415	154	261
Non-compete agreements	329	282	47	314	262	52
Other	418	289	129	418	271	147
Total	5,066	2,138	2,928	4,787	1,810	2,977

Fresenius Medical Care capitalized development costs in an amount of €2 million for the fiscal year 2018 (2017: €3 million). Capitalized development costs are amortized on a straight-line basis over a useful life of 11 years. The amortization expense for the fiscal year 2018 amounted to €0.3 million (2017: €0.4 million). Moreover, in 2018, technology and other intangible assets contain impairments of €65 million. These are included in the preceding amortization tables in the columns additions. In the case of Fresenius Kabi, development costs capitalized amounted to €638 million at December 31, 2018 (December 31, 2017: €596 million). The amortization is recorded on a straight-line basis over a useful life of 5 to 20 years and amounted to €16 million for the fiscal year 2018 (2017: €15 million). Furthermore, in 2018, research and development expenses included impairments 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	Dec. 31, 2018			Dec. 31, 2017		
	Acquisition cost	Accumulated amortization	Carrying amount	Acquisition cost	Accumulated amortization	Carrying amount
Goodwill	25,713	0	25,713	25,285	0	25,285
Tradenames	199	0	199	192	0	192
Management contracts	3	0	3	3	0	3
Total	25,915	0	25,915	25,480	0	25,480

The carrying amount of goodwill has developed as follows:

€ in millions	Fresenius Medical Care	Fresenius Kabi	Fresenius Helios	Fresenius Vamed	Corporate/ Other	**Fresenius Group**
Carrying amount as of January 1, 2017	**12,956**	**5,302**	**4,538**	**99**	**6**	**22,901**
Additions	596	394	3,365	19	0	4,374
Disposals	0	-1	-1	0	0	-2
Foreign currency translation	-1,448	-540	0	0	0	-1,988
Carrying amount as of December 31, 2017	**12,104**	**5,155**	**7,902**	**118**	**6**	**25,285**
Additions	328	44	102	21	0	495
Disposals	-664	0	-1	–	0	-665
Reclassifications	0	0	-146	146	0	0
Foreign currency translation	442	156	0	0	0	598
Carrying amount as of December 31, 2018	**12,210**	**5,355**	**7,857**	**285**	**6**	**25,713**

As of December 31, 2018 and December 31, 2017, the carrying amounts of the other non-amortizable intangible assets were €186 million and €178 million for Fresenius Medical Care as well as €16 million and €17 million, respectively, for Fresenius Kabi.

20. PROVISIONS

As of December 31, provisions consisted of the following:

€ in millions	**2018**	**thereof short-term**	2017	thereof short-term
Self-insurance programs	**323**	**323**	371	329
Personnel expenses	**291**	**127**	322	124
Warranties and complaints	**250**	**247**	156	155
FCPA related expenses	**224**	**224**	211	211
Litigation and other legal risks	**140**	**109**	88	81
Other provisions	**428**	**266**	376	221
Provisions	**1,656**	**1,296**	1,524	1,121

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

€ in millions	As of Jan. 1, 2018	Adjustment due to the initial application of IFRS 15	Foreign currency translation	Changes in entities consolidated	Additions	Reclassifi-cations	Utilized	Reversed	**As of Dec. 31, 2018**
Self-insurance programs	371	0	10	-49	162	-9	-162	–	**323**
Personnel expenses	322	0	1	-4	73	2	-77	-26	**291**
Warranties and complaints	156	108	–	-3	162	–	-141	-32	**250**
FCPA related expenses	211	0	0	0	77	0	-64	0	**224**
Litigation and other legal risks	88	0	-1	5	78	-5	-13	-12	**140**
Other provisions	376	0	-2	37	289	12	-212	-72	**428**
Total	1,524	108	8	-14	841	–	-669	-142	**1,656**

Fresenius Medical Care recorded charges of €200 million in 2017 and €77 million in 2018 in regards to Foreign Corrupt Practices Act (FCPA) investigations. The charges encompass estimates for the government's claims for profit disgorgement, penalties, certain legal expenses, and other related costs or asset impairments believed likely to be necessary for full and final resolution, by litigation or settlement, of the claims and issues arising from the investigation. The increase recorded in 2018 took into consideration preliminary understandings with the government on the financial terms of a potential settlement. Following this increase, which takes into account incurred and anticipated legal expenses, impairments and other costs, the provision totals €224 million as of December 31, 2018. For further information on these investigations, see note 29, Commitments and contingencies.

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

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

21. OTHER LIABILITIES

As of December 31, other liabilities consisted of the following:

€ in millions	2018	2018 thereof short-term	2017	2017 thereof short-term
Tax liabilities	**266**	**251**	304	304
Accounts payable resulting from German hospital law	**143**	**142**	183	180
Contract liabilities	**108**	**108**	0	0
Personnel liabilities	**102**	**10**	98	0
Accounts receivable credit balance	**87**	**36**	126	76
Advance payments from customers	**0**	**0**	53	46
All other liabilities	**827**	**651**	758	602
Other non-financial liabilities	**1,533**	**1,198**	1,522	1,208
Personnel liabilities	**1,208**	**1,200**	1,282	1,275
Noncontrolling interest subject to put provisions	**839**	**495**	854	470
Invoices outstanding	**766**	**766**	717	717
Accrued contingent payments outstanding for acquisitions	**731**	**177**	793	78
Debtors with credit balances	**387**	**387**	331	331
Bonuses and discounts	**217**	**217**	198	198
Interest liabilities	**187**	**187**	200	200
Leasing liabilities	**150**	**150**	118	118
Derivative financial instruments	**74**	**47**	334	25
Legal matters, advisory and audit fees	**57**	**57**	55	55
Compensation payable resulting from German hospital law	**33**	**32**	39	39
Commissions	**31**	**31**	35	34
All other liabilities	**5**	**0**	5	0
Other financial liabilities	**4,685**	**3,746**	4,961	3,540
Other liabilities	**6,218**	**4,944**	6,483	4,748

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.

Since the implementation of IFRS 15 on January 1, 2018, other liabilities include non-financial contract liabilities from contracts with customers. As of December 31, 2018, €108 million contract liabilities are included. Thereof, €46 million have been reclassified from advance payments from customers upon the initial application of IFRS 15.

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

The accrued contingent payments outstanding for acquisitions include €540 million at December 31, 2018 for the acquisition of the biosimilars business.

At December 31, 2018, the total amount of other long-term liabilities was €1,274 million, thereof €844 million was due between one and five years and €430 million was due after five years. The statement of financial position line item long-term provisions and other long-term liabilities of €1,634 million also included long-term provisions of €360 million as of December 31, 2018.

22. DEBT AND CAPITAL LEASE OBLIGATIONS

SHORT-TERM DEBT

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

€ in millions	Book value 2018	Book value 2017
Fresenius SE & Co. KGaA Commercial Paper	973	715
Fresenius Medical Care AG & Co. KGaA Commercial Paper	1,000	680
Other short-term debt	381	155
Short-term debt	**2,354**	1,550

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, 2018 and 2017 were 1.62% and 5.81%, respectively.

LONG-TERM DEBT AND CAPITAL LEASE OBLIGATIONS

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

€ in millions	2018	2017
Fresenius Medical Care Credit Agreement	1,887	2,018
Fresenius Credit Agreement	2,116	2,238
Schuldschein Loans	1,629	1,873
Accounts Receivable Facility of Fresenius Medical Care	0	294
Capital lease obligations	219	234
Other	446	448
Subtotal	6,297	7,105
less current portion	353	618
Long-term debt and capital lease obligations, less current portion	**5,944**	6,487

Maturities of long-term debt and capital lease obligations including debt issuance costs are shown in the following table:

€ in millions	up to 1 year	1 to 3 years	3 to 5 years	more than 5 years
Fresenius Medical Care Credit Agreement	133	665	1,096	0
Fresenius Credit Agreement	152	1,055	920	0
Schuldschein Loans	0	561	443	628
Accounts Receivable Facility of Fresenius Medical Care	0	0	0	0
Capital lease obligations	22	41	28	128
Other	55	243	45	105
Long-term debt and capital lease obligations	**362**	**2,565**	**2,532**	**861**

Aggregate annual repayments applicable to the above listed long-term debt and capital lease obligations for the years subsequent to December 31, 2018 are:

for the fiscal years	€ in millions
2019	362
2020	1,146
2021	1,419
2022	2,449
2023	83
Subsequent years	861
Total	**6,320**

Fresenius Medical Care Credit Agreement

Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) originally entered into a syndicated credit facility (Fresenius Medical Care 2012 Credit Agreement) of US$3,850 million and a 5-year tenor on October 30, 2012.

In the years 2014 and 2017, various amendments of the Fresenius Medical Care Credit Agreement were made. These related to the amount and structure of the available tranches, among other items. In addition, the terms have been extended.

The following tables show the available and outstanding amounts under the Fresenius Medical Care Credit Agreement at December 31:

	2018			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in US$) 2017/2022	US$900 million	786	**US$0 million**	**0**
Revolving Credit Facility (in €) 2017/2022	€600 million	600	**€0 million**	**0**
Term Loan (in US$) 2017/2022	US$1,350 million	1,179	**US$1,350 million**	**1,179**
Term Loan (in €) 2017/2020	€400 million	400	**€400 million**	**400**
Term Loan (in €) 2017/2022	€315 million	315	**€315 million**	**315**
Total		3,280		**1,894**
less financing cost				**7**
Total				**1,887**

	2017			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in US$) 2017/2022	US$900 million	750	**US$70 million**	**58**
Revolving Credit Facility (in €) 2017/2022	€600 million	600	**€0 million**	**0**
Term Loan (in US$) 2017/2022	US$1,470 million	1,226	**US$1,470 million**	**1,226**
Term Loan (in €) 2017/2020	€400 million	400	**€400 million**	**400**
Term Loan (in €) 2017/2022	€343 million	343	**€343 million**	**343**
Total		3,319		**2,027**
less financing cost				**9**
Total				**2,018**

As of December 31, 2018, the Fresenius Medical Care Credit Agreement consisted of:

- Revolving credit facilities of US$900 million and €600 million which will be due on July 31, 2022.
- A term loan of US$1,350 million, also scheduled to mature on July 31, 2022. Quarterly repayments of US$30 million began on October 31, 2017 with the remaining balance outstanding due on the maturity date.
- A term loan of €315 million, also scheduled to mature on July 31, 2022. Quarterly repayments of €7 million began on October 31, 2017 with the remaining balance outstanding due on the maturity date.
- A non-amortizing term loan of €400 million which is scheduled to mature on July 30, 2020.

Interest on the credit facilities is floating at a rate equal to EURIBOR / LIBOR (as applicable) plus an applicable margin. The applicable margin is variable and depends on Fresenius Medical Care's consolidated leverage ratio which is a ratio of its consolidated funded debt less cash and cash equivalents to consolidated EBITDA (as these terms are defined in the Fresenius Medical Care Credit Agreement). As of December 31, 2018 and 2017, the U.S. dollar denominated tranches outstanding under the Fresenius Medical Care Credit Agreement had a weighted-average interest rate of 3.53% and 2.48%, respectively. As of December 31, 2018 and 2017, the euro denominated tranches had a weighted-average interest rate of 0.81%.

The Fresenius Medical Care Credit Agreement contains affirmative and negative covenants with respect to FMC-AG & Co. KGaA and its subsidiaries. Under certain circumstances, these covenants limit indebtedness and restrict the creation of liens. Under the Fresenius Medical Care Credit Agreement, FMC-AG & Co. KGaA is required to comply with a maximum leverage ratio (ratio of net debt to EBITDA).

As of December 31, 2018, FMC-AG & Co. KGaA and its subsidiaries were in compliance with all covenants under the Fresenius Medical Care Credit Agreement.

