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Vaillant GmbH	Accounting /	Consolidated financial statements for the business	December 18, 2020
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Vaillant GmbH

Remscheid

Consolidated financial statements for the business year from 01/01/2019 to 12/31/2019

01 COMBINED MANAGEMENT REPORT

- Sales increased to 2,621 million euros (compared to previous year +5 percent; currency-adjusted +6 percent)
- Operating profit (EBIT) of 239 million euros (compared to previous year +8 percent) and consolidated net income of 170 million euros (compared to previous year +6 percent)
- Free cash flow improved to EUR 187 million (previous year EUR 24 million)
- Strong sales growth with gas appliances in our European core markets, in the heat pumps product segment and in the growth market of China

Outlook for 2020

Moderate increase in sales and operating profit (EBIT) at the level of the 2019 financial year - subject to significant exchange rate fluctuations - expected.

Foundations of the group

BUSINESS MODEL

The Vaillant Group has been a purely family business since the company was founded in 1874. To this day, the owners take responsibility for the successful alignment of the company with the goal of sustainable and profitable growth. This is traditionally in line with the consistent orientation towards social and ecological standards.

The Vaillant Group is a leading international provider of heating, ventilation and air conditioning technology. The company has eight international heating technology brands: Vaillant, Saunier Duval, AWB, Bulex, DemirDöküm, Glow-worm, Hermann Saunier Duval and Protherm. From development to production to sales and subsequent customer service, the Vaillant Group has a closed value chain. The core business focuses on efficient and energy-saving heating devices based on natural gas as well as technologies for the use of renewable energies. The product portfolio includes all essential technologies for building supply. These include condensing and heating value devices, heat pumps, ventilation systems, Control technology, heat storage, thermal solar systems and photovoltaic systems, battery storage as well as gas and electric water heaters, air conditioning units and radiators. The Vaillant Group also offers coordinated systems that combine several energy sources and technical components from a single source.

In addition to the product business, services are another focus of business activity. Commissioning, repairs, maintenance and training, technical support from specialist partners and ensuring maximum availability of spare parts are just as much a part of this as warranty extensions, digitally networked services and internet-based applications.

The business activity is mainly concentrated in Europe as well as the countries China, Russia and Turkey. The Vaillant Group has branches in more than 20 countries and exports products to over 60 countries.

The Vaillant Group generally distributes its products in three stages. Direct customers within the distribution chain are wholesalers for sanitary and heating technology. Customers at further levels of the sales chain include plumbers and specialist tradesmen, companies in the construction and housing industry, architects and planners as well as private property owners.

The Vaillant Group manufactures products at seven locations in Europe, one in Turkey and one in China. The production includes the manufacture of all performance and quality-relevant core components as well as the final assembly of all devices with a full review of the technical performance characteristics. All production processes take place uniformly across all locations.

The Vaillant Group conducts product development at four locations within the EU as well as in Turkey and China. The development of high-efficiency technologies takes place at locations in Western Europe.

Based on the corporate vision "We ensure a better climate. In every home and our environment", strategic goals have been defined for the Vaillant Group in order to drive growth further.

Economic report

MACROECONOMIC AND SECTOR-RELATED FRAMEWORK CONDITIONS

Overall Economic Development

According to forecasts by the International Monetary Fund (IMF), the global economy recorded growth of 2.9 percent in 2019. The development of the advanced economies was 1.7 percent (2018: 2.2 percent). For the group of leading emerging markets, growth was 3.7 percent (2018: 4.5 percent).

In 2019, all major economies in the euro zone achieved lower growth rates than in the previous year: Germany 0.5 percent (2018: 1.5 percent), France 1.3 percent (2018: 1.7 percent), Spain 2.0 percent (2018: 2.4 percent). In Italy, growth almost came to a standstill at 0.2 percent (2018: 0.8 percent).

In the Vaillant Group's key markets outside the euro currency area, the UK recorded stable economic growth of 1.3 percent (2018: 1.3 percent), while Turkey recorded a stable economy of 0.2 percent (2018: 2.8 percent) and in China, with 6.1 percent (2018: 6.6 percent), growth slowed year-on-year.

The following table shows the development of the average exchange rates of the currencies relevant to us against the euro:

Average rates

Based on 1 euro	2019	2018
Chinese Renminbi (CNY)	7.74	7.82
British Pound (GBP)	0.88	0.88
Russian ruble (RUB)	71.95	74.59
Turkish Lira (TRY)	6.38	5.64

Industry development [1]

Based on the cumulative sales volume, the European heating technology markets - including Russia and Turkey - declined by -2.5 percent in 2019 (2018: 5.3 percent). In the key volume segment of wall-mounted heat generators, the overall market was -4.2 percent year-on-year. By contrast, the demand for heat pumps remained significantly higher at 22.6 percent.

The German market for heat generators achieved slight growth in 2019 (2.2 percent). The market development in the Netherlands (3.8 percent), Spain (4.2 percent), Poland (3.5 percent) and France (1.9 percent) was also positive. In contrast, the market in Italy declined (-5.3 percent). Demand in Great Britain was 2.1 percent above the previous year.

Despite a market that had already declined significantly in the previous year, the downward trend in Turkey accelerated again significantly (-26.9 percent).

In China, the market development again reached a double-digit growth rate (10.3 percent) after a weaker previous year.

Legal framework

At the UN Climate Change Conference in 2015, numerous countries committed themselves to drawing up national climate protection plans by 2020. In recent years, some countries have already drawn up such plans, including strategically important countries such as Germany, Great Britain, France and China for the Vaillant Group. The Vaillant Group is following the political discussion on the national climate protection plans for the most important markets.

The EU Ecodesign Regulation for heating and hot water devices, which has been in force since 2015, is currently in the process of being revised. The results of the review studies and proposals for changing the law have been available since October 2019. The revision of the corresponding legal requirements is expected to last until 2022.

In Germany, the federal cabinet passed the Climate Protection Act and the Climate Protection Plan 2030 at the end of 2019. This also includes climate and energy policy measures for the building sector. Accordingly, from 2020 there will be improved funding conditions for the energetic renovation as well as an oil boiler replacement bonus. The introduction of CO_2 pricing for fossil fuels is planned for 2021 .

OVERALL STATEMENT ON BUSINESS DEVELOPMENT

Overall, we can look back on a successful 2019 financial year. In a challenging economic environment for us, we were able to increase sales [2] by 4.8 percent to 2,621 million euros (2018: 2,501 million euros; currency-adjusted 5.6 percent). This exceeded the previous record sales from the previous year.

The operating result (EBIT) rose significantly by 7.9 percent to 239 million euros (2018: 221 million euros). In particular, the dynamic sales development in the course of implementing our growth strategy had a positive impact on EBIT in the past financial year. In addition to the growth strategy "No. 1 Position in Gas!", "Win Electric!", "Accelerate China!" we have our strategic goal of "Push Digital!" further advanced in 2019. In view of the pursuit of these strategic goals, we recorded higher expenses compared to the same period of the previous year. The previous year was characterized by negative one-off effects, especially in connection with a judgment on the equal treatment of pension claims in Great Britain,

[1] Source: BRG Enterprise Database.

[2] "Sales revenue" and "sales revenue" are used synonymously in the following.

EARNINGS SITUATION OF THE VAILLANT GROUP

Sales and operating profit (EBIT)

In the Northern Europe region (Great Britain, Belgium, the Netherlands and Scandinavia), sales rose by 5.7 percent year-on-year to EUR 592 million (2018: EUR 561 million). The main reason for this was the positive business development in Great Britain and Belgium. In Great Britain, sales rose slightly by a nominal 4.0 percent compared to the previous year (3.0 percent adjusted for currency effects) in view of the increased market volume, market share gains in condensing water heaters and the implementation of our sales strategy. In Belgium we recorded a significant increase in sales. One reason for this is the development of demand in the project business, favored by state subsidies for circulating water heaters,

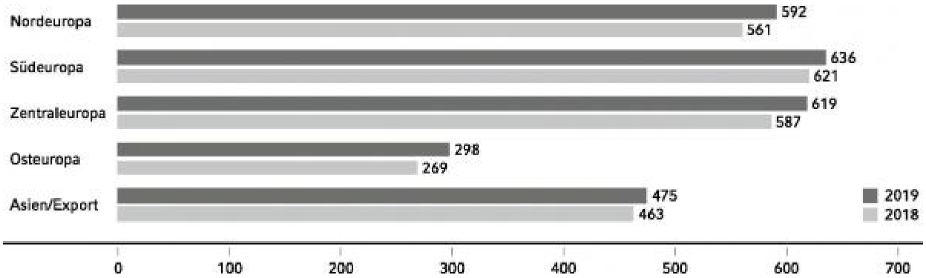
Sales in the Southern Europe region (France, Italy and Spain) rose slightly by 2.4 percent to EUR 636 million (2018: EUR 621 million) due to the positive economic development of the markets for heat generators in France and Spain and the associated increase in demand . The increase in sales in France was mainly the result of higher sales volumes for condensing circulating water heaters and heat pumps. Continued state funding programs had a supportive effect. In Spain, sales in the service business and heat pumps increased in particular. Significant market growth also contributed to this. In Italy, sales were in a significantly declining heat generator market at -2,

Sales in Central Europe (Germany, Austria, Switzerland) increased by 5.4 percent to 619 million euros (2018: 587 million euros). In Germany, we recorded an increase in business with condensing circulating water heaters, system components and heat pumps, primarily due to the positive market development for heat generators. In Austria, the heat pump business and the service business contributed in particular to the increase in sales.

In the Eastern Europe region (Czech Republic, Russia, Croatia, Hungary, Poland, Romania, Slovakia, Ukraine), sales were 10.7 percent higher than the previous year at 298 million euros (2018: 269 million euros; adjusted for currency effects 9.4 percent). In Poland in particular, sales rose year-on-year, partly due to government measures to promote more efficient heating systems (29.1 percent). Our business in Russia declined in a difficult market environment.

Sales in the Asia / Export region (China, Turkey, export) rose slightly by 2.6 percent to 475 million euros (2018: 463 million euros; currency-adjusted 8.8 percent). In Turkey, due, among other things, to the decline in the exchange rate of the Turkish lira, the previous year's level was not achieved (compared to 2018 nominally -7.5 percent; currency-adjusted 3.4 percent). In addition, the sales volumes of calorific value circulation water heaters there were below the previous year, as the year 2018 recorded exceptionally high sales of calorific value circulation water heaters in the course of the first phase of the EU Ecodesign Directive, which was also adopted by Turkey. In China, we increased sales by 14.9 percent, particularly in the circulation water heater business.

Sales by region in millions of euros



The development of the cost items compared to the previous year is explained below:

The cost of sales rose slightly less than the development of sales by 4.0 percent to 1,571 million euros (2018: 1,510 million euros). The gross margin on sales improved to 40.1 percent (2018: 39.6 percent).

In 2019, research and development expenses increased to 108 million euros (2018: 98 million euros) compared to the previous year, mainly due to higher depreciation. In relation to sales, this results in an increase in the rate to 4.1 percent (2018: 3.9 percent). For information on the main activities, please refer to the "Research and Development" chapter.

At 563 million euros, marketing and sales costs were 7.5 percent higher than the previous year's figure (2018: 524 million euros). The variable distribution costs increased especially with the positive sales development. In addition, the increase was caused by inflation-related increases in personnel costs and the establishment of sales structures as part of our growth strategy. As a result, the share of marketing and sales costs in total sales increased to 21.5 percent (2018: 20.9 percent).

We recorded an increase of 9.2 percent in administrative costs of 142 million euros (2018: 130 million euros). In addition to higher personnel costs due to inflation, this was due in particular to additional expenses in connection with the implementation of our growth and digitization strategy.

The other operating result was EUR 1 million (2018: EUR -18 million). The previous year was burdened by one-off effects, especially in connection with the ruling on the equal treatment of pension claims in Great Britain.

The operating result (EBIT) increased by 7.9 percent year-on-year to EUR 239 million (2018: EUR 221 million).

Comparison of the actual with the forecast business development

On the basis of the forecasts for business and industry development in 2019 made at the end of the 2018 financial year and taking into account the opportunities and risk potentials known to us at the time, subject to significant exchange rate fluctuations, we have a moderate increase in sales and a slight increase in operating profit (EBIT) expected.

With nominal sales growth of 4.8 percent, we achieved the moderate increase in sales forecast for 2019.