Fresenius Credit Agreement

On December 20, 2012, Fresenius SE & Co. KGaA and various subsidiaries entered into a delayed draw syndicated credit agreement (2013 Credit Agreement) in the original amount of US$1,300 million and €1,250 million. Since the initial funding of the Credit Agreement in June 2013, additional tranches were added. Furthermore, scheduled amortization payments as well as voluntary repayments have been made. In August 2017, the Credit Agreement was refinanced and replaced by new tranches with a total amount of approximately €3,800 million.

The following tables show the available and outstanding amounts under the Fresenius Credit Agreement at December 31:

	2018			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in €) 2017/2022	€1,000 million	1,000	**€0 million**	**0**
Revolving Credit Facility (in US$) 2017/2022	US$500 million	437	**US$0 million**	**0**
Term Loan (in €) 2017/2021	€750 million	750	**€750 million**	**750**
Term Loan (in €) 2017/2022	€875 million	875	**€875 million**	**875**
Term Loan (in US$) 2017/2022	US$575 million	502	**US$575 million**	**502**
Total		3,564		**2,127**
less financing cost				**11**
Total				**2,116**

	2017			
	Maximum amount available		**Balance outstanding**	
		€ in millions		**€ in millions**
Revolving Credit Facility (in €) 2017/2022	€1,000 million	1,000	**€0 million**	**0**
Revolving Credit Facility (in US$) 2017/2022	US$500 million	417	**US$0 million**	**0**
Term Loan (in €) 2017/2021	€750 million	750	**€750 million**	**750**
Term Loan (in €) 2017/2022	€975 million	975	**€975 million**	**975**
Term Loan (in US$) 2017/2022	US$635 million	529	**US$635 million**	**529**
Total		3,671		**2,254**
less financing cost				**16**
Total				**2,238**

As of December 31, 2018, the Fresenius Credit Agreement consisted of:

- Revolving credit facilities of US$500 million and €1,000 million which will be due on September 28, 2022.
- A term loan of US$575 million, scheduled to mature on September 28, 2022. Quarterly repayments of US$15 million began on December 28, 2017 with the remaining balance outstanding due on the maturity date.
- A term loan of €875 million, also scheduled to mature on September 28, 2022. Quarterly repayments of €25 million began on December 28, 2017 with the remaining balance outstanding due on the maturity date.
- A non-amortizing term loan of €750 million which is scheduled to mature on September 28, 2021.

Interest on the credit facilities is floating at a rate equal to EURIBOR/LIBOR (as applicable) plus an applicable margin. The applicable margin is variable and depends on the consolidated leverage ratio of Fresenius SE & Co. KGaA and its subsidiaries (as defined in the Fresenius Credit Agreement).

The Fresenius Credit Agreement contains a number of customary affirmative and negative covenants. Under certain conditions, these covenants include limitations on liens and incurrence of debt. The Fresenius Credit Agreement also requires Fresenius SE & Co. KGaA and its subsidiaries to maintain a maximum leverage ratio.

As of December 31, 2018, the Fresenius Group was in compliance with all covenants under the Fresenius Credit Agreement.

Schuldschein Loans

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

	Notional amount	Maturity	Interest rate fixed/variable	Book value € in millions 2018	2017
Fresenius SE & Co. KGaA 2014/2018	€97 million	April 2, 2018	2.09%	**0**	97
Fresenius SE & Co. KGaA 2012/2018	€72 million	April 4, 2018	4.09%	**0**	72
Fresenius SE & Co. KGaA 2015/2018	€91 million	October 8, 2018	1.07%/variable	**0**	91
Fresenius SE & Co. KGaA 2014/2020	€262 million	April 2, 2020	2.67%/variable	**262**	262
Fresenius SE & Co. KGaA 2017/2022	€372 million	Jan. 31, 2022	0.93%/variable	**371**	371
Fresenius SE & Co. KGaA 2015/2022	€21 million	April 7, 2022	1.61%	**21**	21
Fresenius SE & Co. KGaA 2017/2024	€421 million	Jan. 31, 2024	1.40%/variable	**420**	420
Fresenius SE & Co. KGaA 2017/2027	€207 million	Jan. 29, 2027	1.96%/variable	**207**	206
Fresenius US Finance II, Inc. 2016/2021	US$342 million	March 10, 2021	2.66%/variable	**297**	284
Fresenius US Finance II, Inc. 2016/2023	US$58 million	March 10, 2023	3.12%/variable	**51**	49
Schuldschein Loans				**1,629**	1,873

The Schuldschein Loans issued by Fresenius SE & Co. KGaA in the amount of €97 million, €72 million and €91 million which were due on April 2, 2018, April 4, 2018 and October 8, 2018 were redeemed at maturity.

The Schuldschein Loans issued by Fresenius SE & Co. KGaA in the total amount of €125 million which were due on August 22, 2017 were repaid as scheduled.

On December 19, 2016, Fresenius SE & Co. KGaA issued €1,000 million of Schuldschein Loans in tranches of 5, 7 and 10 years with fixed and variable interest rates. The transaction was closed on January 31, 2017. Proceeds were used for general corporate purposes and to finance the acquisition of IDCSalud Holding S.L.U. (Quirónsalud) by Fresenius Helios.

In order to optimize the capital structure and to further reduce financing costs, two floating rate tranches of Schuldschein Loans due originally on April 2, 2018 in the amount of €76 million and €65 million have been terminated and prepaid as per April 3, 2017.

The Schuldschein Loans of Fresenius SE & Co. KGaA 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.

As of December 31, 2018, the Fresenius Group was in compliance with all of its covenants under the Schuldschein Loans.

Accounts Receivable Facility of Fresenius Medical Care

On December 20, 2018, the asset securitization facility (Accounts Receivable Facility) of Fresenius Medical Care was refinanced, increasing the facility to US$900 million (€786 million) and extending it until December 20, 2021.

At December 31, 2018, there were no outstanding borrowings under the Accounts Receivable Facility (2017: US$353 million (€294 million)). In the amounts shown, debt issuance costs are not included. Fresenius Medical Care had letters of credit outstanding under the Accounts Receivable Facility in the amount of US$27 million (€23 million) at December 31, 2018 and US$71 million (€59 million) at December 31, 2017. These letters of credit are not included above as part of the balance outstanding at December 31, 2018, however, they reduce available borrowings under the Accounts Receivable Facility.

Under the Accounts Receivable Facility, certain receivables are sold 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. Under the terms of the Accounts Receivable Facility, NMC Funding retains the right, at any time, to 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. At December 31, 2018, this facility was not utilized. At December 31, 2017, the interest rate on the utilized borrowings was 1.40%. 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 additional credit facilities which have not been utilized, or have only been utilized in part, as of the reporting date. At December 31, 2018, the additional financial cushion resulting from unutilized credit facilities was approximately €3.8 billion.

Syndicated credit facilities accounted for €2.8 billion. This portion is comprised of the Fresenius Medical Care Credit Agreement in the amount of €1,385 million and the Fresenius Credit Agreement in the amount of €1,437 million. Furthermore, bilateral facilities of approximately €1,000 million were available. They include credit facilities which certain entities of the Fresenius Group have arranged with commercial banks. These credit facilities are used for general corporate purposes and are usually unsecured.

In addition, Fresenius SE & Co. KGaA has a commercial paper program under which up to €1,000 million in short-term notes can be issued. As of December 31, 2018, the commercial paper program of Fresenius SE & Co. KGaA was utilized in the amount of €973 million.

Fresenius Medical Care can also issue short-term notes of up to €1,000 million under a commercial paper program. As of December 31, 2018, the commercial paper program of Fresenius Medical Care AG & Co. KGaA was utilized in the amount of €1,000 million.

Additional financing of up to US$900 million (€786 million) can be provided using the Fresenius Medical Care Accounts Receivable Facility which had been utilized in the amount of US$27 million (€23 million) as of December 31, 2018.

Bridge Financing Facility

On April 25, 2017, Fresenius SE & Co. KGaA entered into a Bridge Financing Facility in the amount of US$4,200 million with a tenor of 18 months for the purpose of the acquisition of Akorn, Inc. In October 2018, the Bridge Financing Facility was amended and extended until April 2019. On December 10, 2018, the Bridge Financing Facility was prematurely cancelled by Fresenius SE & Co. KGaA without having been utilized.

23. BONDS

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	**2018**	2017
Fresenius Finance Ireland PLC 2017/2022	€700 million	Jan. 31, 2022	0.875%	**697**	695
Fresenius Finance Ireland PLC 2017/2024	€700 million	Jan. 30, 2024	1.50%	**696**	696
Fresenius Finance Ireland PLC 2017/2027	€700 million	Feb. 1, 2027	2.125%	**692**	692
Fresenius Finance Ireland PLC 2017/2032	€500 million	Jan. 30, 2032	3.00%	**494**	494
Fresenius SE & Co. KGaA 2014/2019	€300 million	Feb. 1, 2019	2.375%	**300**	299
Fresenius SE & Co. KGaA 2012/2019	€500 million	Apr. 15, 2019	4.25%	**500**	499
Fresenius SE & Co. KGaA 2013/2020	€500 million	July 15, 2020	2.875%	**499**	498
Fresenius SE & Co. KGaA 2014/2021	€450 million	Feb. 1, 2021	3.00%	**447**	446
Fresenius SE & Co. KGaA 2014/2024	€450 million	Feb. 1, 2024	4.00%	**450**	449
Fresenius US Finance II, Inc. 2014/2021	US$300 million	Feb. 1, 2021	4.25%	**261**	249
Fresenius US Finance II, Inc. 2015/2023	US$300 million	Jan. 15, 2023	4.50%	**260**	248
FMC Finance VII S.A. 2011/2021	€300 million	Feb. 15, 2021	5.25%	**297**	297
FMC Finance VIII S.A. 2011/2018	€400 million	Sept. 15, 2018	6.50%	**0**	399
FMC Finance VIII S.A. 2012/2019	€250 million	July 31, 2019	5.25%	**246**	245
Fresenius Medical Care AG & Co. KGaA 2018/2025	€500 million	July 11, 2025	1.50%	**496**	0
Fresenius Medical Care US Finance, Inc. 2011/2021	US$650 million	Feb. 15, 2021	5.75%	**565**	538
Fresenius Medical Care US Finance II, Inc. 2011/2018	US$400 million	Sept. 15, 2018	6.50%	**0**	332
Fresenius Medical Care US Finance II, Inc. 2012/2019	US$800 million	July 31, 2019	5.625%	**698**	666
Fresenius Medical Care US Finance II, Inc. 2014/2020	US$500 million	Oct. 15, 2020	4.125%	**435**	415
Fresenius Medical Care US Finance II, Inc. 2012/2022	US$700 million	Jan. 31, 2022	5.875%	**610**	581
Fresenius Medical Care US Finance II, Inc. 2014/2024	US$400 million	Oct. 15, 2024	4.75%	**347**	331
Bonds				**8,990**	9,069

FRESENIUS SE & CO. KGAA

As of December 31, 2018, the bonds issued by Fresenius SE & Co. KGaA in the amount of €300 million due on February 1, 2019 and €500 million due on April 15, 2019 are shown as current portion of bonds in the consolidated statement of financial position. Mainly to refinance these bonds, on January 21, 2019, Fresenius SE & Co. KGaA issued bonds with an aggregate volume of €1.0 billion. The bonds consist of 2 tranches with maturities of 6 and 10 years. The coupon of the 6-year tranche of €500 million is 1.875% and was issued at a price of 99.257%. The €500 million tranche with a 10-year maturity has a coupon of 2.875% and was issued at a price of 99.164%. The proceeds will be used for general corporate purposes including refinancing of maturing notes.

On January 30, 2017, Fresenius Finance Ireland PLC, a subsidiary of Fresenius SE & Co. KGaA, issued bonds with an aggregate volume of €2.6 billion. The bonds consist of tranches with maturities of 5, 7, 10 and 15 years. The proceeds were used to fund the acquisition of IDCSalud Holding S.L.U. (Quirónsalud) and for general corporate purposes.