In terms of operating profit (EBIT), we exceeded our target for 2019, mainly due to the lower than expected increase in structural costs.

Financial result and consolidated net income

At -15 million euros, the financial result was at the previous year's level (2018: -15 million euros).

Profit and Loss Account	2019		2018	
	Million Euro	%	Million Euro	%
Sales	2,621	100.0	2,501	100.0
Production cost of sales	-1,571	-59.9	-1,510	-60.4
Gross profit on sales	1,051	40.1	991	39.6
Research and development costs	-108	-4.1	-98	-3.9
Marketing and sales costs	-563	-21.5	-524	-20.9
administrative expenses	-142	-5.4	-130	-5.2
Other operating result	1	0.0	-18	-0.7
Operating profit (EBIT)	239	9.1	221	8.8
Financial result	-15	-0.6	-15	-0.6
Earnings before taxes	223	8.5	206	8.2
Income taxes	-53	-2.0	-45	-1.8
Annual surplus	170	6.5	161	6.4

Reconciliation of consolidated net income for 2018 to 2019 million euros

Earnings before income taxes amounted to 223 million euros (2018: 206 million euros). After deducting a tax expense of 53 million euros (2018: 45 million euros), the consolidated net income for the 2019 financial year was 170 million euros (2018: 161 million euros).

ASSET AND FINANCIAL POSITION OF THE VAILLANT GROUP

Investments and divestments

In 2019, a total of 102 million euros (2018: 96 million euros) was invested in property, plant and equipment and intangible assets. [3]

In the area of production, the focus was on expanding production lines and systems as well as laboratory and test systems, especially at our locations in Remscheid and Trenčin.

In the area of sales, marketing and service, we invested in the renovation and modernization of sales buildings and training centers.

As planned, the move into the newly built research and development center at the headquarters in Remscheid began in the second half of 2019.

Furthermore, in the course of our digitization projects and the associated development activities to set up a new ERP platform, internally generated intangible assets were capitalized in the balance sheet.

On January 1, 2019, the Vaillant Group acquired the remaining shares in the logistics service provider TechnoCargo Logistik GmbH u. Co. KG, which provides a significant part of the warehouse and transport logistics for the Vaillant Group.

Financial position

For the 2019 financial year, the regulations of IFRS 16, Leases, were applied for the first time. As a result, as of January 1, 2019, assets and liabilities from leases are to be recognized in the balance sheet, provided that no exemption options are used. As part of the transition to IFRS 16, as of January 1, 2019, assets for the rights of use were recognized for the first time in the amount of EUR 81 million and lease liabilities in the amount of EUR 78 million. As of December 31, 2019, the effect of the application of IFRS 16 on total assets was EUR 96 million. This contributed significantly to the 8.4 percent increase in total assets to EUR 2,201 million (2018: EUR 2,032 million).

[3] Investments before capitalization of research and development services.

At 1,268 million euros, non-current assets were up on the previous year (2018: 1,122 million euros). The main reason for this was an increase in property, plant and equipment to 451 million euros (2018: 331 million euros). Apart from the first-time application of IFRS 16, Leases, the increase is mainly due to the construction of the new research and development center at the Remscheid location.

Other intangible assets increased to 149 million euros (2018: 125 million euros). This was primarily due to development activities, particularly in connection with the new generation of gas appliances and our heat pump platform. In addition, the development activities as part of the implementation of our digitization strategy contributed to the increase in intangible assets. Goodwill decreased to EUR 551 million (2018: EUR 556 million) due to the currency translation on the reporting date.

Current assets increased to 933 million euros (2018: 910 million euros). On the balance sheet date, the Group had significantly higher cash and cash equivalents of EUR 285 million (2018: EUR 229 million) compared to the previous year. This was offset by a significant decrease in trade receivables to EUR 240 million (2018: EUR 266 million). This was due, among other things, to the development of sales and exchange rates in Turkey. Despite increased sales, inventories were reduced slightly to EUR 347 million (2018: EUR 351 million).

Equity decreased slightly to EUR 538 million (2018: EUR 547 million). In particular, the consolidated net income of 170 million euros (2018: 161 million euros) had an increasing effect on equity. In the 2019 financial year, a dividend of EUR -97 million (2018: EUR -107 million) was distributed for the previous year. Negative effects with no effect on income resulted from a revaluation of pension obligations, primarily as a result of the lower interest rate level, in the amount of EUR -56 million (2018: EUR 6 million) as well as currency conversions with no effect on profit of EUR -17 million (2018: EUR -37 million). The first-time application of IFRS 16 and the associated increase in total assets resulted in

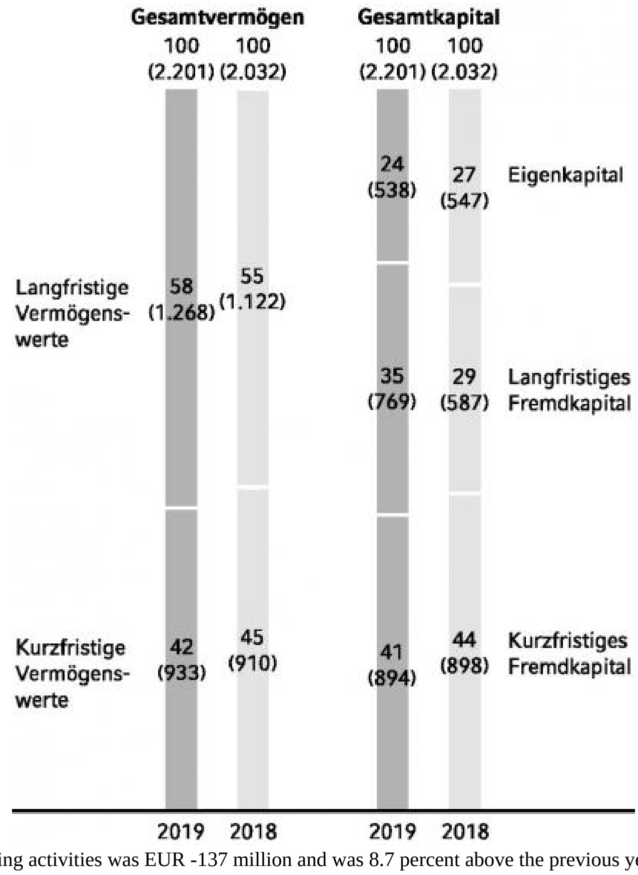
Long-term debt increased by 182 million euros to 769 million euros (2018: 587 million euros). The main reason for this was an increase in long-term financial liabilities. In May 2019, we successfully took out two promissory note loans totaling 140 million euros with terms of 5.5 and 7.5 years to secure our long-term growth strategy. Furthermore, the first-time application of IFRS 16, Leases, was the cause of an increase in long-term financial liabilities. Due to a further decrease in the discount rate, pension provisions were EUR 368 million (2018: EUR 314 million).

Short-term debt decreased to 894 million euros (2018: 898 million euros), mainly due to the repayment of short-term financial liabilities. The first-time application of IFRS 16, Leases, had the opposite effect.

Financial condition

In the 2019 reporting year, the cash flow from operating activities, at 357 million euros, was significantly higher than in the previous year (2018: 160 million euros). The main reason for this was the positive development in operating business, which was based on a higher operating result and a lower level of capital tied up in working capital. In the previous year, inventories were characterized, among other things, by an increase in safety stocks and market-related preproductions.

Balance sheet structure
In%, absolute values in brackets in million euros



The cash outflow in the cash flow from investing activities was EUR -137 million and was 8.7 percent above the previous year (2018: EUR -126 million). This is mainly due to higher expenses in the course of our digitization strategy. In addition, further payments were made in the course of 2019 for the modernization and construction of new buildings, in particular for the new research and development center.

Due to the positive business development, we used the available liquidity to repay our loans. As a result, the cash flow from financing activities was EUR -165 million (2018: EUR -60 million). The dividend payment to the shareholders of the parent company amounted to -97 million euros (2018: -107 million euros).

At 187 million euros, free cash flow [4] was above the previous year's level (2018: 24 million euros).

The net cash flow increased to 54 million euros (2018: -26 million euros).

Compared to the previous year, cash and cash equivalents increased significantly to EUR 285 million (2018: EUR 229 million).

[4] Net cash flow before changes in debt and dividends.

The financial liabilities of the Vaillant Group amounted to 313 million euros as of December 31, 2019 (2018: 246 million euros). The EUR 67 million increase resulted primarily from the first-time application of IFRS 16 in the 2019 financial year, which increased lease liabilities by EUR 96 million. Without the effect of the first-time application of IFRS 16, there would have been a net decrease in financial liabilities of 29 million euros.

In addition to the existing liquid funds, the Vaillant Group can ensure liquidity at all times through unused credit lines in the amount of 250 million euros (2018: 163 million euros).

RESEARCH AND DEVELOPMENT OF THE VAILLANT GROUP

The development activities in the past financial year mainly concentrated on the continuation of the multi-year development projects already started in previous years.

The focus in the area of gas wall-mounted heaters in 2019 was on continuing the development of a new, cross-brand, standardized generation of gas-adaptive devices as well as an affordable product generation.

In the area of heat pumps, we have launched a modular product platform for air-water heat pumps for indoor and outdoor use. This increases the Vaillant Group's market segment coverage for heat pumps to over 90 percent. We have also brought another development program to market maturity in which only a particularly environmentally friendly refrigerant with a low global warming potential is used.

Development costs of EUR 34 million (2018: EUR 35 million) were capitalized for pioneering projects in the 2019 reporting year.

Explanations to the individual financial statements of Vaillant GmbH according to HGB

The individual financial statements of Vaillant GmbH are prepared in accordance with the provisions of the German Commercial Code (HGB). This results in deviations from the International Financial Reporting Standards (IFRS) that apply in the Vaillant Group, in particular in the accounting and valuation methods for intangible assets and provisions.

BUSINESS ACTIVITIES OF VAILLANT GMBH

In addition to the reporting on the Vaillant Group, the development of Vaillant GmbH is explained below. Vaillant GmbH is the parent company of the Vaillant Group and is based in Remscheid.

Cash flow statement

Million Euro	2019	2018
EBITDA	354	297
Increase (-) / decrease (+) long-term assets and liabilities	-37	-25
Increase (-) / decrease (+) in net working capital	76	-62
Income taxes paid	-36	-50
Cash flow from operating activities	357	160
Investments and acquisitions	-140	-129
Divestment	2	3
Cash flow from investing activities	-137	-126
Dividends paid to owners	-97	-107
Dividends received	-	0
Borrowing	151	122
Loan repayment	-180	-58
Interest balance	-6	-7
Payment from (+) / to (-) minority shareholders	-7	-6
Repayment (-) / increase (+) liabilities from leasing	-26	-3
Cash flow from financing activities	-165	-60
Net cash flow	54	-26
Free cash flow	187	24

In its function as the parent company of the Vaillant Group, Vaillant GmbH is responsible not only for defining and pursuing corporate goals, but above all for its own operational activities and production. It also performs central group and service functions, including research and development, and controls the delivery and service traffic within the group. She is responsible for the management, steering and control instruments including risk management.

The earnings, asset and financial position of Vaillant GmbH is shaped by its own operational activities as well as by the operational activities of its subsidiaries, as their business success has a direct impact through profit and loss transfer agreements or in the form of investment income with a time delay in accordance with the profit appropriation resolutions. The economic situation of Vaillant GmbH thus basically corresponds to that of the Vaillant Group. Accordingly, we refer to our statements in the chapter "Overall statement on business development", which also reflect the overall statement on business development for the parent company.

As of December 31, 2019, Vaillant GmbH held direct and indirect investments in 113 companies and employed 2,052 people including 63 trainees. The average number of employees in the financial year was 2,004, 77 percent of whom are male. 9 percent of the workforce at Vaillant GmbH work part-time.

Vaillant GmbH is a company in the metal and electrical industry that is bound by collective bargaining agreements. The collective bargaining agreement means that employees are subject to the collective wage agreement. The positions are assessed by a collective wage commission (employer and employee representatives [works council]) with equal representation and divided into remuneration classes. Even in the non-tariff area, the positions are assessed independently and the remuneration is set in salary bands. With regard to the specifications (content and responsibility-oriented), it is irrelevant who holds this position or which person is filling this position. This procedure ensures

Corporate governance statement

Vaillant GmbH is striving to further expand the proportion of female managers. The Supervisory Board had set target quotas for this until 2022.

The four-person management should include at least one woman; this has not yet been achieved as a suitable candidate has not yet been found. The target quota on the Supervisory Board, where two women are represented on the twelve-person committee, has already been achieved. The target quota of 14 percent women on the first two management levels (direct reporters to the management as well as their first management level) has not yet been fully achieved. The quota is 1 percent below the target quota, as no candidates have yet been found in sufficient numbers for the corresponding positions. Vaillant GmbH is aware of its responsibility and already had a position for "Diversity Management" in 2018 created. The topic of "Diversity & Inclusion" is thus integrated into all HR management processes.

EARNINGS, ASSETS AND FINANCIAL POSITION OF VAILLANT GMBH

Sales and operating profit (EBIT)

At 1,024 million euros, sales in the 2019 financial year were nominally above the level of the previous year (2018: 974 million euros).

All companies in the Central Region (Germany, Austria, Switzerland) recorded sales increases. Overall, sales with this region rose to 371 million euros (2018: 349 million euros). The greatest increase in sales resulted from sales of circulating water heaters to the German sales company.

In the Northern Europe region (Great Britain, Belgium, the Netherlands and Scandinavia), we were able to increase sales with the sales companies to 225 million euros (2018: 216 million euros). The reason for the overall positive development was the increased sales in the Renewable Energies and System Components segments.

Sales with the sales companies in the Southern Europe region (France, Italy and Spain) decreased to 131 million euros (2018: 139 million euros). While we achieved a slight increase in sales in France, sales decreased in Spain and Italy. The overall downward trend in the circulation water heater segment primarily contributed to the decline.

In the Eastern Europe region (Czech Republic, Russia, Croatia, Hungary, Poland, Romania, Slovakia, Ukraine) we were able to increase sales with the sales companies to 132 million euros (2018: 120 million euros). In all countries, with the exception of Russia and Serbia, sales increased. Poland recorded significant growth. The circulation water heater segment was decisive for the growth in sales in the region.

In the Asia / Export region (China, Turkey, export), we were able to generate sales of 92 million euros with the sales companies (2018: 88 million euros). Here, too, we achieved sales growth in the circulation water heater segment.

Other sales amounted to 73 million euros and were thus higher than in the previous year (2018: 61 million euros). Above all, higher license income compared to our foreign production units contributed to this.

In addition to the development of sales in the regions described above, the development of the cost items compared to the previous year is as follows:

Manufacturing costs rose proportionally to sales to 797 million euros (2018: 763 million euros). The gross margin remained unchanged year-on-year at 22 percent. The gross profit on sales rose nominally to 227 million euros (2018: 211 million euros).

Research and development costs increased to 114 million euros (2018: 112 million euros). For information on the main activities, please refer to the "Research and Development" chapter in the group section.

Vaillant GmbH's selling expenses remained at the previous year's level at 63 million euros.

Administrative costs increased to 137 million euros (2018: 127 million euros). In addition to higher personnel costs due to inflation, this was due in particular to additional expenses in connection with the implementation of our growth and digitization strategy.

The other operating result rose from 42 million euros in the previous year to 59 million euros in 2019. This increase resulted in particular from higher income from reimbursements, including for project costs.

The operating result (EBIT) increased year-on-year by 22 million euros to -28 million euros (2018: -50 million euros).

Sales revenues were at the upper end of our forecast for the 2019 financial year. In terms of operating profit, we exceeded the target for the 2019 financial year.

Financial result and profit for the year

The financial result amounted to 191 million euros and was thus above the previous year's level (2018: 177 million euros). Income from investments increased by EUR 17 million to EUR 192 million (2018: EUR 175 million). The net income from profit and loss transfer agreements remained unchanged at EUR 14 million (2018: EUR 14 million). The interest result fell slightly to EUR -14 million due to a lower discount factor for pensions (2018: EUR -13 million).

Higher than originally planned profit distributions from subsidiaries, some of the retained profits from previous years, led to a significantly higher financial result than expected for 2019.

Income taxes remained unchanged at EUR -2 million.

Net income increased significantly from 125 million euros in the 2018 financial year to 161 million euros in the 2019 financial year.

Assets and financial position

The balance sheet total increased by 22 million euros compared to the previous year's reporting date to 1,568 million euros (2018: 1,546 million euros).

Intangible assets fell by EUR 2 million to EUR 10 million (2018: EUR 12 million) due to scheduled amortization and the further decline in advance payments. In contrast, property, plant and equipment increased significantly by 16 million euros to 133 million euros (2018: 117 million euros), largely due to further investments in the research and development center in Remscheid, which was moved into in the second half of 2019.

At 1,198 million euros, financial assets were on a comparable level with the previous year (2018: 1,199 million euros).

Inventories fell to 100 million euros (2018: 105 million euros), primarily as a result of the optimization of safety stocks.

Receivables from affiliated companies decreased by 2 million euros to 73 million euros (2018: 75 million euros).

Other assets decreased by 3 million euros compared to the previous year and amounted to 21 million euros as of the balance sheet date (2018: 24 million euros).

Cash and cash equivalents increased by 18 million euros compared to the previous year and amounted to 29 million euros (2018: 11 million euros). This increase is mainly the result of an increased inflow of funds from the financial result, as a result of which existing credit lines were fully repaid and liquid funds were built up. Through this and through the group-wide cash pooling as well as the financing measures described below, Vaillant GmbH ensures its solvency at all times.

Taking into account the dividend payment made in 2019 and taking into account the net income for the year, equity increased by EUR 64 million to EUR 831 million in the reporting year (2018: EUR 767 million). The equity ratio rose by 3.4 percentage points to 53.0 percent (2018: 49.6 percent).

The obligations from pension commitments amounted to 91 million euros as of the reporting date (2018: 83 million euros). The EUR 8 million increase is mainly due to the persistently low interest rates. The tax provision increased by 3 million euros (2018: 0 million euros) due to the expected back payments for previous years. At 36 million euros, the other provisions remained almost unchanged compared to the previous year, both in terms of their breakdown according to circumstances and in their total amount (2018: 37 million euros).

Financial liabilities amounted to EUR 168 million (2018: EUR 28 million) and include debt that Vaillant GmbH raised in 2006 on the over-the-counter capital market in the USA (US private placement loan). The remaining part of the loan of 28 million euros is due in 2021. In addition, two promissory note loans issued for a total of 140 million euros are shown here.

In the course of the issuance of the promissory note loan and the positive development in liquidity, the liabilities to banks were fully repaid as of the reporting date (2018: 172 million euros). This leaves an unused credit line from the revolving credit facility in the amount of EUR 250 million (2018: EUR 163 million). It enables the company to expand its room for maneuver as well as long-term security for future investments.

Trade payables decreased year-on-year by EUR 11 million to EUR 64 million (2018: EUR 75 million). The decrease mainly relates to liabilities from invoices received from domestic suppliers.

Liabilities to affiliated companies decreased by 9 million euros to 370 million euros (2018: 379 million euros). This is mainly the result of changes in the volume of outstanding delivery and service invoices and intra-group loans to affiliated companies as of the balance sheet date.

Other liabilities were not subject to any significant changes and remained unchanged at 5 million euros (2018: 5 million euros).

RISKS AND OPPORTUNITIES REPORT OF VAILLANT GMBH

The business development of Vaillant GmbH is subject to the same risks and opportunities as the business development of the Vaillant Group. In principle, Vaillant GmbH participates in the opportunities and risks of its subsidiaries in accordance with its respective participation quota.

Accordingly, we refer to our statements in the "Risks and opportunities report" section, which also reflect the expectations for the parent company.

FORECAST REPORT OF VAILLANT GMBH

In line with the development in the Group, we also expect sales growth for Vaillant GmbH and, associated with this, a higher gross profit. However, in order to secure the future of our company, we are also planning higher expenditures for our development activities. In addition, we expect a moderate increase in personnel costs. In addition, we refer to our statements in the "Forecast report" section, which in particular also reflect the expectations for the parent company. This also includes statements on the development of sales and the development of the operating result (EBIT) in the Vaillant Group.

The forecast of the financial results of Vaillant GmbH is largely determined by the development of its subsidiaries, as their business success has a direct impact on Vaillant GmbH through profit and loss transfer agreements or in the form of investment income with a time delay in accordance with the resolutions on the appropriation of profits. Due to the catch-up of profit distributions by the subsidiaries from previous years in the 2019 reporting year, we expect a significant decline in the financial result for 2020. Not least due to unforeseeable developments in the corporate environment, the actual business results may differ from our expectations.

Risks and opportunities report

RISKS AND OPPORTUNITIES

In the course of its business activities, the Vaillant Group is exposed to a large number of risks that are inextricably linked to entrepreneurial activity. Entrepreneurial activity also consists of seizing opportunities and thus increasing the company's competitiveness. With its Risk and Opportunity Management System (RCMS), the Vaillant Group aims to identify, evaluate and monitor risks and opportunities at an early stage and, by taking suitable measures, to avert negative effects on short-term operational or long-term strategic corporate goals or to exploit potential opportunities . This is intended to identify and prevent possible threats to the continued existence of the company in good time.

RISK AND OPPORTUNITY MANAGEMENT SYSTEM

The RCMS is integrated into all planning, controlling and reporting processes in the individual companies, the corporate divisions and at group level.

Risks are defined as all events and possible developments within and outside the Vaillant Group that could have a negative impact on the achievement of operational or strategic corporate goals. Opportunities are understood to mean all internal and external events and possible developments that contribute to the company's success beyond the planned operational or strategic goals.

The basis of the RCMS is a monthly operational as well as a quarterly structural opportunity and risk inventory.

The control and monitoring of risks and opportunities takes place in the subsidiaries of the Vaillant Group, in the corporate divisions and at group level. This provides a cross-group, integrative management tool for the systematic handling of risks and opportunities, which is checked annually for correctness, not least as part of the annual audit.

The scope of consolidation for risk and opportunity management corresponds to the scope of consolidation in the consolidated financial statements of the Vaillant Group.

The reporting of risks and opportunities in the management report covers the 2020 financial year. However, should significant new risks or opportunities arise or the significance of existing ones change beyond this period, this will be discussed. The sequence of the risks and opportunities described reflects the current assessment of the relative degree of risk and opportunity. Within the following risk and opportunity fields, more important topics are mentioned first. This presentation also provides an indication of the current overall situation of risks and opportunities for the Vaillant Group.

PRESENTATION OF THE SIGNIFICANT AREAS OF RISK AND OPPORTUNITY

Research and Development

In research and development (R&D) there is a risk that products are developed that do not meet customer needs. The global trend towards globalization, the associated changes in customer needs and increasing price pressure increase this risk. In order to best meet customer requirements, the development department works closely with the marketing and program management departments, as the interface between sales and production, as well as the business unit for heat pumps and renewable energies. In addition, regular market studies and customer surveys are carried out to secure our assessment of trends, customer and market needs.

In the case of development projects that are important to us, there is a risk of deviations from the agreed project goals or the risk of delays. We meet this challenge by setting up cross-functional steering and control bodies, which guarantee the ongoing monitoring of project progress and guarantee fast decision-making processes.

The construction of the new research and development center at the headquarters in Remscheid represents a major opportunity, which among other things promotes the cooperation of all functional areas involved in product creation. As planned, the move began in the second half of 2019.

Digitization offers a special opportunity. This makes it possible to develop new product and service solutions with networked components. Findings from our market observations flow into a technology and pre-development roadmap, which is the basis of our development activities for new products and services. This approach enables us to develop new products in our core business and when expanding our portfolio.

Legal framework

Legal framework conditions that result from climate policy requirements as well as environmental and safety regulations have a not inconsiderable influence on the future business success of the Vaillant Group.

Against the background of the Paris Climate Protection Agreement of 2015 and the EU's Green Deal, many countries are planning to convert their energy supply to renewable energies as quickly as possible and to reduce the use of coal, oil and gas. In the long term, this decarbonisation means for the Vaillant Group a market shift from gas appliances to technologies that are operated on the basis of electricity.

However, the current discussion on climate policy shows that so-called green gas is gaining acceptance as the second pillar of the energy transition. This could represent an opportunity for the Vaillant Group if the corresponding hydrogen-compatible devices can be made available on the market and green gas is used to supply buildings.

There are a number of national and regional funding programs for the energetic modernization of heating systems and the use of renewable energies. However, these programs are often limited in time and the product requirements are subject to regular adjustment.