All bonds of Fresenius US Finance II, Inc. and of Fresenius Finance Ireland PLC are guaranteed by Fresenius SE & Co. KGaA. The holders 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. All bonds of Fresenius US Finance II, Inc., Fresenius Finance Ireland PLC and the bonds issued by Fresenius SE & Co. KGaA 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.

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, 2018, the Fresenius Group was in compliance with all of its covenants.

FRESENIUS MEDICAL CARE AG & CO. KGAA

On July 11, 2018, Fresenius Medical Care AG & Co. KGaA issued bonds with an aggregate principal amount of €500 million. The bonds have a maturity of seven years and an annual coupon of 1.5%. The issue price was 99.704%. The proceeds were used for general corporate purposes, including the refinancing of maturities.

The bonds issued by FMC Finance VIII S.A. in the amount of €400 million and by Fresenius Medical Care US Finance II, Inc. in the amount of US$400 million which were due on September 15, 2018 were redeemed at maturity. As of December 31, 2018, the bonds issued by FMC Finance VIII S.A. in the amount of €250 million and the bonds issued by Fresenius Medical Care US Finance II, Inc. in the amount of of US$800, due on July 31, 2019 are shown as current portion of bonds in the consolidated statement of financial position.

The bonds issued by Fresenius Medical Care US Finance, Inc. were redeemed at maturity on July 17, 2017.

The bonds of Fresenius Medical Care US Finance, Inc., Fresenius Medical Care US Finance II, Inc., FMC Finance VII S.A. and FMC Finance VIII S.A. (wholly owned subsidiaries of FMC-AG & Co. KGaA) are guaranteed jointly and severally by FMC-AG & Co. KGaA and Fresenius Medical Care Holdings, Inc. The holders 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. The issuers may redeem the bonds issued before 2018 at any time at 100% of principal plus accrued interest and a premium calculated pursuant to the terms of the indentures.

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, 2018, FMC-AG & Co. KGaA and its subsidiaries were in compliance with all of their covenants under the bonds.

24. CONVERTIBLE BONDS

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

	Notional amount	Maturity	Coupon	Current conversion price	Book value € in millions 2018	2017
Fresenius SE & Co. KGaA 2014/2019	€500 million	Sept. 24, 2019	0.000%	€49.0848	**493**	483
Fresenius SE & Co. KGaA 2017/2024	€500 million	Jan. 31, 2024	0.000%	€106.8947	**457**	448
Fresenius Medical Care AG & Co. KGaA 2014/2020	€400 million	Jan. 31, 2020	1.125%	€73.1980	**393**	387
Convertible bonds					**1,343**	1,318

The fair value of the derivatives embedded in the convertible bonds of Fresenius SE & Co. KGaA was €39 million at December 31, 2018. The derivative embedded in the convertible bonds of Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) was recognized with a fair value of €12 million at December 31, 2018. Fresenius SE & Co. KGaA and FMC-AG & Co. KGaA have purchased stock options (call options) to hedge future fair value fluctuations of these derivatives. As of December 31, 2018, the call options had a corresponding aggregate fair value of €39 million and €12 million, respectively.

The conversions will be cash-settled. Any increase of Fresenius' share price and of Fresenius Medical Care's share price above the conversion price would be offset by a corresponding value increase of the call options.

The derivatives embedded in the convertible bonds and the call options are recognized in other current and other non-current liabilities/assets in the consolidated statement of financial position.

The convertible bonds issued by Fresenius SE & Co. KGaA in the amount of €500 million due on September 24, 2019 are shown as current portion of convertible bonds in the consolidated statement of financial position.

On January 31, 2017, Fresenius SE & Co. KGaA issued €500 million of equity-neutral convertible bonds due 2024. The convertible bonds will not bear any interest. The proceeds were used to fund the acquisition of IDCSalud Holding S.L.U. (Quirónsalud) and for general corporate purposes.

25. 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.

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 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 (funded status). 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, 2018, the defined benefit obligation (DBO) of the Fresenius Group of €1,787 million (2017: €1,671 million) included €565 million (2017: €526 million) funded by plan assets and €1,222 million (2017: €1,145 million) covered by pension provisions. Furthermore, the pension liability contains benefit obligations offered by other subsidiaries of Fresenius Medical Care in an amount of €35 million (2017: €37 million). The current portion of the pension liability in an amount of €22 million (2017: €19 million) is recognized in the consolidated statement of financial position within short-term provisions and other short-term liabilities. The non-current portion of €1,235 million (2017: €1,163 million) is recorded as pension liability.

The major part of pension liabilities relates to Germany. At December 31, 2018, 82% of the pension liabilities were recognized in Germany and 16% predominantly in the rest of Europe and North America. 49% of the beneficiaries were located in North America, 35% in Germany and the remainder throughout the rest of Europe and other continents.

74% of the pension liabilities in an amount of €1,257 million relate to the "Versorgungsordnung der Fresenius-Unternehmen" established in 2016 (Pension Plan 2016), which applies for most of the German entities of the Fresenius Group except Fresenius Helios. 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 fund.

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 2018, there was no minimum funding requirement for the defined benefit plan. FMCH voluntarily provided €43 million. Expected funding for 2019 is €1 million.

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 €35 million and €37 million at December 31, 2018 and 2017, respectively. The current pension liability of €3 million (2017: €3 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 €32 million (2017: €34 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 €687 million. Benefit obligations relating to unfunded pension plans were €1,100 million.

The following table shows the changes in benefit obligations, the changes in plan assets, the funded status 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 pension liability has developed as follows:

€ in millions	2018	2017
Benefit obligations at the beginning of the year	**1,671**	1,671
Changes in entities consolidated	**0**	28
Foreign currency translation	**22**	-63
Service cost	**59**	63
Past service cost	**-5**	–
Settlements	**0**	-1
Net interest cost	**42**	40
Contributions by plan participants	**4**	3
Transfer of plan participants	**7**	3
Remeasurements	**31**	-29
Actuarial losses (gains) arising from changes in financial assumptions	**-1**	-33
Actuarial losses (gains) arising from changes in demographic assumptions	**11**	-4
Actuarial losses (gains) arising from experience adjustments	**21**	8
Benefits paid	**-44**	-44
Benefit obligations at the end of the year	**1,787**	1,671
thereof vested	**1,464**	1,392
Fair value of plan assets at the beginning of the year	**526**	532
Changes in entities consolidated	**0**	22
Foreign currency translation	**17**	-47
Actual return (cost) on plan assets	**-16**	31
Interest income from plan assets	**15**	17
Actuarial gains (losses) arising from experience adjustments	**-31**	14
Contributions by the employer	**55**	10
Contributions by plan participants	**4**	3
Settlements	**0**	-1
Transfer of plan participants	**8**	4
Gains from divestitures	**-1**	-1
Benefits paid	**-28**	-27
Fair value of plan assets at the end of the year	**565**	526
Funded status as of December 31	**1,222**	1,145
Benefit plans offered by other subsidiaries	**35**	37
Pension liability as of December 31	**1,257**	1,182

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

As of December 31, 2018 and 2017, the fair value of plan assets did not exceed the benefit obligations in any pension plan. Furthermore, for the years 2018 and 2017, 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 %	2018	2017
Discount rate	**2.69**	2.53
Rate of compensation increase	**2.75**	2.80
Rate of pension increase	**1.55**	1.39

Mainly changes in the discount factor, as well as inflation and mortality assumptions used for the actuarial computation resulted in actuarial losses in 2018 which increased the fair value of the defined benefit obligation. Unrecognized actuarial losses were €707 million (2017: €635 million).

Sensitivity analysis

Increases and decreases in principal actuarial assumptions by 0.5 percentage points would affect the pension liability as of December 31, 2018 as follows:

Development of pension liability € in millions	0.5 pp increase	0.5 pp decrease
Discount rate	-151	173
Rate of compensation increase	27	-26
Rate of pension increase	93	-81

The sensitivity analysis was calculated based on the average duration of the pension obligations determined at December 31, 2018. 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 €81 million (2017: €86 million) were comprised of the following components:

€ in millions	2018	2017
Service cost	**54**	63
Net interest cost	**27**	23
Net periodic benefit cost	**81**	86

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 %	2018	2017
Discount rate	**2.53**	2.47
Rate of compensation increase	**2.80**	2.82
Rate of pension increase	**1.39**	1.46

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

for the fiscal years	€ in millions
2019	47
2020	50
2021	52
2022	55
2023	60
2024 to 2028	355
Total expected benefit payments	**619**

At December 31, 2018 and at December 31, 2017, the weighted-average duration of the defined benefit obligation was 18 years and 19 years, respectively.

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

€ in millions	December 31, 2018			December 31, 2017		
	Quoted prices in active markets for identical assets Level 1	**Significant observable inputs Level 2**	**Total**	Quoted prices in active markets for identical assets Level 1	Significant observable inputs Level 2	Total
Categories of plan assets						
Equity investments	**73**	**76**	**149**	72	72	144
Index funds[1]	**43**	**76**	**119**	47	72	119
Other equity investments	**30**	**0**	**30**	25	0	25
Fixed income investments	**160**	**190**	**350**	117	204	321
Government securities[2]	**16**	**0**	**16**	10	1	11
Corporate bonds[3]	**69**	**187**	**256**	69	199	268
Other fixed income investments[4]	**75**	**3**	**78**	38	4	42
Other[5]	**55**	**11**	**66**	46	15	61
Total	**288**	**277**	**565**	235	291	526

[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 its funded plans.

in %	**Allocation 2018**	Allocation 2017	Target allocation
Equity investments	**26.39**	27.31	27.55
Fixed income investments	**61.89**	60.97	60.90
Other incl. real estate	**11.72**	11.72	11.55
Total	**100.00**	100.00	100.00

Contributions to plan assets for the fiscal year 2019 are expected to amount to €13 million.

DEFINED CONTRIBUTION PLANS

Fresenius Group's total expense under defined contribution plans for 2018 was €157 million (2017: €146 million). Of this amount, €95 million related to contributions by the Fresenius Group to several public supplementary pension funds for employees of Fresenius Helios. Further €54 million related to contributions to the U.S. savings plan, which employees of Fresenius Medical Care Holdings, Inc. can join.

Following 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 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. The calculation of a pension liability according to IAS 19 is not possible due to missing information about future payment obligations. Therefore, the obligation is accounted for as defined contribution plan according to IAS 19.34a.

The plan operates on a pay-as-you-earn system based on applying a collection rate to given parts of 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 €95 million in 2018 (2017: €90 million). Thereof, €49 million (2017: €48 million) were payments to Rheinische Zusatzversorgungskasse, to Versorgungsanstalt des Bundes und der Länder and to Zusatzversorgungskasse Wiesbaden (supplementary pension funds). The Group expects to contribute €97 million in 2019.

Under the U.S. savings plan, employees can deposit up to 75% of their pay up to an annual maximum of US$18,500 if under 50 years old (US$24,500 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, 2018 and 2017 was €54 million and €49 million, respectively.

26. NONCONTROLLING INTEREST

As of December 31, noncontrolling interest in the Fresenius Group was as follows:

€ in millions	2018	2017
Noncontrolling interest in Fresenius Medical Care AG & Co. KGaA	**8,143**	6,796
Noncontrolling interest in VAMED AG	**83**	66
Noncontrolling interest in the business segments		
Fresenius Medical Care	**1,144**	1,008
Fresenius Kabi	**102**	89
Fresenius Helios	**113**	92
Fresenius Vamed	**12**	8
Total noncontrolling interest	**9,597**	8,059

For further financial information relating to Fresenius Medical Care see the consolidated segment reporting on pages 170 to 171.

Noncontrolling interest changed as follows:

€ in millions	2018
Noncontrolling interest as of December 31, 2017	**8,059**
Adjustment due to the initial application of IFRS 9 and IFRS 15	-2
As of January 1, 2018, adjusted	**8,057**
Noncontrolling interest in profit	1,687
Purchase of noncontrolling interest	112
Stock options	38
Dividend payments	-488
Currency effects and other changes	191
Noncontrolling interest as of December 31, 2018	**9,597**

27. FRESENIUS SE & CO. KGAA SHAREHOLDERS' EQUITY

SUBSCRIBED CAPITAL

Development of subscribed capital

As of January 1, 2018, the subscribed capital of Fresenius SE & Co. KGaA consisted of 554,710,473 bearer ordinary shares.