The UK's exit from the EU on January 31, 2020 could be disorderly and result in disruptions in the supply chain. In order to counter these risks, we began making appropriate adjustments to our operating business model as early as 2018, with which we are also prepared for an unregulated exit.

procurement

Market price and exchange rate fluctuations represent a risk in the procurement of raw materials. The constant availability of raw materials and components for production must be ensured. We counter these risks by concluding hedging transactions, regular contract negotiations and close cooperation with our suppliers in planning requirements. In addition, our suppliers are assessed in terms of their financial situation as part of the procurement risk management process. In addition, targeted measures are taken to avoid delivery failures. Possible risks in connection with the coronavirus epidemic in China are currently difficult to assess.

The international heating technology market is subject to product and country-specific legal regulations that influence our procurement activities and processes. Materials used and purchased must meet legal requirements. We counter this task by cultivating a cooperative partnership with our suppliers and exchanging ideas about current regulations very promptly. Wherever it is essential, we expand our safety stocks appropriately.

We see as an opportunity that by identifying new, alternative suppliers and materials at an early stage, we not only increase security of supply, but also promote innovative processes and thus sustainably improve our competitive position.

production

The Vaillant Group's production network is closely interlinked. Due to cross-location production processes, prolonged disruptions or failures of individual production or factories can impair the ability of the entire group to deliver. In order to reduce the risk of business interruption, our Business Continuity Management (BCM) will be continued in the future. Crisis team members were trained at all locations and made familiar with the BCM process instructions. In addition, the Vaillant Group maintains global property and business failure insurance based on the industry standard. Critical machines are regularly examined with regard to their risk of failure.

With advancing digitization in production, the risk of IT-related production downtime increases. This is counteracted with our strategy within the framework of BCM for production IT and an expansion of the IT infrastructure.

Significantly higher demand in the markets harbors both risks and opportunities. Higher production volumes and more complex products can lead to capacity bottlenecks. Regular analyzes of capacities and requirements within the production network enable us to react quickly to changes.

Sales, Marketing and Services

Geopolitical crises influence global economic activity and result for the Vaillant Group in a market environment that continues to be characterized by uncertainty. Risks with regard to the development of demand for our products arise from the trade dispute between China and the USA, Brexit and the tensions between the EU and the governments in Russia and Turkey.

Possible business risks in connection with the coronavirus epidemic in China are currently difficult to assess.

The low growth of the European heating technology market leads to intense competition and intensified price war. The number of non-European companies pushing into the core markets of the Vaillant Group is increasing.

In order to secure sales growth in the circulation water heater segment and to gain further market share, we pursue targeted sales initiatives, expansion of the product portfolio and market-specific multi-brand strategies.

It is very important to strengthen our position on the European heat pump market, which is showing dynamic growth rates driven, among other things, by EU-wide climate policy regulations. To this end, we are bundling the business with heat pumps and products based on renewable energies in a separate business unit.

Optimizing the Group's own service organizations will also strengthen the Vaillant Group's market position and sales growth. Outside of Europe, the focus is particularly on the Chinese market. Despite declining market dynamics, we see great opportunities here to develop sales potential.

In the course of advancing digitization, we are also expanding our core business to include digital business models and IT solutions.

quality

The group-wide quality management system serves to guarantee the quality of both new and existing products in the market for the benefit of the customer. The derived process and organizational structure leads to a continuous increase in quality and a reduction in the costs for guarantees and goodwill.

Existing processes, methods and procedures in quality assurance ensure that customer requirements are already taken into account in the early phase of product development. This avoids rework and reduces service calls. With the commissioning of the new test center at the Remscheid location, the framework conditions for the qualification and certification of products will continue to improve.

In addition to the established process of product safety, an equivalent process for the data and information security of the products was introduced in 2019.

By avoiding possible liability and warranty risks in this way, we ensure a high level of customer satisfaction and cost efficiency.

Finances

Due to our international business relationships, we are subject to the risks of exchange rate fluctuations. The British pound, the Turkish lira, the Russian ruble and the Chinese renminbi are the currencies with the greatest individual risks. We counter these risks, as far as economically feasible and possible, by concluding currency forwards. We counter raw material risks, mainly due to price fluctuations in copper, by using derivative hedging instruments.

Derivatives transactions are carried out on the basis of decisions made centrally within the framework of an exposure committee that meets on a regular basis and exclusively to hedge operational business. If the requirements for hedge accounting (cash flow hedge) are met, the hedging transactions meet the criteria of a micro hedge.

There is also a risk from defined benefit pension obligations and the customary cover pool created for this purpose, particularly in Great Britain. The valuation of the pension obligations and the plan assets as well as the determination of the net pension expenses are based on assumptions. Even minor changes to these assumptions, in particular a change in the discount rates, could have a negative or positive effect on the Group's equity for the current financial year. In addition, they could lead to a change in the period-related net pension expense in the following financial year (further information can be found in the Notes to the Consolidated Financial Statements).

The Vaillant Group is subject to the usual bad debt risk. We counter this risk with a holistic approach to credit and receivables management. This includes monitoring the entire process for all of the Vaillant Group's stores. A creditworthiness monitoring of the borrower and thus the potential bad debt risk takes place at both local and central level. In the main markets, the Vaillant Group is protected against bad debts through trade credit insurance or equivalent credit collateral. However, there are risks due to unstable political and economic developments. The Vaillant Group counters this risk with intensive market and customer observation.

Law and insurance

Legal risks that have a significant impact on the earnings, financial and asset position of the Vaillant Group are currently neither pending nor threatened.

In addition, potential liability risks and claims are adequately covered by provisions or insurance policies.

As part of our compliance rules and the compliance management system, which was revised in 2019, the risk awareness of employees in the corporate group is further trained and promoted. This reduces compliance risks.

steer

Vaillant GmbH and its subsidiaries operate worldwide and are therefore subject to a wide range of local tax laws and regulations. The companies of the Vaillant Group are continuously audited by tax authorities in various countries. Any changes in legal provisions and case law and different legal interpretations by the tax authorities - especially in the area of cross-border transactions - can lead to higher tax expenses and payments. In addition, they can influence the amount of tax receivables and liabilities as well as the deferred tax assets and liabilities. Any changes or attacks by the tax authorities are continuously identified, assessed and monitored by the tax department. If necessary, risk-avoiding measures are taken. In addition, the tax compliance management system as well as management and reporting processes are continuously monitored and continuously improved.

Information technology

With the increase in IT systems and software in all company areas and products, the topic of IT security is becoming increasingly important. The increasing dependence on the Internet, the need for secure information processing and an increased number of external threats also pose particular challenges for the Vaillant Group. To increase information security, a company-wide cybersecurity program has been set up with extensive training measures for everyone Employees of the Vaillant Group. The aim of these measures is to make employees more aware of these threats and of possible response measures.

When building the new Internet of Things platform, the implementation of secure systems and services has the highest priority. In order to meet the quality standards of the Vaillant Group, these systems are subject to safety certification.

staff

The Vaillant Group depends on qualified and committed employees. It is therefore a constant challenge to attract this staff to the Vaillant Group and to keep them within the company. The markets relevant to the Vaillant Group are characterized by intense competition for qualified specialists and managers as well as by demographic challenges. Country and industry-specific fluctuation risks must be identified with foresight and avoided in a targeted manner in order to maintain skills and competencies that are critical to success and business.

We counter this risk by giving high priority to the recruiting, development and retention of specialists and managers at the company. For example, feedback systems are used in a targeted manner, "employer branding" initiatives are promoted, global talent and successor programs are carried out and competitive compensation packages are offered. A modern, digital work environment also minimizes risks and creates opportunities for employee development and loyalty.

SUMMARY PRESENTATION OF THE RISKS AND OPPORTUNITIES

At the time this report was prepared, there were no known risks which, individually or in their entirety, could jeopardize the continued existence of the Vaillant Group. We classify all identified risks as manageable. It is pointed out, however, that risks with a currently lower estimated risk level can possibly develop more serious damage effects than risks with a currently higher estimated risk level. There may also be negative effects on business developments from risks that are not currently known or that are currently not classified as significant.

There are no significant changes compared to the assessment of the risks and opportunities in the previous year. As before, there are significant exchange rate risks that are difficult to assess due to their connection with political and / or economic developments in the respective countries (e.g. Great Britain, Turkey, Russia, China). For example, the expectations for the coming years are based on exchange rates that are based on the exchange rate fluctuations of the reporting year as well as the trend forecasts of possible exchange rate developments. Nevertheless, there is the possibility of an additional, unplanned burden on future business results due to negative share price developments for the Vaillant Group.

Despite positive impulses from climate policy goals, we continue to expect sales and revenue risks in the coming years, which are related to the ongoing intensification of price competition on the European heating, ventilation and air conditioning markets.

There is also the risk of disruptive business models, which in the medium term endanger the existing sales and distribution channels as well as the existing product range of the Vaillant Group in the course of advancing digitalization. Digitization not only represents a risk, but also an opportunity that we use by adapting and expanding our existing organizational and sales structures. This opens up opportunities to further strengthen our competitive position.

As in the previous year, we see an opportunity in connection with our new research and development center at the headquarters in Remscheid. This enables us to generate synergy effects and further increase the efficiency of our product development processes.

Forecast report

OVERALL ECONOMIC DEVELOPMENT

A statement on the global economic development for 2020 is only possible as an estimate at the time of reporting and on the basis of the available forecasts and is subject to numerous imponderables. The IMF is currently anticipating a slight economic recovery in 2020, which should, however, mainly affect the group of leading emerging markets, with the exception of China. The forecast development for the euro zone and Great Britain is slightly higher than in the previous year. It can be assumed that existing trade-policy conflicts will possibly worsen and have an inhibiting effect on growth.

INDUSTRY DEVELOPMENT

Industry analysts expect a slight recovery in demand in most international heating technology markets in 2020. This applies across the board to all major European core markets with the exception of Italy and Great Britain. In China, subject to possible risks in connection with the coronavirus epidemic, growth is expected to be around the previous year's level. The moderately positive outlook for the future economic situation in the sector is based primarily on the assumption that demand for gas condensing technology and heat pumps will continue to be good.

OUTLOOK OF THE VAILLANT GROUP ON THE DEVELOPMENT OF SALES REVENUE AND OPERATING RESULTS (EBIT) FOR 2020

On the basis of the business and industry development described in this report, as well as weighing up the potential for risks and opportunities, we can look forward to a challenging 2020 financial year.

The basis for future sales increases is our competitive position in what is sometimes a difficult environment in the heating, ventilation and air conditioning market. We have consolidated these in recent years with our innovative strength, our strong brands and the quality of our portfolio.

With the growth initiatives initiated and continued in previous years and the consistent implementation of our strategy, we want to achieve sustainable growth in our core markets.

For the 2020 financial year - subject to significant exchange rate fluctuations - we expect a moderate increase in sales. We expect the operating result (EBIT) to be at the level of the 2019 financial year, mainly due to slightly higher projected expenses for our growth initiatives and strategic projects. Not least due to unforeseeable developments in the corporate environment (for example triggered by geopolitical tensions and the coronavirus epidemic in China), the actual business results may differ from our expectations.

02 CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED INCOME STATEMENT

		2019		2018	
	Appendix	Million Euro	%	Million Euro	%
Sales	5.1	2,621.3	100.0	2,500.9	100.0
Production cost of sales	5.2	-1,570.7	-59.9	-1,510.0	-60.4
Gross profit on sales		1,050.6	40.1	990.9	39.6
Research and development costs	5.3	-107.6	-4.1	-97.8	-3.9
Marketing and distribution costs	5.4	-562.8	-21.5	-523.7	-20.9
administrative expenses	5.5	-142.2	-5.4	-130.2	-5.2
Other company income	5.6	16.7	0.6	15.1	0.6
Other operating expenses	5.6	-16.1	-0.6	-33.1	-1.3
Operating profit (EBIT)		238.7	9.1	221.1	8.8
Result from other financial assets	5.7	0.0	0.0	-0.0	-0.0
Result from investments accounted for using the equity method	5.7	-	-	-0.2	-0.0
Interest income and similar income	5.8	4.5	0.2	4.7	0.2
Interest expense and similar expenses	5.8	-19.9	-0.8	-19.6	-0.8
Earnings before taxes		223.3	8.5	206.1	8.2
Income taxes	5.9	-52.9	-2.0	-44.8	-1.8
Earnings after taxes from continuing operations		170.4	6.5	161.2	6.4
Group profit for the year		170.4	6.5	161.2	6.4
Allocation of the annual surplus to the					
Shareholder of the parent company		164.1	6.3	155.3	6.2
Minority interests		6.2	0.2	6.0	0.2

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	Appendix	2019 million euros	2018 million euros
Group profit for the year		170.4	161.2
Components that cannot be reclassified to the income statement			
Change in the revaluation reserve from defined benefit pension commitments		-55.9	6.2
Components that can be reclassified to the income statement			
Currency differences from the translation of the financial statements of foreign subsidiaries		-16.6	-36.7
Profits and losses from hedging instruments used to hedge cash flows		-3.0	-6.0
Other result	5.11	-75.6	-36.5
Overall result		94.8	124.8
Allocation of the overall result to the			
Shareholder of the parent company		88.6	118.8
Minority interests		6.2	6.0

GROUP CASH FLOW STATEMENT

	Appendix	2019 million euros	2018 million euros
Annual surplus		170.4	161.2
Financial result		15.4	15.0
Income taxes		52.9	44.8
Depreciation on intangible assets and property, plant and equipment		114.9	75.9
Other non-cash expenses and income (-)		-0.1	-0.0
Increase / decrease (-) long-term provisions and liabilities		-36.5	-21.9
Increase (-) / decrease in long-term receivables and assets		0.1	-1.6
Book profits (-) / losses from the disposal of property, plant and equipment and intangible assets		-0.3	-0.9
Increase (-) / decrease in inventories		4.9	-55.0
Increase (-) / decrease in current receivables and other assets		34.7	19.6
Increase / decrease (-) current liabilities		8.6	2.3
Increase / decrease (-) in short-term provisions and other liabilities		27.8	-29.3
Operating cash flow		392.8	210.0
Income taxes paid		-36.2	-50.0
Cash flow from operating activities		356.7	159.9
Payment for the acquisition of intangible assets and property, plant and equipment		-136.7	-128.7

	Appendix	2019 million euros	2018 million euros
Proceeds for the sale of intangible assets and property, plant and equipment		1.9	2.1
Payments for financial assets and for the acquisition of subsidiaries		-2.9	-0.4
Deposits for financial assets		0.6	0.8
Cash flow from investing activities		-137.1	-126.2
Dividends paid to the shareholders of the parent company		-97.0	-107.0
Dividends received		-	0.0
Borrowing		150.8	121.9
Loan repayment		-180.2	-58.1
Interest Paid		-10.3	-12.0
Interest received		4.4	4.6
Repayment of lease liabilities		-26.5	-2.9
Payments to minority shareholders from the change in the participation rate		-0.6	-0.8
Dividends paid to minority shareholders		-5.9	-5.6
Cash flow from financing activities		-165.3	-59.9
Net cash flow		543	-26.1
Cash funds at the beginning of the period		228.6	260.6
Currency-related change in financial resources		2.5	-5.9
Cash funds at the end of the period	6th	285.3	228.6

CONSOLIDATED BALANCE SHEET

		December 31, 2019		December 31, 2018	
	Appendix	Million Euro	%	Million Euro	%
Long-term assets					
Company Value	7.1	551.1	25.0	555.9	27.4
Other intangible assets	7.1	148.8	6.8	124.9	6.1
Property, plant and equipment	7.2	451.3	20.5	331.3	16.3
Companies accounted for using the equity method		0.0	0.0	0.3	0.0
Other financial assets	7.3	6.8	0.3	6.2	0.3
Other claims	7.5	5.7	0.3	5.8	0.3
Deferred tax assets	5.9	104.6	4.8	97.3	4.8
		1,268.4	57.6	1,121.6	55.2
Short-term assets					
Stocks	7.6	346.6	15.7	350.9	17.3
Requests from deliveries and services	7.4	240.2	10.9	266.0	13.1
Other financial assets	7.3	1.2	0.1	1.4	0.1
Other claims	7.5	52.2	2.4	55.5	2.7
Tax Refund Claims		7.4	0.3	7.6	0.4
Cash and cash equivalents	6th	285.3	13.0	228.6	11.3
		933.0	42.4	910.2	44.8
Total assets		2,201.4	100.0	2,031.7	100.0

	01/01/2018	
	Million Euro	%
Long-term assets		
Company Value	572.9	28.5
Other intangible assets	109.3	5.4
Property, plant and equipment	304.7	15.1
Companies accounted for using the equity method	1.8	0.1
Other financial assets	9.1	0.5
Other claims	5.7	0.3
Deferred tax assets	96.3	4.8
	1,099.7	54.7
Short-term assets		
Stocks	295.9	14.7
Requests from deliveries and services	284.4	14.1
Other financial assets	6.1	0.3
Other claims	55.4	2.8
Tax Refund Claims	9.6	0.5
Cash and cash equivalents	260.6	13.0
	911.9	45.3
Total assets	2,011.6	100.0

		December 31, 2019		December 31, 2018 *	
	Appendix	Million Euro	%	Million Euro	%

	Appendix	December 31, 2019 Million Euro	%	December 31, 2018 * Million Euro	%
equity capital					
Subscribed capital		60.0	2.7	60.0	3.0
Capital reserve		75.0	3.4	75.0	3.7
Retained earnings		1,030.0	46.8	963.3	47.4
Other equity components		-633.0	-28.8	-557.5	-27.4
Equity of the shareholders of the parent company		532.0	24.2	540.8	26.6
Minority interests		6.1	0.3	6.0	0.3
	7.7	538.1	24.4	546.8	26.9
Long-term liabilities					
Provisions for pensions	7.8	367.6	16.7	313.9	15.4
Other provisions	7.9	55.4	2.5	52.0	2.6
Financial liabilities	7.10	266.5	12.1	147.6	7.3
Other liabilities	7.12	76.2	3.5	69.5	3.4
Deferred tax liabilities	5.9	3.7	0.2	3.8	0.2
		769.5	35.0	586.8	28.9
short-term borrowed capital					
Other provisions	7.9	271.3	12.3	252.7	12.4
Financial liabilities	7.10	46.7	2.1	98.0	4.8
liabilities from goods and services	7.11	290.6	13.2	298.3	14.7
Other liabilities	7.12	250.5	11.4	218.3	10.7
Income tax liabilities	5.9	34.8	1.6	30.8	1.5
		893.9	40.6	898.1	44.2
Total capital		2,201.4	100.0	2,031.7	100.0

	01/01/2018 * Million Euro	%
equity capital		
Subscribed capital	60.0	3.0
Capital reserve	75.0	3.7
Retained earnings	917.4	45.6
Other equity components	-521.0	-25.9
Equity of the shareholders of the parent company	531.4	26.4
Minority interests	6.0	0.3
	537.4	26.7
Long-term liabilities		
Provisions for pensions	337.7	16.8
Other provisions	53.2	2.6
Financial liabilities	59.9	3.0
Other liabilities	63.3	3.1
Deferred tax liabilities	6.4	0.3
	520.5	25.8
short-term borrowed capital		
Other provisions	279.8	13.9
Financial liabilities	121.9	6.1
liabilities from goods and services	304.2	15.1
Other liabilities	212.0	10.5
Income tax liabilities	35.9	1.8
	953.7	47.4
Total capital	2,011.6	100.0

* Values adjusted, see explanation in Section 2.4 of the Notes to the Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Equity attributable to the shareholders of the parent company			
				Other equity components
Million Euro	Subscribed capital	Capital reserve	Retained earnings	Currency conversion
As of 01/01/2018 (as previously reported)	60.0	75.0	917.4	-138.7
Adjustments from retrospective application	-	-	-1.9	-
As of 01/01/2018	60.0	75.0	915.6	-138.7
Overall result	-	-	155.3	-36.7
Distributions	-	-	-107.0	-
Changes in the participation rate without loss of control	-	-	-0.5	-
Rest	-	-	-	-20.7
Total December 31, 2018	60.0	75.0	963.3	-196.1
As of 01/01/2019	60.0	75.0	963.3	-196.1

	Equity attributable to the shareholders of the parent company			
				Other equity components
Million Euro	Subscribed capital	Capital reserve	Retained earnings	Currency conversion
Overall result	-	-	164.1	-16.6
Distributions	-	-	-97.0	-
Changes in the participation rate without loss of control	-	-	-0.4	-
As of December 31, 2019	60.0	75.0	1,030.0	-212.7

	Equity attributable to the shareholders of the parent company	
	Other equity components	
Million Euro	Revaluation reserve from defined benefit pension commitments	Time valuation of hedging instruments
As of 01/01/2018 (as previously reported)	-368.8	-14.6
Adjustments from retrospective application	-	-
As of 01/01/2018	-368.8	-14.6
Overall result	6.2	-6.0
Distributions	-	-
Changes in the participation rate without loss of control	-	-
Rest	-	20.7
Total December 31, 2018	-362.5	0.1
As of 01/01/2019	-362.5	0.1
Overall result	-55.9	-3.0
Distributions	-	-
Changes in the participation rate without loss of control	-	-
As of December 31, 2019	-418.5	-2.8

	Equity attributable to the shareholders of the parent company			
	Other equity components			
Million Euro	Others	total	Minority interests	Total equity
As of 01/01/2018 (as previously reported)	1.1	531.4	6.0	537.4
Adjustments from retrospective application	-	-1.9	-	-1.9
As of 01/01/2018	1.1	529.5	6.0	535.5
Overall result	-	118.8	6.0	124.8
Distributions	-	-107.0	-5.6	-112.6
Changes in the participation rate without loss of control	-	-0.5	-0.3	-0.9
Rest	-	-	-	-
Total December 31, 2018	1.1	540.8	6.0	546.8
As of 01/01/2019	1.1	540.8	6.0	546.8
Overall result	-	88.6	6.2	94.9
Distributions	-	-97.0	-5.9	-102.9
Changes in the participation rate without loss of control	-	-0.4	-0.2	-0.6
As of December 31, 2019	1.1	532.0	6.1	538.1

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1 GENERAL PRINCIPLES

The consolidated financial statements and the group management report of Vaillant GmbH, based in Remscheid (register court: Wuppertal District Court, HRB 11775) for the financial year ending December 31, 2019 were prepared by the management on February 21, 2020 and approved for submission to the Supervisory Board. The consolidated financial statements are submitted to the Supervisory Board for approval. In addition, it requires the approval of the shareholders' committee. Both bodies have the option of changing the consolidated financial statements after approval by the management.

Vaillant GmbH is the lead company of the Vaillant Group. Vaillant GmbH is based in Remscheid, Germany.

The actual business activity corresponds to the entry in the commercial register. The main activities of the Vaillant Group are in the development and production as well as the sales and service support of products from the field of heating, ventilation and air conditioning technology.

The consolidated financial statements of Vaillant GmbH are included in the consolidated financial statements of Joh. Vaillant GmbH & Co KG, Haan, as the largest possible scope of consolidation. This conclusion is published in the Federal Gazette.

2 ACCOUNTING METHODS

2.1 Basis for preparing the financial statements

With the exception of certain financial instruments, which are shown at fair value, the consolidated financial statements are generally prepared using the cost principle. The consolidated financial statements are prepared in euros. Unless otherwise stated, all amounts are given in millions of euros. Due to rounding, there may be slight deviations in the form of totals and the calculation of percentages in these financial statements.

In order to improve the clarity of the presentation, various items in the income statement and balance sheet have been combined. These items are shown and explained separately in the notes.

The income statement is prepared using the cost of sales method. The balance sheet is broken down according to the maturity of the assets and liabilities.

2.1.1 Statement of Compliance with IFRS

The consolidated financial statements of the Vaillant Group were prepared in accordance with the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB), as applicable in the European Union (EU), and the additional commercial law provisions to be applied in accordance with Section 315e (1) HGB and was supplemented by a group management report. Due to the regulation of Section 315e (3) HGB, these consolidated financial statements prepared in accordance with IFRS exempt from the obligation to prepare consolidated financial statements in accordance with HGB.

2.1.2 Consolidation principles

The consolidated financial statements of the Vaillant Group include the financial statements of Vaillant GmbH and the financial statements of the companies it controls (subsidiaries) as of December 31, 2019. The Vaillant Group gains control if it:

- Can exercise power of disposal over the investee,
- is exposed to fluctuating returns from its participation and
- can influence the amount of returns due to their power of disposal.