During the fiscal year 2018, 1,514,681 stock options were exercised. Consequently, as of December 31, 2018, the subscribed capital of Fresenius SE & Co. KGaA consisted of 556,225,154 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

By resolution of the Annual General Meeting on May 18, 2018, the previous Authorized Capital I was revoked and a new Authorized Capital I was created.

Accordingly, 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.

The changes to the Authorized Capital I became effective upon registration with the commercial register on June 18, 2018.

CONDITIONAL CAPITAL

The following Conditional Capitals exist in order to fulfill the subscription rights under the stock option plans of Fresenius SE & Co. KGaA: Conditional Capital II (Stock Option Plan 2008) and Conditional Capital IV (Stock Option Plan 2013) (see note 34, Share-based compensation plans).

The previous authorization to issue option bearer bonds and/or convertible bonds (Conditional Capital III) dated May 16, 2014 was revoked by resolution of the Annual General Meeting of Fresenius SE & Co. KGaA on May 18, 2018. Simultaneously, a new Conditional Capital III with a five-year term was approved.

Accordingly, the general partner is authorized, with the approval of the Supervisory Board, until May 17, 2023, to issue option bearer bonds and/or convertible bearer bonds, once or several times, for a total nominal amount of up to €2.5 billion. To fulfill the granted subscription rights, the subscribed capital of Fresenius SE & Co. KGaA is increased conditionally by up to €48,971,202 through issuing of up to 48,971,202 new bearer ordinary shares. The conditional capital increase shall only be implemented to the extent that the holders of cash issued convertible bonds or of cash issued warrants from option bonds exercise their conversion or option rights and as long as no other forms of settlement are used. The new bearer ordinary shares shall participate in the profits from the start of the fiscal year in which they are issued.

The new Conditional Capital III became effective upon registration with the commercial register on June 18, 2018.

The following table shows the development of the Conditional Capital:

in €	Ordinary shares
Conditional Capital I Fresenius AG Stock Option Plan 2003	4,735,083
Conditional Capital II Fresenius SE Stock Option Plan 2008	5,141,264
Conditional Capital III option bearer bonds and/or convertible bonds	48,971,202
Conditional Capital IV Fresenius SE & Co. KGaA Stock Option Plan 2013	24,928,200
Total Conditional Capital as of January 1, 2018	**83,775,749**
Fresenius SE Stock Option Plan 2008 – options exercised	-844,450
Fresenius SE & Co. KGaA Stock Option Plan 2013 – options exercised	-670,231
Total Conditional Capital as of December 31, 2018	**82,261,068**

As of December 31, 2018, the Conditional Capital was composed as follows:

in €	Ordinary shares
Conditional Capital I Fresenius AG Stock Option Plan 2003	4,735,083
Conditional Capital II Fresenius SE Stock Option Plan 2008	4,296,814
Conditional Capital III option bearer bonds and/or convertible bonds	48,971,202
Conditional Capital IV Fresenius SE & Co. KGaA Stock Option Plan 2013	24,257,969
Total Conditional Capital as of December 31, 2018	**82,261,068**

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 2018, a dividend of €0.75 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 €416 million.

TREASURY STOCK OF FRESENIUS MEDICAL CARE

In 2018, Fresenius Medical Care repurchased 431,000 ordinary shares for an amount of €37 million.

28. 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 2018 and 2017 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	44	-11	33
Change in unrealized gains/losses	6	-1	5
Realized gains/losses due to reclassifications	38	-10	28
Foreign currency translation	-1,965	26	-1,939
Positions which will not be reclassified into net income in subsequent years			
Actuarial gains/losses on defined benefit pension plans	43	-35	8
Total changes 2017	**-1,878**	**-20**	**-1,898**
Positions which will be reclassified into net income in subsequent years			
Cash flow hedges	15	-4	11
Change in unrealized gains/losses	-1	0	-1
Realized gains/losses due to reclassifications	16	-4	12
Foreign currency translation	268	-8	260
Positions which will not be reclassified into net income in subsequent years			
Change of fair value of equity investments	5	-1	4
Actuarial gains/losses on defined benefit pension plans	-62	16	-46
Total changes 2018	**226**	**3**	**229**

OTHER NOTES

29. COMMITMENTS AND CONTINGENCIES

OPERATING LEASES AND RENTAL PAYMENTS

Fresenius Group's subsidiaries lease hospitals, office and manufacturing buildings as well as machinery and equipment under various lease agreements. Rental expense recorded for operating leases for the years ended December 31, 2018 and 2017 was €1,060 million and €1,043 million, respectively.

Future minimum rental payments under non-cancellable operating leases for the years subsequent to December 31, 2018 are:

for the fiscal years	€ in millions
2019	995
2020	925
2021	821
2022	710
2023	599
Thereafter	3,339
Total	**7,389**

As of December 31, 2018, future investment commitments existed up to the year 2023 from the acquisition contracts for hospitals at projected costs of up to €255 million. Thereof €113 million relate to the year 2019.

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. For the matters described below in which the Fresenius Group believes a loss is both reasonably possible and estimable, an estimate of the loss or range of loss exposure is provided. For the other matters described below, the Fresenius Group believes that the loss probability is remote 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.

Termination of the merger agreement with Akorn, Inc.

On April 24, 2017, Fresenius announced that Fresenius Kabi has agreed to acquire Akorn, Inc. (Akorn), a U.S.-based manufacturer and marketer of prescription and over-the-counter pharmaceutical products, for approximately US$4.3 billion, or US$34 per share, plus the prevailing net debt at closing of the transaction.

Fresenius has been conducting an independent investigation, using external experts, into alleged breaches of FDA data integrity requirements relating to product development at Akorn.

Fresenius decided on April 22, 2018 to terminate the merger agreement with Akorn, due to Akorn's failure to fulfill several closing conditions.

Fresenius' decision was based on, among other factors, material breaches of FDA data integrity requirements relating to Akorn's operations found during Fresenius' independent investigation. Fresenius offered to delay its decision in order to allow Akorn additional opportunity to complete its own investigation and present any information it wished Fresenius to consider, but Akorn declined that offer.

Akorn disagreed with Fresenius' position and filed a lawsuit on April 23, 2018 purporting to enforce the merger agreement.

Fresenius filed a counterclaim on April 30, 2018. The trial of the lawsuit took place in the Delaware Court of Chancery from July 9 to 13 and on August 23, 2018.

On October 1, 2018, the Court of Chancery in the U.S. state of Delaware ruled in favor of Fresenius in the lawsuit by Akorn, Inc. against Fresenius for the consummation of the April 2017 merger agreement.

Akorn appealed on October 18, 2018 against this ruling to the Delaware Supreme Court. On December 7, 2018, the Delaware Supreme Court, being the highest court and final instance in Delaware, affirmed the ruling of the Court of Chancery in favor of Fresenius. Fresenius intends to hold Akorn liable for damages suffered as a result of lost acquisition expenses.

Fresenius Medical Care Holdings – Qui tam complaint (Massachusetts)

On February 15, 2011, a whistleblower (relator) action under the False Claims Act against Fresenius Medical Care Holdings, Inc. (FMCH) was unsealed by order of the United States District Court for the District of Massachusetts and served by the relator. United States ex rel. Chris Drennen v. Fresenius Medical Care Holdings, Inc., 2009 Civ. 10179 (D. Mass.). The relator's complaint, which was first filed under seal in February 2009, alleged that FMCH sought and received reimbursement from government payors for serum ferritin and multiple forms of hepatitis B laboratory tests that were medically unnecessary or not properly ordered by a physician. Discovery on the relator's complaint closed in May 2015. Although the United States initially declined to intervene in the case, the government subsequently changed position. On April 3, 2017, the court allowed the government to intervene with respect only to certain hepatitis B surface antigen tests performed prior to 2011, when Medicare reimbursement rules for such tests changed. The court has subsequently rejected government requests to conduct new discovery and to add counts to its complaint-in-intervention that would expand upon the relator's complaint, but has allowed FMCH to take discovery against the government as if the government had intervened at the outset.

Internal review

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's Supervisory Board, through its Audit and Corporate Governance Committee, conducted investigations with the assistance of independent counsel. In a continuing dialogue, FMC-AG & Co. KGaA voluntarily advised the Securities and Exchange Commission and the United States Department of Justice (collectively and interchangeably the government) about these investigations. The government also conducted its own investigations, in which FMC-AG & Co. KGaA cooperated.

In the course of this dialogue, FMC-AG & Co. KGaA identified and reported to the government, and took remedial actions including employee disciplinary actions with respect to, conduct that resulted in the government seeking monetary penalties and other remedies against FMC-AG & Co. KGaA and disgorgement of related profits revolving principally around conduct in FMC-AG & Co. KGaA's products business in a limited number of countries outside the United States.

FMC-AG & Co. KGaA recorded charges of €200 million in 2017 and €77 million in 2018 encompassing estimates for the government's claims for profit disgorgement, penalties, certain legal expenses, and other related costs or asset impairments believed likely to be necessary for full and final resolution, by litigation or settlement, of the claims and issues arising from the investigation. The increase recorded in 2018 took into consideration preliminary understandings with the government on the financial terms of a potential settlement. Following this increase, which takes into account incurred and anticipated legal expenses, impairments and other costs, the provision totals €224 million as of December 31, 2018.

FMC-AG & Co. KGaA has reached an agreement in principle with the government agencies encompassing the terms understood to be necessary for settlement. FMC-AG & Co. KGaA believes that the previously-recorded charge appropriately accounts for the consequences of the resolution as related to its financial statements. The agreement in principle remains subject to memorialization in fully integrated documents and final approval by authorized officials of the government and FMC-AG & Co. KGaA.

FMC-AG & Co. KGaA continues to implement enhancements to its anti-corruption compliance program, including internal controls related to compliance with international anti-bribery laws. FMC-AG & Co. KGaA continues to be fully committed to compliance with the Foreign Corrupt Practices Act and other applicable anti-bribery laws.

Product liability litigation

Personal injury litigation involving Fresenius Medical Care AG & Co. KGaA's (FMC-AG & Co. KGaA) acid concentrate product, labeled as GranuFlo® or NaturaLyte®, first arose in 2012 and was substantially resolved by settlement agreed in principle in February 2016 and consummated in November 2017, as previously disclosed. Remaining individual personal injury cases do not present material risk and discussion of them is therefore discontinued.

FMC-AG & Co. KGaA's affected insurers agreed to the settlement of the acid concentrate personal injury litigation and funded US$220 million of the settlement fund under a reciprocal reservation of rights encompassing certain coverage issues raised by insurers and FMC-AG & Co. KGaA's claims for indemnification of defense costs. FMC-AG & Co. KGaA accrued a net expense of US$60 million in connection with the settlement, including legal fees and other anticipated costs.

Following entry into the settlement, FMC-AG & Co. KGaA's insurers in the AIG group and FMC-AG & Co. KGaA each initiated litigation against the other relating to the AIG group's coverage obligations under applicable policies. In the coverage litigation, the AIG group seeks to be indemnified by FMC-AG & Co. KGaA for a portion of its US$220 million outlay; FMC-AG & Co. KGaA seeks to confirm the AIG group's US$220 million funding obligation, to recover defense costs already incurred by FMC-AG & Co. KGaA, and to compel the AIG group to honor defense and indemnification obligations, if any, required for resolution of cases not participating in the settlement. As a result of decisions on issues of venue, the coverage litigation is proceeding in the New York state trial court for Manhattan. (National Union Fire Insurance v. Fresenius Medical Care, 2016 Index No. 653108 (Supreme Court of New York for New York County)).