The Vaillant Group will reassess whether it controls an investee or not if facts and circumstances indicate that one or more of the above-mentioned control criteria have changed.

It is rebuttably presumed that control generally exists when the Vaillant Group holds the majority of the voting rights in an associated company unilaterally determine the relevant activities of the investee. When assessing whether its voting rights are sufficient for the power of determination, the Vaillant Group takes into account all facts and circumstances, including

- the scope of the voting rights held by the Vaillant Group in relation to the scope and distribution of the voting rights of other voting right holders;
- potential voting rights of the Vaillant Group, other holders of voting rights and other parties;
- Rights from other contractual agreements; and
- further facts and circumstances that indicate that the Vaillant Group has or does not currently have the ability to determine the relevant activities at the times at which decisions have to be made, taking into account the voting behavior at previous shareholders' meetings.

Subsidiaries are fully consolidated from the time of acquisition, i.e. from the time at which the Vaillant Group gains control. The consolidation ends as soon as the parent company no longer has control. The financial statements of the subsidiaries as well as the financial statements of the parent company are prepared using uniform accounting methods for the same reporting period. The business year corresponds to the calendar year. All intra-group balances, income and expenses as well as unrealized gains and losses and dividends from intra-group transactions are eliminated in full.

A change in the level of participation in a subsidiary without loss of control is accounted for as an equity transaction.

Losses are allocated to minority interests (interests without a controlling influence) even if this leads to a negative balance.

If the parent company loses control over a subsidiary,

- it deregisters the assets (including goodwill) and debts of the subsidiary,
- it books off the book value of all minority interests in the former subsidiary,
- it records the fair value of the consideration received,
- it records the fair value of the remaining investment,
- it records surpluses or deficits in the income statement,
- it reclassifies the components of the other comprehensive income attributable to the parent company to the income statement or, if required, to retained earnings.

2.2 Accounting regulations applied for the first time

All IFRS binding for the 2019 financial year, as applied in the EU, have been complied with. The IFRS include the new IFRS issued by the IASB, the International Accounting Standards (IAS), the interpretations of the International Financial Reporting Standards Interpretations Committee (IFRS IC) and the Standing Interpretations Committee (SIC).

The accounting methods applied are basically the same as those applied in the previous year with the following exceptions:

The Vaillant Group applied IFRS 16, Leases, for the first time in the past financial year. Far-reaching changes for the accounting result in particular from the perspective of the lessee. This no longer has to make the distinction between finance and operating leases, which was previously required under IAS 17. With a few exceptions, the lessee records a lease liability in its balance sheet for all leases for the obligation to make future lease payments. At the same time, the lessee capitalizes a right to use the underlying asset, which basically corresponds to the present value of the future lease payments plus directly attributable costs and any dismantling costs. During the term of the lease, the lease liability is updated using the effective interest method, similar to the regulations of IAS 17 for finance leases, while the right of use is amortized as planned.

The first-time application of IFRS 16 was based on the modified retrospective approach. The comparative figures for the previous year's periods have not been adjusted.

As part of the transition to IFRS 16, as of January 1, 2019, assets for the rights of use were recognized in the amount of EUR 80.6 million and lease liabilities in the amount of EUR 78.3 million. The difference results in particular from the necessary consideration of provisions for dismantling obligations in the amount of 1.7 million euros as well as payments made by the Vaillant Group before the date of initial application. When evaluating the usage rights at the time of initial application, the initial direct costs were not taken into account.

The Vaillant Group makes use of the options for lessees with regard to short-term leases and agreements on low-value assets, i.e., similar to the previous regulations on operating leases, these are shown as an expense in the consolidated income statement in the amount of the lease payments paid recorded.

Existing leases that were recognized as finance leases prior to the first-time application of IFRS 16 in accordance with the provisions of IAS 17 were adopted unchanged with their balance sheet values as of December 31, 2018, unless they were short-term leases or agreements for low-value assets. In these cases, the residual book values of the assets and liabilities associated with these leasing agreements were derecognized; There were no significant differences.

The operating lease obligations before the transition to IFRS 16 as of December 31, 2018 amounted to a nominal amount of EUR 95.7 million, while the additional lease obligations from the application of IFRS 16 as of January 1, 2019 amounted to EUR 78.3 million. The difference of 17.4 million euros is mainly due to the fact that incidental and service costs are not taken into account when determining the lease liabilities in connection with building and vehicle leases (7.7 million euros), the discounting of lease payments (5, 6 million euros) as well as short-term leases and agreements for low-value assets (4.1 million euros), in which the Vaillant Group makes use of the options for lessees.

The lease liabilities were discounted using the incremental borrowing rate as of January 1, 2019. The weighted average interest rate was 2.01 percent.

The first-time application of the innovations or changes to existing pronouncements listed below did not have any impact on the assets, financial and earnings position of the Vaillant Group:

Announcement	title	Changes	Impact on the asset, financial and earnings position
IFRIC 23	Uncertainty regarding income tax treatment	The interpretation is to be applied to taxable profits (tax losses), tax bases, unused tax losses, unused tax credits and tax rates if there is uncertainty about the income tax treatment according to IAS 12. The key question under IFRIC 23 is whether it is likely that the tax authority will accept the tax treatment chosen by the company. If it is probable (> 50 percent) that the tax authorities will accept the selected tax treatment, the tax amount in the annual financial statements corresponds to that according to the tax return submitted. Conversely, if it is not likely, the amounts will be different. The uncertainty is taken into account in the measurement, which requires the best possible assessment of the expected outflow of funds. Either the most likely amount or the expected value can be used.	The initial application had no effect on the VFE position of the Vaillant Group.
Amendment to IAS 19	Plan changes, reductions or compensations	The changes to IAS 19 are as follows: In the future, it will be mandatory that, in the event of a change, reduction or compensation of a defined benefit plan, the current service cost and the net interest for the remainder of the financial year must be recalculated using the current actuarial assumptions that were used for the necessary revaluation of the net debt (asset). In addition, additions have been made to clarify how a plan change, curtailment or settlement affects the requirements for the asset ceiling.	The initial application had no effect on the VFE position of the Vaillant Group.
Amendment to IAS 28	Long-term investments in associated companies and joint ventures	The changes to IAS 28 are as follows: An additional number has been added to clarify that a company applies IFRS 9, including the impairment requirements, to long-term investments in an associate or joint venture that are part of the net investment in that associate or joint venture, unless they are equity-based. Method.	The initial application had no effect on the VFE position of the Vaillant Group.
Amendment to IFRS 9	Prepayment rules with negative compensation payments	The amendment to IFRS 9 includes both changes to symmetrical termination rights and minor changes to the modification of financial liabilities.	The initial application had no effect on the VFE position of the Vaillant Group.
AIP 2015-2017	Changes to IAS 12, IAS 23, IFRS 3 and IFRS 11	The amendments to IAS 12 clarify that the provisions in the earlier paragraph 52B (recording the income tax effects of dividends, which also includes the business transactions and events that lead to the profit to be distributed) are to be applied to all income tax effects of dividends. The amendments to IAS 23 clarify that when an asset is ready for its intended use or sale, an entity will include any outstanding debt capital that has been expressly taken out in order to preserve that asset as part of the general borrowing of the Calculation of the capitalization rate for general borrowing. The amendments to IFRS 3 clarify that when an entity gains control of a business that is a joint business activity, it revaluates its previously held interests in the business.	The initial application had no effect on the VFE position of the Vaillant Group.

Announcement	title	Changes	Impact on the asset, financial and earnings position
		The amendments to IFRS 11 clarify that if an entity gains joint control over a business that is a joint business activity, it will not revalue its previously held interests in the business.	

2.3 Accounting regulations that have been published but not yet applicable in the 2019 financial year

The following standards and interpretations that are potentially relevant for the Vaillant Group and published by the IASB and IFRS IC are not mandatory in the past financial year due to the fact that they have not yet been recognized by the EU or that they have not yet been applied for the first time. If recognition by the EU is already available, Vaillant has not applied it early.

Adopted by the EU:

Announcement	title	Application time	Changes anticipated	Impact on the asset, financial and earnings position (VFE)
Change to the financial reporting framework	Framework for financial reporting 2018	01/01/2020	The changes primarily concern the definition criteria for assets and liabilities as well as the elimination of separate recognition criteria, which could lead to an expansion of the group of assets and liabilities to be recognized in the balance sheet. However, this only applies insofar as no specific recognition and measurement regulations are applied in the individual IFRS. It also contains new guidelines on valuation and derecognition as well as identification and information.	The Vaillant Group does not expect the change to have any material impact on the VFE situation.
Amendment to IAS 1 and IAS 8	Definition of "materiality"	01/01/2020	The IASB has issued a definition of "material" in order to sharpen the definition of "material" and to harmonize the various definitions in the Conceptual Framework and in the standards themselves.	The Vaillant Group does not expect the change to have any impact on the VFE situation.
Amendment to IFRS 9, IAS 39 and IFRS 7	Reform of LIBOR and other reference interest rates (IBOR reform)	01/01/2020	The IASB has published amendments to IFRS 9, IAS 39 and IFRS 7, which provide for certain simplifications in connection with the IBOR reform. The relief relates to the accounting of hedging relationships and has the consequence that the IBOR reform does not generally lead to the end of hedge accounting. However, any ineffectiveness must still be recognized in the income statement.	The Vaillant Group does not currently expect the change to have any impact on the VFE situation.

Not yet adopted by the EU:

Announcement	title	Application time	Changes anticipated	Impact on the asset, financial and earnings position (VFE)
Amendment to IFRS 3	Definition of a business operation	01/01/2020	The narrowly outlined changes to IFRS 3 aim to solve the problems that arise when an entity determines whether it has acquired a business or a group of assets. The problems result from the fact that the accounting rules for goodwill, acquisition costs and deferred taxes when acquiring a business are different than when acquiring a group of assets.	The Vaillant Group does not expect the change to have any impact on the VFE situation.

Announcement	title	Application time	Changes anticipated	Impact on the asset, financial and earnings position (VFE)
IFRS 17	Insurance contracts	01/01/2021	The standard replaces the previously applicable transitional standard IFRS 4 and regulates the principles relating to the approach, valuation, disclosure and information for insurance contracts within the scope of the standard. The scope of application includes insurance contracts, reinsurance contracts and investment contracts with discretionary participation in profits. The most important changes that IFRS 17 brings with it relate to the methodology according to which contracts and policies are valued. So far, they have mainly been assessed on the basis of past developments and on the basis of the data available at the beginning of the contracts;	The Vaillant Group does not expect any effects on the VFE situation.

Not yet adopted by the EU:

Announcement	title	Application time	Changes anticipated	Impact on the asset, financial and earnings position (VFE)
Amendment to IAS 1	Classification of liabilities as short or long term	01/01/2022	The amendments to IAS 1 are intended to clarify the criteria for classifying debts as short or long term. Accordingly, a liability is to be classified as long-term if the company has the right on the balance sheet date to postpone the fulfillment of the debt by at least twelve months after the balance sheet date. The mere existence of a right is sufficient; the company does not have to intend to exercise it. In the case of rights that depend on the existence of certain conditions, it is important to determine whether the conditions are met on the reporting date.	The Vaillant Group does not expect any effects on the VFE situation.

2.4 Adjustment of the previous year's figures

In the present consolidated financial statements, the previous year's comparative figures in the consolidated balance sheet have been adjusted on the basis of IAS 8.22 in the following point.

Due to an agenda decision by the IFRS Interpretations Committee from September 2019, companies are required with immediate effect to report uncertain tax items that are to be treated in accordance with the requirements of IAS 12, Income Taxes, as actual or deferred tax liabilities or claims. It can no longer be shown under (other) provisions or (other) liabilities. The change in presentation is to be applied retrospectively. In this context, as of December 31, 2018, uncertain income tax liabilities of EUR 19.0 million and of EUR 23.8 million as of January 1, 2018 were reclassified from other provisions to income tax liabilities.

2.5 Summary of Significant Accounting Policies

2.5.1 Business Combinations and Goodwill

Business combinations are accounted for using the purchase method. The acquisition costs of a company acquisition are measured as the sum of the consideration transferred, valued at the fair value at the time of acquisition, and the minority interests in the company acquired. In every business combination, the Vaillant Group measures the minority interests in the acquired company either at fair value or at the corresponding share of the identifiable net assets of the acquired company. Costs incurred as part of the business combination are recognized as an expense.