Four institutional plaintiffs filed complaints against Fresenius Medical Care Holdings, Inc. (FMCH) or its affiliates under state deceptive practices statutes resting on certain background allegations common to the GranuFlo®/NaturaLyte® personal injury litigation, but seeking as remedy the repayment of sums paid to FMCH attributable to the GranuFlo®/NaturaLyte® products. These cases implicate different legal standards, theories of liability and forms of potential recovery from those in the personal injury litigation and their claims were not extinguished by the personal injury litigation settlement described above. The four plaintiffs are the Attorneys General for the States of Kentucky, Louisiana and Mississippi and the commercial insurance company Blue Cross Blue Shield of Louisiana in its private capacity. State of Mississippi ex rel. Hood, v. Fresenius Medical Care Holdings, Inc., No. 14-cv-152 (Chancery Court, DeSoto County); State of Louisiana ex re. Caldwell and Louisiana Health Service & Indemnity Company v. Fresenius Medical Care Airline, 2016 Civ. 11035 (U.S.D.C. D. Mass.); Commonwealth of Kentucky ex rel. Beshear v. Fresenius Medical Care Holdings, Inc. et al., No. 16-CI-00946 (Circuit Court, Franklin County).

On September 6, 2018, a special-purpose entity organized under Delaware law for the purpose of pursuing litigation filed a Pure Bill of Discovery in a Florida county court seeking discovery from FMCH related to the personal injury settlement, but no other relief. MSP Recovery Claims Series LLC v. Fresenius Medical Care Holdings, No. 2018-030366-CA-01 (11th Judicial Circuit, Dade County, Florida). The Pure Bill was thereafter removed to federal court and transferred into the multidistrict Fresenius Granuflo®/Naturalyte® Dialysate Products Liability Litigation in Boston. No. 1:13-MD-02428-DPW (D. Mass. 2013). On February 7, 2019, the Boston court announced that it would not require FMCH to respond to the Pure Bill but allowed plaintiffs to file a pleading satisfying the requirements of a complaint under the Federal Rules of Procedure. Plaintiffs advised the court that they would file a complaint seeking monetary damages for specified payors in the health care system.

The jury trial scheduled to begin in the Kentucky case (Beshear) on January 22, 2019 was postponed. On February 12, 2019, an agreement in principle was reached to settle and resolve the state claims in exchange for FMCH's payment of US$10.3 million.

FMC-AG & Co. KGaA has additionally increased its litigation reserves to account for anticipated settlement of some, but not all, of the remaining payor cases. However, at the present time there are no agreements in principle for resolving the remaining cases and litigation through final adjudication may be required in all of them. The Mississippi case has been set for trial on September 3, 2019. There is no trial date for the Louisiana case.

Subpoena "Maryland"

In August 2014, Fresenius Medical Care Holdings, Inc. (FMCH) received a subpoena from the United States Attorney 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. FMCH is cooperating in the investigation.

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. The amount of the overpayment claimed by the State is approximately US$8 million, but the State seeks civil remedies, interest, fines, and penalties against Liberty and FMCH under the Hawaii False Claims Act substantially in excess of the overpayment. 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, which had been scheduled for April 2019, has been postponed to allow the completion of discovery and remains to be rescheduled.

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. Fresenius continues to cooperate in the Denver United States Attorney's Office (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. 6646 (E.D.N.Y. November 12, 2014). The court unsealed the complaint, allowing the relator to serve and proceed on its own. The relator, a special-purpose entity formed by law firms to pursue qui tam proceedings, has served its complaint and litigation is proceeding.

Subpoena "Fresenius Vascular Care"

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, utilization and invoicing by Fresenius Medical Care AG & Co. KGaA's (FMC-AG & Co. KGaA) subsidiary Azura Vascular Care, for a period beginning after FMC-AG & Co. KGaA's acquisition of American Access Care, LLC (AAC) in October 2011. FMC-AG & Co. KGaA has cooperated in the Brooklyn United States Attorney's Office (USAO) investigation, which is continuing. Allegations against AAC arising in districts in Connecticut, Florida and Rhode Island relating to utilization and invoicing were settled in 2015.

On October 22, 2018, the United States Attorney for the Southern District of New York (Manhattan) announced a False Claims Act settlement for up to US$18.4 million with Vascular Access Centers LP, a competitor of AAC and Azura. Simultaneously, the 2012 qui tam (whistleblower) complaint that gave rise to the investigation was unsealed. Levine v. Vascular Access Centers, 2012 Civ. 5103 (S.D.N.Y.). That qui tam complaint names as defendants, among others in the dialysis industry, subsidiaries and employees of FMC-AG & Co. KGaA engaged in the vascular access business. The Manhattan USAO did not intervene against non-settling defendants, allowing the relator to proceed on his own against those defendants. Defendants related to FMC-AG & Co. KGaA have been served and the litigation is proceeding.

Subpoena "Texas (Dallas)"

On June 30, 2016, Fresenius Medical Care Holdings, Inc. (FMCH) received a subpoena from the United States Attorney for the Northern District of Texas (Dallas) seeking information under the False Claims Act about the use and management of pharmaceuticals including Velphoro®. The investigation encompasses DaVita, Amgen, Sanofi, and other pharmaceutical manufacturers and includes inquiries into whether certain compensation transfers between manufacturers and pharmacy vendors constituted unlawful kickbacks. FMC-AG & Co. KGaA understands that this investigation is substantively independent of the US$63.7 million settlement by DaVita Rx announced on December 14, 2017 in the matter styled United States ex rel. Gallian v. DaVita Rx, 2016 Civ. 0943 (N.D. Tex.). FMCH is cooperating in the investigation.

Subpoena "New York"

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., 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 Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) to refund overpayments and to pay related penalties under applicable laws, but the monetary value of such payment demands cannot yet be reasonably estimated.

The Brooklyn United States Attorney's Office 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, FMC-AG & Co. KGaA 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 sale agreement, FMC-AG & Co. KGaA retains responsibility for the Brooklyn investigation and its outcome. FMC-AG & Co. KGaA continues to cooperate in the ongoing investigation.

Subpoena "American Kidney Fund"/ CMS Litigation

On December 14, 2016, the Center for Medicare & Medicaid Services (CMS), which administers the federal Medicare program, published an Interim Final Rule (IFR) titled "Medicare Program; Conditions for Coverage for End-Stage Renal Disease Facilities-Third Party Payment." The IFR would have amended the Conditions for Coverage for dialysis providers, like Fresenius Medical Care Holdings, Inc. (FMCH) and would have effectively enabled insurers to reject premium payments made by or on behalf of patients who received grants for individual market coverage from the American Kidney Fund (AKF or the Fund). The IFR could thus have resulted in those patients losing individual insurance market coverage. The loss of coverage for these patients would have had a material and adverse impact on the operating results of FMCH.

On January 25, 2017, a federal district court in Texas responsible for litigation initiated by a patient advocacy group and dialysis providers including FMCH preliminarily enjoined CMS from implementing the IFR. Dialysis Patient Citizens v. Burwell, 2017 Civ. 0016 (E.D. Texas, Sherman Div.). The preliminary injunction was based on CMS' failure to follow appropriate notice-and-comment procedures in adopting the IFR. The injunction remains in place and the court retains jurisdiction over the dispute.

On June 22, 2017, CMS requested a stay of proceedings in the litigation pending further rulemaking concerning the IFR. CMS stated, in support of its request, that it expects to publish a Notice of Proposed Rulemaking in the Federal Register and otherwise pursue a notice-and-comment process. Plaintiffs in the litigation, including FMCH, consented to the stay, which was granted by the court on June 27, 2017.

On January 3, 2017, Fresenius Medical Care AG & Co. KGaA (FMC-AG & Co. KGaA) received a subpoena from the United States Attorney for the District of Massachusetts under the False Claims Act inquiring into FMC-AG & Co. KGaA's interactions and relationships with the AKF, including FMC-AG & Co. KGaA's charitable contributions to the Fund and the Fund's financial assistance to patients for insurance premiums. FMCH is cooperating in the investigation, which is part of a broader investigation into charitable contributions in the medical industry. FMC-AG & Co. KGaA believes that the investigation revolves around conduct alleged to be unlawful in United Healthcare v. American Renal Associates, 2018 Civ. 10622 (D. Mass.), but believes that such unlawful conduct was not undertaken by FMCH. On July 2, 2018, American Renal Associates announced that it had reached a settlement in principle of the United Healthcare litigation. FMC-AG & Co. KGaA lacks information necessary to assess how the American Renal Associates settlement may impact the United States Attorney's investigation.

In early May 2017, the United States Attorney for the Middle District of Tennessee (Nashville) issued identical subpoenas to FMCH and two subsidiaries under the False Claims Act concerning FMC-AG & Co. KGaA's retail pharmaceutical business. The investigation is exploring allegations related to improper inducements to dialysis patients to fill oral prescriptions through FMCH's pharmacy service, improper billing for returned pharmacy products and other allegations similar to those underlying the US$63.7 million settlement by DaVita Rx in Texas announced on December 14, 2017. United States ex rel. Gallian, 2016 Civ. 0943 (N.D. Tex.). FMCH is cooperating in the investigation.

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 is cooperating in the investigation.

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) (the joint venture between Galenica (Vifor) and Fresenius Medical Care AG & Co. KGaA), 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-LPS). The patent infringement action is in response to Lupin and Teva's filings of Abbreviated New Drug Applications (ANDA) with the 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 (2.5 years) (specifically, up to July 29, 2020 for Lupin's ANDA; and August 6, 2020 for Teva's ANDA), or a shorter time if a decision in the infringement suit is reached that the patents-at-issue are invalid or not infringed. Recently, 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. A 30-month stay of FDA approval of Annora's ANDA will run through to May 30, 2021.

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 requests 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 marks the DOJ's criminal and/or civil investigation in this connection and seeks information from throughout the Fresenius Kabi group. Through an ancillary subpoena of January 2016, the DOJ has requested additional historic information and data. Through further ancillary subpoenas of June 2016 and November 2016, the DOJ has requested further information from Fresenius Kabi USA and Fresenius Kabi AG without changing the focus of the investigation. Fresenius Kabi fully cooperates with the governmental investigation. Fresenius Kabi has entered into a Tolling Agreement with the DOJ, thereby waiving its statute of limitation defense until July 2018. The Tolling Agreement was again extended by mutual agreement until July 2019.

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. It 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, 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 authorities 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. is currently engaged in remediation efforts with respect to one pending FDA warning letter, Fresenius Kabi with respect to three 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 (PD) 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 decentralized 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 PD 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.

30. FINANCIAL INSTRUMENTS

VALUATION OF FINANCIAL INSTRUMENTS

Carrying amounts of financial instruments as of the initial application of IFRS 9

The impact on the measurement categories and the measurement of financial assets and liabilities according to IFRS 9 has not been significant. The original measurement categories under IAS 39 as of December 31, 2017 and the new measurement categories according to IFRS 9 upon implementation on January 1, 2018 as well as their respective carrying amounts were as follows:

			Dec. 31, 2017	Jan. 1, 2018
€ in millions	Category according to IAS 39	Category according to IFRS 9	Carrying amount according to IAS 39	Carrying amount according to IFRS 9
Financial assets				
Cash and cash equivalents	Relating to no category	Amortized cost	1,152	1,152
	Relating to no category	Fair value through profit and loss	484	484 [3]
Trade accounts and other receivables, less allowance for doubtful accounts	Loans and receivables	Amortized cost	6,157	6,115 [1]
	Loans and receivables	Fair value through other comprehensive income	45	45 [2]
	Relating to no category	Relating to no category	58	58
Receivables from and loans to related parties	Loans and receivables	Amortized cost	17	17
Other financial assets				
Debt instruments	Available for sale financial assets	Fair value through other comprehensive income	3	3 [2]
Equity investments	Available for sale financial assets	Fair value through other comprehensive income	16	16 [2, 4]
	Loans and receivables	Fair value through other comprehensive income	54	85 [1, 2, 4]
	Loans and receivables	Fair value through profit and loss	18	18 [2]
Derivatives designated as cash flow hedging instruments	Relating to no category	Relating to no category	14	14
Derivatives not designated as hedging instruments	Financial assets measured at fair value though profit and loss	Fair value through profit and loss	321	321
Leasing receivables	Relating to no category	Relating to no category	79	79
All other financial assets	Loans and receivables	Amortized cost	622	620 [1]
Financial assets			**9,040**	**9,027**

[1] Changes in the carrying amounts from remeasurements of -€13 million are included in the items of the consolidated statement of financial position as follows: -€42 million trade accounts and other receivables, €31 million equity investments, -€2 million all other financial assets.
[2] Reclassification
[3] The option to measure debt instruments at fair value through profit and loss was not used.
[4] The option to measure equity instruments at fair value through other comprehensive income upon implementation of IFRS 9 has been exercised. The option has been used for €101 million (included in other financial assets).

€ in millions	Category according to IAS 39	Category according to IFRS 9	Dec. 31, 2017 Carrying amount according to IAS 39	Jan. 1, 2018 Carrying amount according to IFRS 9
Financial liabilities				
Trade accounts payable	Financial liabilities measured at amortized cost	Amortized cost	1,688	1,688
Short-term accounts payable to related parties	Financial liabilities measured at amortized cost	Amortized cost	42	42
Short-term debt	Financial liabilities measured at amortized cost	Amortized cost	1,550	1,550
Short-term debt from related parties	Financial liabilities measured at amortized cost	Amortized cost	–	–
Long-term debt and capital lease obligations	Financial liabilities measured at amortized cost	Amortized cost	6,871	6,871
	Relating to no category	Relating to no category	234	234
Bonds	Financial liabilities measured at amortized cost	Amortized cost	9,069	9,069
Convertible bonds	Financial liabilities measured at amortized cost	Amortized cost	1,318	1,318
Other financial liabilities				
Noncontrolling interest subject to put provisions	Relating to no category	Relating to no category	854	854
Derivatives in cash flow hedging relationships	Relating to no category	Relating to no category	9	9
Derivatives not designated as hedging instruments	Liabilities measured at fair value through profit and loss	Fair value through profit and loss	325	325
Accrued contingent payments outstanding for acquisitions	Liabilities measured at fair value through profit and loss	Fair value through profit and loss	793	793
All other financial liabilities	Financial liabilities measured at amortized cost	Amortized cost	2,965	2,965
Financial liabilities			**25,718**	**25,718**

As of January 1, 2018, the adjustments due to the initial application of IFRS 9 on the components of shareholders' equity were as follows:

€ in millions	Other reserves	Noncontrolling interest	Total
Remeasurement of equity investments due to reclassification	24	7	31
Remeasurement of the allowance for bad debt for trade accounts and other receivables and other financial assets	-39	-5	-44
Deferred tax on adjustments	-4	-2	-6
Total	**-19**	**–**	**-19**

Carrying amounts of financial instruments as of December 31, 2018

As of December 31, 2018, the carrying amounts of financial instruments by item of the statement of financial position and structured according to IFRS 9 categories were as follows:

€ in millions	Carrying amount	Amortized cost	Fair value through profit and loss [1]	Fair value through other comprehensive income [2]	Relating to no category: Derivatives designated as cash flow hedging instruments at fair value	Relating to no category: Noncontrolling interest subject to put provisions measured at fair value	Relating to no category: Valuation according to IAS 17 for leasing receivables and liabilities
Financial assets							
Cash and cash equivalents	2,709	1,291	1,418				
Trade accounts and other receivables, less allowance for doubtful accounts	6,540	6,445	4	41			50
Accounts receivable from and loans to related parties	29	29					
Other financial assets [3]	1,490	726	262	375	19		108
Financial assets	**10,768**	**8,491**	**1,684**	**416**	**19**	**0**	**158**
Financial liabilities							
Trade accounts payable	1,823	1,823					
Short-term accounts payable to related parties	67	67					
Short-term debt	2,354	2,354					
Short-term debt from related parties	–	–					
Long-term debt and capital lease obligations	6,297	6,078					219
Bonds	8,990	8,990					
Convertible bonds	1,343	1,343					
Other financial liabilities [4]	4,685	3,041	793		12	839	
Financial liabilities	**25,559**	**23,696**	**793**	**0**	**12**	**839**	**219**

[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 upon implementation of IFRS 9 has been exercised. The option has been used for €124 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.

During the fiscal year 2018, 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 according to IFRS 13 as of December 31, 2018 and as of January 1, 2018:

	December 31, 2018				January 1, 2018			
		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]	**1,418**	**1,418**			484	484		
Trade accounts and other receivables, less allowance for doubtful accounts [1]	**45**		**45**		45		45	
Other financial assets [1]								
Debt instruments	**334**	**330**	**4**		3		3	
Equity investments	**245**	**14**	**231**		119	16	103	
Derivatives designated as cash flow hedging instruments	**19**		**19**		14		14	
Derivatives not designated as hedging instruments	**58**		**58**		321		321	
Financial liabilities								
Long-term debt and capital lease obligations	**6,297**		**6,294**		7,105		7,154	
Bonds	**8,990**	**9,245**			9,069	9,707		
Convertible bonds	**1,343**	**1,416**			1,318	1,716		
Other financial liabilities [1]								
Noncontrolling interest subject to put provisions	**839**			**839**	854			854
Accrued contingent payments outstanding for acquisitions	**731**			**731**	793			793
Derivatives designated as cash flow hedging instruments	**12**		**12**		9		9	
Derivatives not designated as hedging instruments	**62**		**62**		325		325	

[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).

The fair values of equity investments are based on observable market information (Level 2). 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. Financial instruments 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 noncontrolling interest subject to put provisions is determined using significant unobservable inputs (Level 3). The method for calculating the fair value is described in note 1. III. q, Financial instruments. 97.6% of noncontrolling interest subject to put provisions applied to Fresenius Medical Care at December 31, 2018.

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 year 2018:

€ in millions	Accrued contingent payments outstanding for acquisitions	Noncontrolling interest subject to put provisions
As of January 1, 2018	**793**	**854**
Additions	35	54
Disposals	-81	-51
Gain/loss recognized in profit or loss	-27	142
Gain/loss recognized in equity	12	-50
Dividend payments	0	-140
Currency effects and other changes	-1	30
As of December 31, 2018	**731**	**839**

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 analyses 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 based on price quotations.

The calculation of the fair value of derivative financial instruments is based on other observable inputs. 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, 2018		December 31, 2017	
€ in millions	**Assets**	**Liabilities**	Assets	Liabilities
Interest rate contracts (current)	**0**	**–**	0	0
Interest rate contracts (non-current)	**5**	**0**	5	1
Foreign exchange contracts (current)	**14**	**12**	9	8
Foreign exchange contracts (non-current)	**–**	**0**	–	–
Derivatives in cash flow hedging relationships	**19**	**12**	14	9
Interest rate contracts (current)	**0**	**0**	0	–
Interest rate contracts (non-current)	**0**	**–**	0	–
Foreign exchange contracts (current)	**7**	**11**	13	17
Foreign exchange contracts (non-current)	**–**	**–**	–	0
Derivatives embedded in the convertible bonds	**0**	**51**	0	308
Call options to secure the convertible bonds	**51**	**0**	308	0
Derivatives not designated as hedging instruments	**58**	**62**	321	325

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, 2018 and December 31, 2017, the Fresenius Group had €25 million and €27 million of derivative financial assets subject to netting arrangements and €22 million and €25 million of derivative financial liabilities subject to netting arrangements. Offsetting these derivative financial instruments would have resulted in net assets of €15 million and €17 million as well as net liabilities of €12 million and €15 million at December 31, 2018 and December 31, 2017, respectively.

The following table shows when the cash flow from derivative financial instruments is expected to occur.

CASH FLOW FROM DERIVATIVE FINANCIAL INSTRUMENTS

	expected in period of			
€ in millions	1 year	1 to 3 years	3 to 5 years	over 5 years
Interest rate contracts	2	3	0	0
Foreign exchange contracts	3	–	0	0
Derivatives in cash flow hedging relationships	**5**	**3**	**0**	**0**
Interest rate contracts	–	–	–	0
Foreign exchange contracts	-5	–	0	0
Derivatives not designated as hedging instruments	**-5**	**–**	**–**	**0**

Effects of financial instruments recorded in the consolidated statement of income

The net gains and losses from financial instruments consisted of allowances for doubtful accounts and other receivables in an amount of €33 million and foreign currency transactions of -€23 million. Interest income of €355 million resulted mainly from the valuation of the derivatives embedded in the convertible bonds of Fresenius SE & Co. KGaA and of Fresenius Medical Care AG & Co. KGaA, trade accounts and other receivables and loans to related parties. Interest expense of €942 million resulted mainly from financial liabilities, which are not recognized at fair value in the consolidated statement of income.

Income and expense from financial instruments recorded in other comprehensive income (loss) related solely to derivatives in cash flow hedging relationships. The changes of cash flow hedges on the consolidated statement of comprehensive income (loss) before tax for the years 2018 and 2017 are as follows:

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

	2018				
	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	–	23			Interest income/expense
Foreign exchange contracts	6	-9	-7	2	
thereof		–		–	Sales
		-8		2	Cost of sales
		-1		–	General and administrative expenses
		–		–	Other operating income/expenses
		0		–	Interest income/expense
		–		–	Inventories
Derivatives in cash flow hedging relationships	**6**	**14**	**-7**	**2**	

[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.

	2017		
€ in millions	Gain or loss recognized in other comprehensive income (loss) (effective portion)	Gain or loss reclassified from accumulated other comprehensive income (loss) (effective portion)[2]	Affected line item in the consolidated statement of income
Interest rate contracts	–	36	Interest income/expense
Foreign exchange contracts	6	2	
thereof		1	Cost of sales
		1	Selling expenses, general and administrative expenses
Derivatives in cash flow hedging relationships[1]	**6**	**38**	

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

In accordance with IFRS 9, both the fair value of the spot element and the forward points are recorded within other comprehensive income (loss). According to IAS 39, the fair value of the spot element and the forward points were recorded together in other comprehensive income (loss). This results in the different schematic presentations above.

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

For all cash flow hedges, except for foreign currency risk associated with forecast 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 forecast 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	**2018**	2017	Affected line item in the consolidated statement of income
Interest rate contracts	**–**	–	Interest income/expense
Foreign exchange contracts	**41**	-21	Other operating income/expense
Foreign exchange contracts	**–**	-6	Interest income/expense
Derivatives embedded in the convertible bonds	**257**	116	Interest income/expense
Call options to secure the convertible bonds	**-257**	-116	Interest income/expense
Derivatives not designated as hedging instruments	**41**	-27	

Losses from foreign exchange contracts not designated as hedging instruments recognized in the consolidated statement of income are faced by 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 mainly 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 highly rated financial institutions as authorized by the Management Board. 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 generally implemented by means of micro hedges.

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 enters into foreign exchange forward contracts and, on a small scale, foreign exchange options. To ensure that no foreign exchange risks result from 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 -€2 million and in relation with loans in foreign currencies €5 million.

As of December 31, 2018, the notional amounts of foreign exchange contracts totaled €3,301 million. Thereof €3,299 million were due in less than 12 months. As of December 31, 2018, the Fresenius Group was party to foreign exchange contracts with a maximum maturity of 18 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 of the preceding 250 business 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, 2018, the Fresenius Group's cash flow at risk amounted to €66 million based on a net exposure of €1,882 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 €66 million.

The following table shows the average hedging rates and nominal amounts of foreign exchange contracts for material currency pairs at December 31, 2018.