If the Vaillant Group acquires a company, it assesses the appropriate classification and designation of the financial assets and liabilities assumed in accordance with the contractual terms, economic circumstances and the conditions prevailing at the time of acquisition. This also includes a separation of the derivatives embedded in host contracts.

Goodwill is initially valued at acquisition cost, which is measured as the excess of the consideration transferred over the identifiable assets acquired and liabilities assumed.

After initial recognition, the goodwill is valued at cost less any accumulated impairment losses. For the purpose of the annual impairment test, the goodwill acquired as part of a business combination is allocated to the Vaillant Group from the time of acquisition of the cash-generating unit or the groups of cash-generating units (both subsumed under CGU) that are expected to benefit from the business combination. This applies regardless of whether the assets or liabilities of the acquired company are assigned to these CGUs.

If goodwill has been allocated to a CGU and a business area of this unit is sold, the goodwill attributable to the sold business area is taken into account as part of the book value of the business area when determining the result from the sale of this business area. The value of the sold portion of the goodwill is determined on the basis of the relative values of the sold business area and the remaining part of the CGU, provided that another method does not provide a better allocation of the proportional goodwill to the sold business area.

2.5.2 Shares in associated companies / other investments

The shares of the Vaillant Group in an associated company are generally accounted for using the equity method.

An associated company is a company over which the Vaillant Group has significant influence. Significant influence is the opportunity to participate in the financial and business policy decisions of the company in which the investment is held. This applies to direct or indirect voting shares of 20 percent to 50 percent.

According to the equity method, shares in the associated company are to be included in the consolidated balance sheet at their acquisition costs, which are adjusted for changes in the Group's share of the profit or loss and other income of the associated company after the date of acquisition. Losses incurred by an associated company that exceed the Vaillant Group's stake in this associated company are not recorded. They are only recorded if the Group has entered into legal or factual obligations to absorb losses or makes payments in place of the associated company.

After applying the equity method, it is determined whether it is necessary to record an additional impairment loss for the shares of the Vaillant Group in associated companies. On each balance sheet date, the Vaillant Group determines whether there are objective indications that the share in an associated company may be impaired. If this is the case, the difference between the recoverable amount of the stake in the associated company and the book value of the stake is recognized in profit or loss as an impairment loss.

Shares in non-consolidated affiliated companies and other insignificant investments of the Vaillant Group are classified as financial assets that are measured at fair value through profit or loss. For the sake of simplicity, they are valued at amortized cost, unless a lower fair value can be determined.

2.5.3 Non-current assets held for sale

Non-current assets and disposal groups classified as held for sale are valued at the lower of the carrying amount and fair value less costs to sell. Long-term assets or disposal groups are classified as held for sale if the associated book value is primarily realized through a sale and not through continued use. This is only the case if the sale is highly probable and the asset or disposal group can be sold immediately in its current condition. Management must have decided to sell

Property, plant and equipment and intangible assets classified as held for sale are no longer subject to scheduled depreciation.

2.5.4 Foreign currency conversion

2.5.4.1 Foreign currency transactions and balances

In the individual financial statements of the consolidated subsidiaries, transactions in foreign currencies are converted into the functional currency at the rate on the day of the transaction. On the balance sheet date, monetary items are converted at the closing rate, non-monetary items are converted at the transaction rate. Exchange differences are recognized in profit or loss.

2.5.4.2 Conversion of the financial statements of companies included in the consolidated financial statements

The annual financial statements of companies outside the euro area are converted using the functional currency concept. The functional currency of these companies is currently the respective national currency in all cases, as these companies conduct their business independently from a financial, economic and organizational point of view. Accordingly, the assets and liabilities of these companies are converted using the exchange rate on the reporting date. In principle, expenses and income are converted at the annual average rate. Anything in connection with the acquisition of a foreign business operation after the 1st Goodwill arising from January 1, 2005 and any adjustments to the fair value of assets and liabilities in connection with acquisitions of companies outside the euro area are regarded as assets and liabilities of the reporting company and translated using the exchange rates at the time of the business transactions and in subsequent periods using the closing rate rated. Exchange rate differences are generally recognized directly in equity.

The exchange rates of the most important currencies for the Vaillant Group to the euro changed as follows:

	currency	Closing rate		Average rate	
1 euro		December 31, 2019	December 31, 2018	2019	2018
China	CNY	7.82	7.88	7.74	7.82
Great Britain	GBP	0.85	0.89	0.88	0.88
Russia	RUB	69.96	79.72	71.95	74.59
Turkey	TRY	6.65	6.03	6.38	5.64

2.5.5 Intangible Assets

Intangible assets with a determinable useful life that are not acquired as part of a business combination are recognized at cost less accumulated depreciation and impairment. The depreciation is recognized in profit or loss on a straight-line basis over the expected useful life. The expected useful life is checked on each balance sheet date and possible changes in estimates are taken into account prospectively

The cost of intangible assets acquired in a business combination corresponds to their fair value at the time of acquisition

The respective depreciation is recorded in the income statement under the respective functional area that the intangible asset serves. The useful lives of the intangible assets are between two and 15 years.

Research costs are always recorded as an expense in the period in which they are incurred. Development costs for individual projects - which, in addition to product developments, increasingly also include development services that support business processes - are only capitalized as an intangible asset if the Vaillant Group can cumulatively demonstrate the following:

- the technical feasibility of completing the intangible asset that enables internal use or sale of the asset;
- the intention to complete the intangible asset and the ability to use or sell it;
- how the asset will generate future economic benefits;
- the availability of resources for the purpose of completing the asset;
- the ability to reliably determine the expenditure attributable to the intangible asset during its development.

The amount with which an internally generated intangible asset is capitalized is the sum of the expenses incurred from the day on which the intangible asset first meets the above conditions. After initial recognition, development costs are reported at acquisition or production costs less accumulated depreciation and accumulated impairment losses. If material and if the prerequisites are met, the long-term development projects (> 12 months) include borrowing costs. Scheduled depreciation begins with the completion of the development phase and from the point in time at which the asset can be used. This point in time is determined by submitting a corresponding completion notification. The depreciation period is based on the life cycle or the economic useful life of the respective product or development service. An impairment test is carried out annually from the development phase onwards.

2.5.6 Property, plant and equipment

Tangible assets are valued at acquisition or production cost, reduced by scheduled depreciation and, if necessary, impairments. In addition to the incidental acquisition costs, the acquisition or production costs include the costs of replacing part of a property, plant and equipment as well as borrowing costs, if material, for long-term construction projects (> 12 months) if the recognition criteria are met. Scheduled depreciation is spread over the useful life on a straight-line basis.

The useful lives listed in the table are the mostly used useful lives for each property, plant and equipment class in the Vaillant Group.

Property, plant and equipment are either derecognized when they are disposed of or when no further economic benefits are expected from the continued use or sale of the asset. The gains or losses on disposal resulting from the derecognition of the asset are determined as the difference between the net sales proceeds and the book value of the asset and recognized in other operating income or other operating expenses in the income statement in the period in which the asset is located is booked out.

The residual values, useful lives and depreciation methods of the assets are checked at least at the end of each financial year; If expectations differ from previous estimates, the corresponding changes are treated as changes in estimates in accordance with IAS 8.

Useful life of property, plant and equipment	years
Buildings on their own land	10 to 50
Technical equipment and machinery	5 to 22
Other equipment, factory and office equipment	3 to 23

In addition, assets from rights of use that are accounted for in accordance with the requirements of IFRS 16 are reported under property, plant and equipment. For further details, please refer to the explanations under 2.5.7 Leases.

2.5.7 Leases

A lease within the meaning of IFRS 16 is a contract that grants the right to control the use of an identified asset (the leased item) for a definable period in return for payment.

The Vaillant Group acts primarily as a lessee, particularly when it comes to renting land and buildings as well as vehicles. For lessees, with a few exceptions, a right of use to the underlying asset (RoU asset) and a corresponding lease liability must be recognized for all leases

The amount of the RoU asset at the time of addition corresponds to the amount of the lease liability plus

- any initial direct costs,
- at or before the provision of lease payments made less lease incentives received, and
- the estimated costs of the dismantling to be borne by the Vaillant Group.

In the following periods, the right of use is valued at amortized cost.

The lease liability includes the following lease payments:

- fixed payments, less leasing incentives to be provided by the lessor,
- variable payments, the amount of which is linked to the development of an index or price,
- expected payments from residual value guarantees,
- the exercise price of a call option if the exercise was assessed as sufficiently certain and
- Contractual penalties for terminating the lease if its term takes into account that a termination option is used.

The lease liability is valued at the present value of the lease payments not yet made. The lease payments are discounted using the interest rate on which the lease is based, provided this can be easily determined. Otherwise, the corresponding marginal borrowing rate is used. In the following, the book value of the lease liability is compounded using the effective interest method and reduced by the lease payments made. Changes in the lease payments result in a revaluation of the lease liability.

Exceptions, which the Vaillant Group makes use of and which only record expenses in the amount of the leasing installments paid in the consolidated income statement, relate to short-term leases with a maximum term of twelve months and lease agreements for low-value assets. Furthermore, the provisions of IFRS 16 are not applied to leases for intangible assets. In the case of real estate and vehicle leases that contain both leasing and non-leasing components, these components are treated separately from one another.

A number of leasing contracts, particularly real estate leasing contracts, contain extension and termination options. When determining the contract period, all facts and circumstances are taken into account that offer an economic incentive to exercise extension options or not exercise termination options. Changes to the term from the exercise or non-exercise of such options are only taken into account in the contract period if they are sufficiently certain and there is no unilateral termination option on the part of the lessor.

Lessors, on the other hand, have to classify a leasing agreement as either a finance lease or an operating lease, depending on the extent to which the opportunities and risks associated with ownership are transferred to the lessee. The classification takes place at the beginning of the lease.

If the lessor bears the main opportunities and risks (operating leasing), the leased item is recognized by the lessor in the balance sheet. The valuation of the leased item is based on the accounting regulations applicable to this item. The lessor collects the leasing installments through profit or loss.

If the lessee bears the main opportunities and risks associated with ownership of the leased item (finance lease), the lessor must derecognize the leased item and recognize a claim in the amount of the net investment in the lease. The lease payments are divided into repayments of the lease receivable and finance income. The receivable from the lease is repaid and updated using the effective interest method.

The Vaillant Group has concluded subleases with external third parties for various leases. These essentially relate to the subletting of buildings. From the perspective of the Vaillant Group as the lessor, the subleases represent operating leases.

2.5.8 Impairment of non-financial assets

The Vaillant Group does not test financial assets for impairment if events or changed circumstances indicate that the book value of an asset may not be recoverable. In addition, the Vaillant Group checks property, plant and equipment and development projects that are not yet ready for use for impairment every year. The Vaillant Group estimates the recoverable amount of the respective asset or, if the individual asset does not generate cash inflows that are largely independent of other assets, of the cash-generating unit (CGU). For the purposes of the impairment test, the recoverable amount is determined as the higher of the fair value less costs to sell and the value in use and compared with the book value. If the book value exceeds the recoverable amount, an impairment loss in the amount of the difference is recognized in profit or loss. When testing non-financial assets for impairment, the determination of the recoverable amount of the assets is associated with estimates. This can have a significant impact on the respective values as well as on the amount of possible impairment. an impairment in the amount of the difference is recognized in profit or loss. When testing non-financial assets for impairment, the determination of the recoverable amount of the assets is associated with estimates. This can have a significant impact on the respective values as well as on the amount of possible impairment. an impairment in the amount of the difference is recognized in profit or loss. When testing non-financial assets for impairment, the determination of the recoverable amount of the assets is associated with estimates. This can have a significant impact on the respective values as well as on the amount of possible impairment.

2.5.9 Inventories

Inventories are valued at acquisition or production cost or at the lower net realizable value. The net realizable value is the estimated sales proceeds that can be achieved in the normal course of business less the estimated costs up to completion and the estimated sales costs. Devaluations to a lower net realizable value, if applicable, represent impairment losses that are recognized in profit or loss and shown in the cost of sales. If the reason for the devaluation no longer applies, the value is reversed up to a maximum of the original acquisition or production costs.