	Nominal amount in € millions	Average hedging rate
Euro / U.S. dollar	750	1.1847
Euro / Australian dollar	188	1.6149
Euro / Chinese renminbi	158	7.9792

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 enters into interest rate swaps and, on a small scale, into interest rate options in order to protect against the risk of rising interest rates. These interest rate derivatives are mainly 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, 2018, euro denominated interest rate swaps had a notional volume of €206 million. Thereof €204 million were due in less than 12 months. The fair value was -€0.6 thousand. The euro interest rate swaps expire in the years 2019 to 2022. They bear an average interest rate of 0.37%. Furthermore, the Fresenius Group had U.S. dollar denominated interest rate swaps in the amount of US$200 million (€175 million) with a fair value of US$6 million (€5 million). They expire in 2021 and bear an average interest rate of 1.22%.

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, 2018 and December 31, 2017, the Fresenius Group had a loss of €3 million and €19 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 1.0% on the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA and an effect of less than 1.0% on Fresenius SE & Co. KGaA shareholders' equity.

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 fails to meet its obligations as the counterparties are highly rated financial institutions. The maximum credit exposure of derivatives is represented by the fair value of those contracts with a positive fair value amounting to €21 million for foreign exchange derivatives. The maximum credit exposure from interest rate derivatives was €5 million. 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 the aging analysis and on the allowance for doubtful accounts, please see note 15, 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 borrowings are sufficient to meet the company's foreseeable demand for liquidity (see note 22, Debt and capital lease obligations).

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

€ in millions	up to 1 year	1 to 3 years	3 to 5 years	more than 5 years
Long-term debt and capital lease obligations (including accounts receivable securitization program)[1]	483	2,759	2,615	938
Short-term debt	2,367	0	0	0
Bonds	2,057	2,931	1,780	3,445
Convertible bonds	505	402	0	500
Trade accounts payable	1,823	0	0	0
Other financial liabilities	3,094	7	1	5
Contingent payments outstanding for acquisitions	178	256	124	218
Noncontrolling interest subject to put provisions	494	204	66	108
Derivative financial instruments – designated as cash flow hedge	12	0	0	0
Derivative financial instruments – not designated as hedging instruments	35	12	–	15
Total	**11,048**	**6,571**	**4,586**	**5,229**

[1] Future interest payments for financial liabilities with variable interest rates were calculated using the latest interest rates fixed prior to December 31, 2018.

31. SUPPLEMENTARY INFORMATION ON CAPITAL MANAGEMENT

The Fresenius Group has a solid financial profile. Capital management includes both equity and debt. A principal objective of Fresenius Group's capital management is to optimize the weighted-average cost of capital. Further, it is sought to achieve a balanced mix of equity and debt. To secure growth on a long-term basis, a capital increase may also be considered in exceptional cases, for instance to finance a major acquisition.

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, i. e. the employment of an extensive mix of financial instruments. Moreover, Fresenius Group's customers are generally of high credit quality.

Shareholders' equity and debt have developed as follows:

SHAREHOLDERS' EQUITY

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Shareholders' equity	**25,008**	21,720
Total assets	**56,703**	53,133
Equity ratio	**44.1%**	40.9%

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 2008 and 2013 stock option plans (see note 34, Share-based compensation plans).

DEBT

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Debt	**18,984**	19,042
Total assets	**56,703**	53,133
Debt ratio	**33.5%**	35.8%

Assuring financial flexibility is the top priority in the Group's financing strategy. This flexibility is achieved through a wide range of financing instruments and a high degree of diversification of the investors. 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, 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, 2018, the leverage ratio (before special items) was 2.7.

Fresenius Group's financing strategy is reflected in its 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

	Dec. 31, 2018	Dec. 31, 2017
Standard & Poor's		
Corporate Credit Rating	**BBB-**	BBB-
Outlook	**positive**	positive
Moody's		
Corporate Credit Rating	**Baa3**	Baa3
Outlook	**stable**	stable
Fitch		
Corporate Credit Rating	**BBB-**	BBB-
Outlook	**stable**	stable

32. SUPPLEMENTARY INFORMATION ON THE CONSOLIDATED STATEMENT OF CASH FLOWS

The consolidated statements of cash flows of the Fresenius Group for the fiscal years 2018 and 2017 are shown on pages 166 and 167.

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 2018, Fresenius Helios has used subsidies for investments in property, plant and equipment in the amount of €133 million (2017: €114 million), that were offset in purchase of property, plant and equipment in the consolidated statement of cash flows.

Cash paid for acquisitions (without investments in licenses) consisted of the following:

€ in millions	2018	2017
Assets acquired	**513**	8,220
Liabilities assumed	**-39**	-1,287
Noncontrolling interest	**-57**	-103
Notes assumed in connection with acquisitions	**-17**	-163
Issuance of shares	**0**	-400
Cash paid	**400**	6,267
Cash acquired	**-5**	-22
Cash paid for acquisitions, net	**395**	6,245
Cash paid for investments, net of cash acquired	**590**	18
Cash paid for intangible assets, net	**85**	26
Total cash paid for acquisitions and investments, net of cash acquired, and net purchases of intangible assets	**1,070**	6,289

In 2018, €480 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 €1,533 million in 2018 (2017: €153 million).

The following table shows a reconciliation of debt to cash flow from financing activities in 2018 and 2017:

		cash-effective changes	non-cash-effective changes					
€ in millions	Jan. 1, 2018	Cash flow	Assumed as part of acquisitions	Foreign currency translation	Depreciation on financing costs	New lease contracts	Other	**Dec. 31, 2018**
Short-term debt	1,550	762	4	-3	0	0	41	**2,354**
Long-term debt and capital lease obligations, less accounts receivable securitization program	6,811	-651	6	111	10	9	1	**6,297**
Bonds	9,069	-245	0	145	12	0	9	**8,990**
Convertible bonds	1,318	0	0	0	25	0	0	**1,343**
Accounts receivable securitization program	294	-299	0	5	0	0	0	**0**

		cash-effective changes	non-cash-effective changes					
€ in millions	Jan. 1, 2017	Cash flow	Assumed as part of acquisitions	Foreign currency translation	Depreciation on financing costs	New lease contracts	Other	**Dec. 31, 2017**
Short-term debt	847	722	-5	-13	0	0	-1	**1,550**
Long-term debt and capital lease obligations, less accounts receivable securitization program	5,494	1,230	303	-405	9	12	168	**6,811**
Bonds	7,414	2,164	0	-463	18	0	-64	**9,069**
Convertible bonds	854	500	0	0	24	0	-60	**1,318**
Accounts receivable securitization program	165	157	0	-28	0	0	0	**294**

33. NOTES ON THE CONSOLIDATED SEGMENT REPORTING

GENERAL

The consolidated segment reporting tables shown on pages 170 to 171 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, 2018.

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
- Corporate/Other

The segment Corporate/Other is mainly comprised of the holding functions of Fresenius SE & Co. KGaA as well as Fresenius Netcare GmbH, which provides services in the field of information technology. In addition, the segment Corporate/Other includes intersegment consolidation adjustments as well as special items (see note 3, Special items).

Details on the business segments are shown on page 173 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. The EBITDA figure is also the basis for assessing Fresenius Group's compliance with the terms of its credit agreements (e.g. the Fresenius Medical Care Credit Agreement or the Fresenius Credit Agreement).

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 interest.

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, capital lease obligations, liabilities relating to outstanding acquisitions as well as intercompany liabilities.

Capital expenditure mainly includes additions to property, plant and equipment.

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	2018	2017
Total EBIT of reporting segments	**4,607**	4,867
Special items	**690**	-241
General corporate expenses Corporate/Other (EBIT)	**-46**	-37
Group EBIT	**5,251**	4,589
Interest expenses	**-942**	-874
Interest income	**355**	207
Income before income taxes	**4,664**	3,922

RECONCILIATION OF NET DEBT WITH THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Short-term debt	**2,354**	1,550
Short-term debt from related parties	**–**	–
Current portion of long-term debt and capital lease obligations	**353**	618
Current portion of bonds	**1,744**	731
Current portion of convertible bonds	**493**	0
Long-term debt and capital lease obligations, less current portion	**5,944**	6,487
Bonds, less current portion	**7,246**	8,338
Convertible bonds, less current portion	**850**	1,318
Debt	**18,984**	19,042
less cash and cash equivalents	**2,709**	1,636
Net debt	**16,275**	17,406

The following table shows the non-current assets by geographical region:

€ in millions	Dec. 31, 2018	Dec. 31, 2017
Germany	**9,212**	8,922
Spain	**6,225**	6,086
Europe (excluding Germany and Spain)	**2,914**	2,872
North America	**19,033**	18,452
Asia-Pacific	**1,951**	1,893
Latin America	**701**	648
Africa	**48**	50
Total non-current assets [1]	**40,084**	38,923

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

In 2018, the Fresenius Group generated sales of €7,359 million (2017: €7,192 million) in Germany. Sales in the United States were €13,652 million at actual rates (2017: €14,894 million) and €14,272 million in constant currency in 2018.

In 2018, the segment Fresenius Medical Care generated other sales in the amount of €314 million, Fresenius Kabi €5 million and Fresenius Vamed €5 million. All other sales are sales from contracts with customers.

34. SHARE-BASED COMPENSATION PLANS

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

In 2018, the Fresenius Group recognized compensation cost in an amount of €35 million for stock options granted since 2014. 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 2018, the Fresenius Group recognized expenses of -€7 million (income) in connection with cash-settled share-based payment transactions.

FAIR VALUE OF STOCK OPTIONS

The Fresenius Group uses a binomial option pricing model in determining the fair value of stock options granted under the stock option plans of Fresenius SE & Co. KGaA and Fresenius Medical Care AG & Co. KGaA. Option valuation models require the input of highly subjective assumptions including expected stock price volatility. Fresenius Group's assumptions are based upon its past experiences, market trends and the experiences of other entities of the same size and in similar industries. To incorporate the effects of expected early exercise in the model, an early exercise of vested options was assumed as soon as the share price exceeds 150% of the exercise price. Fresenius Group's stock options have characteristics that vary significantly from traded options and changes in subjective assumptions can materially affect the fair value of the option.

The weighted-average assumptions for the calculation of the fair value of grants of the Fresenius SE & Co. KGaA Stock Option Plan 2013 made during 2017 are as follows:

€ in millions	2017 July Grant	2017 December Grant
Expected dividend yield	1.25%	1.39%
Risk-free interest rate	0.26%	0.13%
Expected volatility	21.91%	21.69%
Life of options	8 years	8 years
Exercise price per option in €	74.77	64.69

The expected volatility results from the historical volatility calculated over the expected life of options. The volatility was determined when the fair value of stock options was calculated for the first time and since then has been controlled every year upon issuance of a new tranche.

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, 2018, Fresenius SE & Co. KGaA had three share-based compensation plans in place: the stock option based Fresenius SE Stock Option Plan 2008 (2008 Plan), 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. On June 30, 2017, the term of the options granted under the Fresenius AG Stock Option Plan 2003 expired. 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 new 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 re-invested 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.

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 have 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. The performance targets for 2013, 2014, 2015, 2016, 2017 and 2018 were met.

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 stock can be granted on each stock option grant date. Phantom stock 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 were 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. The performance targets for 2013, 2014, 2015, 2016, 2017 and 2018 were met.

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 stock will be deemed to be exercised and cashed out on March 1 following the end of the waiting period (or the following banking day).

The last phantom stocks were granted in 2017.

Stock Option Plan 2008

During 2008, Fresenius SE adopted the 2008 Plan to grant subscription rights to members of the Management Board and executive employees of the company and affiliated companies. Under the 2008 Plan, originally, up to 6.2 million options could be issued, which carried the entitlement to exclusively obtain 6.2 million ordinary shares.

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 maximum number of ordinary shares to be issued increased accordingly. The exercise price was reduced proportionally.

The options granted have a seven-year term but can be exercised only after a three-year vesting period. The vesting of options granted is mandatorily subject to the condition, in each case, that the annual success target within the three-year vesting period is achieved. For each such year, the success target is achieved if the consolidated net income attributable to shareholders of Fresenius SE & Co. KGaA, adjusted for extraordinary effects, has increased by at least 8% compared to the respective adjusted net income attributable to shareholders of Fresenius SE & Co. KGaA of the previous fiscal year. For each year in which the success target has not been met, one-third of the options granted shall forfeit. The adjusted net income attributable to shareholders of Fresenius SE & Co. KGaA was calculated on the basis of the calculation method of the accounting principles according to U.S. GAAP. For the purposes of the 2008 Plan, the adjusted net income attributable to shareholders of Fresenius SE & Co. KGaA was determined and verified with binding effect by Fresenius SE & Co. KGaA's auditor during the audit of the consolidated financial statements. The performance targets were met in all years. If all conditions are fulfilled, stock options may be exercised throughout the year with the exception of certain pre-determined blackout periods.

This stock incentive plan was replaced by the 2013 SOP. The last options were granted in 2012.

Transactions during 2018

In 2018, Fresenius SE & Co. KGaA awarded 554,416 performance shares under the LTIP 2018, the total fair value at the grant date being €37 million, including 133,434 performance shares or €9 million awarded to the members of the Management Board of Fresenius Management SE. The fair value per performance share at the grant date was €67.45.

During the fiscal year 2018, Fresenius SE & Co. KGaA received cash of €44 million from the exercise of 1,514,681 stock options. The average stock price of the ordinary share at the exercise date was €67.72.

At December 31, 2018, out of 849,127 outstanding and exercisable stock options issued under the 2008 Plan, 85,140 were held by the members of the Fresenius Management SE Management Board. Out of 9,083,216 outstanding stock options issued under the 2013 LTIP, 2,685,854 were exercisable at December 31, 2018. The members of the Fresenius Management SE Management Board held 1,434,375 stock options. 930,998 phantom stocks issued under the 2013 LTIP were outstanding at December 31, 2018. The members of the Fresenius Management SE Management Board held 173,052 phantom stocks. At December 31, 2018, the Management Board members of Fresenius Management SE held 133,434 performance shares and employees of Fresenius SE & Co. KGaA held 417,347 performance shares under the LTIP 2018.

Stock option transactions are summarized as follows:

Ordinary shares Dec. 31	Number of options	Weighted-average exercise price in €	Number of options exercisable
Balance 2016	**10,900,276**	**43.42**	**2,844,263**
Granted	2,401,984	74.64	
Exercised	1,393,926	23.95	
Forfeited	145,185	50.32	
Balance 2017	**11,763,149**	**52.02**	**3,186,239**
Exercised	1,514,681	29.12	
Forfeited	316,125	63.19	
Balance 2018	**9,932,343**	**55.15**	**3,534,981**

The following table provides a summary of fully vested options outstanding and exercisable for ordinary shares at December 31, 2018:

OPTIONS FOR ORDINARY SHARES

	Options outstanding			Options exercisable		
Range of exercise price 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 €
25.01 – 30.00	849,127	0.52	26.24	849,127	0.52	26.24
30.01 – 35.00	1,138,820	2.63	32.27	1,138,820	2.63	32.27
35.01 – 40.00	1,547,034	3.58	36.92	1,547,034	3.58	36.92
60.01 – 65.00	1,989,090	4.62	60.70	0		
65.01 – 70.00	2,143,413	5.57	66.05	0		
70.01 – 75.00	2,264,859	6.58	74.77	0		
	9,932,343	**4.53**	**55.15**	**3,534,981**	**2.54**	**32.86**

At December 31, 2018, the aggregate intrinsic value of exercisable options for ordinary shares was €34 million.

At December 31, 2018, total unrecognized compensation cost related to non-vested options granted under the 2013 LTIP was €34 million. This cost is expected to be recognized over a weighted-average period of 2.0 years.

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

At December 31, 2018, 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 Plan 2016

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) 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, the Management Board and the Supervisory Board of Fresenius Medical Care Management AG have approved and adopted the FMC-AG & Co. KGaA Long-Term Incentive Plan 2016 (LTIP 2016) as a successor program effective January 1, 2016.

The LTIP 2016 is a variable compensation program with long-term incentive effects. Pursuant to the LTIP 2016, the plan participants may be granted so-called performance shares annually or semiannually during 2016 to 2018. 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 pre-defined performance targets further defined below as well as FMC-AG & Co. KGaA's share price development.

For members of the Management Board, the Supervisory Board will, in due exercise of its discretion and taking into account the individual responsibility and performance of each Management Board member, determine an initial value for each grant for any awards to Management Board members. For plan participants other than the members of the Management Board, such determination will be made by the Management Board. The initial grant value is determined in the currency in which the respective participant receives their base salary at the time of grant. In order to determine the number of performance shares each plan participant receives, their respective grant value will be divided by the value per performance share at the time of the grant, 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 grant date.

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

Revenue, net income and ROIC are determined according to IFRS in euro based on full year results. Revenue growth and net income growth, for the purpose of this plan, are determined at constant currency.

An annual target achievement level of 100% will be reached for the revenue growth performance target if revenue growth is 7% in each individual year of the three-year performance period; 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 the 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.

An annual target achievement level of 100% for the net income growth performance target will be reached if net income growth is 7% in each individual year of the three-year performance period. In the 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.

With regard to ROIC improvement, an annual target achievement level of 100% will be reached if the target ROIC as defined for the respective year is reached. In 2016, the target ROIC was 7.3% and will increase by 0.2% each subsequent year until 2020. A target achievement level of 0% will be reached if the ROIC falls below the target ROIC for the respective 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 is equal 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 respective performance period.

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%.

The number of performance shares granted 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.

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

Fresenius Medical Care AG & Co. KGaA Long-Term Incentive Program 2011

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 are subject to a four-year vesting period. Vesting of the awards granted is 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, each of which can be exercised to obtain one ordinary 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 entitle the holders to receive payment in euro from FMC-AG & Co. KGaA upon exercise of the phantom stock. The payment per phantom share in lieu of the issuance of such stock shall be 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 have a five-year term and can be exercised for the first time after a four-year vesting period. For participants who are U.S. tax payers, the phantom stock is deemed to be exercised in any event in the month of March following the end of the vesting period.

Transactions during 2018

During 2018, under the LTIP 2016, FMC-AG & Co. KGaA awarded 632,804 performance shares, including 73,315 performance shares awarded to the members of the Management Board of FMC Management AG at a measurement date weighted-average fair value of €51.99 each and a total fair value of €33 million, which will be revalued if the fair value changes. The total fair value will be amortized over the four-year vesting period.

During 2018, FMC-AG & Co. KGaA received cash of €44 million from the exercise of stock options. The intrinsic value of stock options exercised in 2018 was €29 million. In connection with cash-settled share-based payment transactions under the LTIP 2011 and the LTIP 2016, FMC-AG & Co. KGaA recognized compensation expense of -€5 million (income) and €60 million for the years ending December 31, 2018 and 2017, respectively.

At December 31, 2018, the Management Board members of FMC Management AG held 602,389 stock options and employees of FMC-AG & Co. KGaA held 3,294,189 stock options under the various stock-based compensation plans of Fresenius Medical Care.

At December 31, 2018, the Management Board members of FMC Management AG held 54,711 phantom stocks and employees of FMC-AG & Co. KGaA held 581,816 phantom stocks under the LTIP 2011.

At December 31, 2018, the Management Board members of FMC Management AG held 204,693 performance shares and employees of FMC-AG & Co. KGaA held 1,570,813 performance shares under the LTIP 2016.

The table below provides reconciliations for options outstanding at December 31, 2018 as compared to December 31, 2017:

	Number of options in thousands	Weighted-average exercise price in €
Balance at December 31, 2017 (options for ordinary shares)	**4,827**	**65.67**
Exercised	859	50.67
Forfeited	72	72.45
Balance at December 31, 2018 (options for ordinary shares)	**3,896**	**68.85**

At December 31, 2018, total unrecognized compensation cost related to non-vested options granted under all plans was €3 million. This cost is expected to be recognized over a weighted-average period of one year.

35. RELATED PARTY TRANSACTIONS

Until December 31, 2017, Dr. Dieter Schenk, deputy chairman of the Supervisory Board of Fresenius Management SE, was a partner in the international law firm Noerr LLP, which provides legal services to the Fresenius Group. In 2017, after discussion and approval of each mandate by the Supervisory Board of Fresenius Management SE, the Fresenius Group paid about €2.9 million to this law firm for legal services rendered.

In 2018, €12 million (2017: €13 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, 2018, there were outstanding liabilities payable to Fresenius Management SE in the amount of €38 million (December 31, 2017: €40 million), consisting mainly of pension obligations and Management Board compensation. The aforementioned payments are net amounts. In addition, VAT and insurance tax were paid.

Fresenius Medical Care has entered into exclusive supply agreements to purchase certain pharmaceuticals from its equity method investee Vifor Fresenius Medical Care Renal Pharma Ltd. Under the terms of a certain unconditional purchase agreement, Fresenius Medical Care is obligated to purchase approximately €2.2 billion of pharmaceuticals, of which €305 million is committed at December 31, 2018 for 2019. The term of this agreement runs until 2025.

36. SUBSEQUENT EVENTS

There have been no significant changes in the Fresenius Group's operating environment following the end of the fiscal year 2018 until February 19, 2019. 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.

NOTES IN ACCORDANCE WITH THE GERMAN COMMERCIAL CODE (HGB)

37. COMPENSATION OF THE MANAGEMENT BOARD AND THE SUPERVISORY BOARD

Individualized information regarding the compensation of the members of the Management Board and of the Supervisory Board is disclosed in the audited Compensation Report (see page 146 ff.), which is part of the Group Management Report.

The compensation of the Management Board is, as a whole, performance-based and geared towards promoting sustainable corporate development. It is composed of three 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 €15,760 thousand (2017: €14,378 thousand). Thereof, €6,051 thousand (2017: €5,407 thousand) is not performance-based and €9,709 thousand (2017: €8,971 thousand) is performance-based. The amount of the performance-based compensation depends on the achievement of targets relating to the net income of the Fresenius Group and business segments. As a long-term incentive component, the members of the Management Board received performance shares in the equivalent value of €11,391 thousand.

The total compensation of the Management Board was €27,322 thousand (2017: €24,664 thousand).

The total compensation paid to the Supervisory Boards of Fresenius SE & Co. KGaA and Fresenius Management SE and their committees was €5,185 thousand in 2018 (2017: €5,365 thousand). Of this amount, €2,775 thousand was fixed compensation (2017: €226 thousand), €160 thousand was compensation for committees services (2017: €100 thousand), and €2,250 thousand was variable compensation (2017: €5,039 thousand).

In 2018, based on pension commitments to former members of the Management Board, €1,101 thousand (2017: €1,099 thousand) was paid. The pension obligation for these persons amounted to €22,319 thousand in 2018 (2017: €21,848 thousand).

In the fiscal years 2018 and 2017, no loans or advance payments of future compensation components were made to members of the Management Board of Fresenius Management SE.

38. AUDITOR'S FEES

In 2018 and 2017, fees for the auditor KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin (KPMG), and its affiliates were expensed as follows:

	2018		2017	
€ in millions	Total	Germany	Total	Germany
Audit fees	18	7	19	7
Audit-related fees	3	3	2	2
Tax consulting fees	1	–	1	–
Other fees	2	0	2	1
Total auditor's fees	**24**	**10**	24	10

The leading auditor has been responsible for the audit of the consolidated financial statements since 2018.

In the fiscal year 2018, both worldwide and in Germany, audit-related fees and other fees mainly related to the review of quarterly financial statements and audit services in connection with financing activities.

39. 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).

40. 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 2018 of Fresenius SE & Co. KGaA are distributed as follows:

in €	
Payment of a dividend of €0.80 per bearer ordinary share on the 556,225,154 ordinary shares entitled to dividend	444,980,123.20
Balance to be carried forward	936,346.29
Retained earnings	**445,916,469.49**

41. 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 19, 2019

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

The Management Board

S. Sturm	Dr. F. De Meo	R. Empey	Dr. J. Götz
M. Henriksson	R. Powell	Dr. E. Wastler	