Raw materials, consumables and supplies and merchandise are capitalized at weighted moving average costs. The unfinished and finished goods are valued at production cost or at the lower current or market price. The production costs are made up of the individual material and production costs plus production-related variable and fixed overheads. Risks that arise either from reduced usability or from lower realizable sales prices of inventories are taken into account by means of value adjustments.

2.5.10 Measurement of the fair value

The Vaillant Group values financial instruments (e.g. derivatives) on each balance sheet date at fair value. In addition, the fair value of financial instruments is stated, which is valued at amortized cost. For details on the fair values of financial instruments, please refer to section 7.15. The fair value is the price that would be received for the sale of an asset or paid for the transfer of a liability in an orderly business transaction between market participants on the measurement date.

All financial instruments for which a fair value is recorded or disclosed are classified as follows in the measurement hierarchy, based on the input factor of the lowest level that is significant for the measurement of the fair value as a whole:

Level 1 - Quoted (unadjusted) prices in active markets for like assets or liabilities

Level 2 - valuation methods in which the lowest input parameter that has a significant effect on the valuation at fair value can be observed either directly or indirectly

Level 3 - valuation methods in which the lowest input parameter, which has a significant effect on the valuation at fair value, is not observable

For the purposes of fair value information, the Vaillant Group has determined appropriate classes of assets and liabilities based on the nature, characteristics and risks of the asset or liability and the level of the measurement hierarchy.

2.5.11 Non-derivative financial instruments

2.5.11.1 Initial approach and evaluation

Financial instruments are accounted for and valued in accordance with IFRS 9. According to this, financial instruments are recognized in the consolidated balance sheet if the Vaillant Group has a contractual right to receive cash or other financial assets from another party, or if it has a contractual obligation to another company Surrender cash or other financial assets. The Vaillant Group does not make use of the option to classify financial assets or financial liabilities upon initial recognition as at fair value through profit or loss or equity instruments as not affecting profit or loss at fair value (fair value options). All regulations for the classification and accounting of financial liabilities already contained in IAS 39 have been adopted unchanged in IFRS 9, including the criteria for the application of the fair value option, which the Vaillant Group does not make use of. Based on their nature, financial instruments can be divided into the following classes:

- Financial assets that are valued at amortized cost (financial assets at amortized cost) are assets whose expected cash flows consist exclusively of principal and interest payments on the outstanding capital amount. This assessment is also known as the cash flow condition check and is performed at the financial instrument level. For the purpose of checking the cash flow conditions, the capital amount corresponds to the fair value of the financial asset at the time of acquisition. In addition to the cash flow condition, the classification also depends on the business model,
- Financial liabilities measured at amortized cost (FLAC) are recognized upon addition at the fair value, which generally corresponds to the expected future cash outflow using the effective interest method. This category includes trade payables, loans, and other miscellaneous financial liabilities.
- Financial instruments that are valued at fair value with no effect on income (Financial Instruments at Fair Value Through OCI - FAFVOCI, FLFVOCI) are generally held as part of a dual business model, the objective of which is met if contractual cash flows are regularly received and financial instruments are sold . In addition, the cash flow condition must be met.
- Financial instruments that are measured at fair value through profit or loss (Financial Instruments at Fair Value Through Profit or Loss - FAFVPL, FLFVPL) are usually held within the framework of a business model, the objective of which is met when the cash flows are realized through the sale of the assets . For example, business models in which the financial assets are held for trading purposes or managed on a fair value basis lead to an FVPL valuation. Financial liabilities are classified as for trading purposes,

Customary purchases and sales of financial assets are generally accounted for on the settlement date. A financial instrument is initially recognized at fair value. The Vaillant Group only takes transaction costs into account when determining acquisition costs if it does not measure the financial instruments at fair value through profit or loss. Long-term interest-free or low-interest financial instruments are initially recognized at the present value of the expected future cash flows. With regard to the impairment of financial assets, the Vaillant Group follows the simplified approach in accordance with IFRS 9.5.5.15: Financial assets, those that are valued at amortized cost, and those that are valued at fair value with no effect on income, are valued at the initial recognition and on each subsequent balance sheet date with the total expected credit loss over the term (lifetime expected credit loss model). For this purpose, the assets are summarized in groups of financial assets with comparable default risk profiles and jointly examined for impairment. The Vaillant Group defines the classification of its financial instruments when they are first recognized. are valued at the initial recognition and on each subsequent balance sheet date with the total expected credit loss over the term (lifetime expected credit loss model). For this purpose, the assets are summarized in groups of financial assets with comparable default risk profiles and jointly examined for impairment. The Vaillant Group defines the classification of its financial instruments when they are first recognized. are valued at the initial recognition and on each subsequent balance sheet date with the total expected credit loss over the term (lifetime expected credit loss model). For this purpose, the assets are summarized in groups of financial assets with comparable default risk profiles and jointly examined for impairment. The Vaillant Group defines the classification of its financial instruments when they are first recognized. For this purpose, the assets are summarized in groups of financial assets with comparable default risk profiles and jointly examined for impairment. The Vaillant Group defines the classification of its financial instruments when they are first recognized. For this purpose, the assets are summarized in groups of financial assets with comparable default risk profiles and jointly examined for impairment. The Vaillant Group defines the classification of its financial instruments when they are first recognized.

2.5.11.2 Follow-up evaluation

The subsequent valuation of the financial instruments depends on their classification.

Financial assets that are valued at amortized cost are recognized using the effective interest method and less any impairments that correspond to the expected credit default over the life of the asset when it is added. If there are objective indications of further impairment of an individual asset, the amount of the impairment loss results from the difference between the book value of the asset and the present value of the expected future cash flows.

The group of financial instruments measured at fair value through profit or loss includes derivative financial instruments concluded by the Vaillant Group that are not designated as hedging instruments in hedging relationships in accordance with IFRS 9, trade receivables that are later sold as part of the ABS program, as well as investments in equity instruments of other companies.

The subsequent valuation of other financial liabilities, which are valued at amortized cost, is carried out using the effective interest method. Effects on profit or loss for the period only occur when the liabilities are written off or in the context of subsequent valuation using the effective interest method. Amortized cost is calculated taking into account a premium or discount on acquisition as well as fees or costs that represent an integral part of the effective interest rate. The amortization using the effective interest method is included in the income statement as part of interest expenses.

The Vaillant Group only derecognizes financial assets if the contractual rights to the cash flows from the financial asset expire or if it transfers the financial asset and essentially all the opportunities and risks associated with ownership to a third party.

If the Vaillant Group neither essentially transfers nor retains all of the opportunities and risks associated with ownership, but still has power of disposal over the transferred asset, the Vaillant Group recognizes an asset in the amount of its ongoing commitment and a corresponding liability in the amount that may be payable Amounts.

A financial liability is derecognized when the obligation on which this liability is based has been fulfilled, canceled or has expired.

Financial assets and liabilities are only shown in the balance sheet as a net amount if there is currently a legal right to offset the recorded amounts and the intention is to settle on a net basis or to redeem the associated liability at the same time as the asset in question is realized .

2.5.12 Derivative financial instruments and hedging relationships

The Vaillant Group uses derivative financial instruments to hedge against exchange rate, interest rate and raw material price risks.

Derivatives are initially recognized at their fair value at the time the contract is concluded and then measured at fair value on each reporting date. If material, the credit default risk is appropriately taken into account in the valuation in accordance with the requirements of IFRS 13. The profit or loss resulting from the valuation is immediately recognized in profit or loss, unless the derivative is designated and effective as a hedging instrument within the framework of a hedge accounting.

As part of its hedging strategy and by designing it as an effective hedging instrument, the Vaillant Group uses forward exchange transactions to hedge against exchange rate risks, interest rate hedges to hedge against the risk of changes in interest rates, and commodity futures contracts to hedge the purchase price of goods. The hedging instruments used by the Vaillant Group basically serve to hedge payment flows (cash flow hedge). All hedging instruments are always designated in their entirety, that is, in addition to the spot rate component, the forward component is also designated (forward-to-forward method). The Vaillant Group reports the effective part of the changes in the fair value of these instruments after taking deferred income taxes into account in other comprehensive income. The ineffective part is immediately recognized in profit or loss in the consolidated income statement. The amounts accumulated in equity are reported in the consolidated income statement in the same periods in which the hedged underlying transaction is reflected in the consolidated income statement. If the expected transaction or firm commitment is no longer expected to occur, the cumulative gains or losses previously recorded in equity are transferred to the income statement. If the hedging instrument expires, sold, terminated or exercised without the hedging instrument being replaced or rolled over to another hedging instrument or the criteria for hedge accounting are no longer met, the cumulative gains or losses previously recognized in other comprehensive income remain in other comprehensive income until the expected transaction or firm commitment affects the result.

During the valuation, the fair values of the currency forwards are determined on the basis of the respective reference rates on the balance sheet date of the European Central Bank (ECB) plus the corresponding forward premiums or discounts. The value of the commodity futures is determined on the basis of the forward prices determined by the London Metal Exchange. If the fair value cannot be derived from active and liquid markets, the net present value of future cash flows represents the fair value. Derivative financial instruments are shown as financial assets or liabilities if their fair value is positive or negative.

2.5.13 Taxes

Income taxes include both actual income taxes and deferred taxes. Current and deferred taxes are recognized in the income statement, unless they are related to items that are recognized either in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity.

The actual tax refund claims and tax liabilities for the current and previous periods are measured at the amount of which a refund or payment to the tax authorities is expected. The calculation of the amount is based on the tax rates and tax laws that apply on the reporting date in the countries in which the Vaillant Group operates and generates taxable income.

According to the liability method, deferred tax assets and liabilities are recognized with the future tax effect resulting from the differences between the balance sheet and tax values of asset and liability items. There is an exception for differences that arise from the initial recognition of goodwill and that do not lead to any recognition of deferred taxes. Deferred tax assets are recognized if sufficient taxable income is available in the future. Among other things, the planned results from operating activities, the effects on earnings from the reversal of taxable temporary differences and possible tax strategies are included.

Deferred tax claims and deferred tax liabilities are offset against each other if the Vaillant Group has an actionable claim to offset the actual tax refund claims against actual tax liabilities and these relate to income taxes of the same taxable entity that are levied by the same tax authority.

2.5.14 Pension commitments

The Vaillant Group's expenses from defined contribution plans are recognized within the operating result. The Vaillant Group evaluates the benefit entitlements from defined benefit plans using the regular single premium method, which reflects the actuarial present value of the entitlement already earned. The present value of the defined benefit obligation (DBO) is calculated by the Vaillant Group, taking into account future salary and pension trends, as the benefit entitlement that can be achieved up to the regular retirement age depends on these. The pension obligations are determined on the basis of an actuarial report. Revaluations, consisting of actuarial gains and losses, for example from the adjustment of the discount rate, and from the difference between the expected and actual return on plan assets, are recognized directly in other comprehensive income. The revaluations recorded in other comprehensive income will not be reclassified to the consolidated income statement in subsequent periods. The assumptions on which the calculation of the DBO is based on the balance sheet date of the previous year apply to the determination of the current service cost as well as the calculated interest income and interest expenses for the following financial year. The current and past service costs for post-employment benefits as well as other administrative costs that are not related to the management of the plan assets are charged to the operational functional areas. Past service cost is recognized in profit or loss when the plan change occurs.

If the acquired benefit entitlements are not covered by plan assets, the Vaillant Group recognizes a liability from post-employment benefits in the amount of the DBO. If the benefit entitlements are covered by assets, the Vaillant Group offsets the fair value of the plan assets against the DBO. The net amount is shown in the item "Provisions for pensions" or in the item "Long-term assets".

2.5.15 Other provisions

Provisions are recognized if there is a current, legal or constructive obligation towards a third party due to a past event, the outflow of resources with economic benefit to fulfill the obligation is probable and a reliable estimate of the amount of the obligation is possible. These provisions are recognized at the expected settlement amount, taking into account all identifiable risks. The settlement amount reflects the best possible estimate of the expense that is required to meet the current obligation as of the balance sheet date. If individual obligations are assessed, the most likely outcome is the best possible estimate of the liability.

If the Vaillant Group expects a reimbursement, at least in part, for a provision recognized as a liability, the reimbursement is recognized as a separate asset, provided that the receipt of the reimbursement is virtually certain. The expense from the formation of the provision is shown in the income statement less this reimbursement. Long-term provisions are discounted if the resulting effect is significant.

2.5.16 Cash and cash equivalents

Cash and cash equivalents mainly consist of cash and sight deposits at banks and are valued at face value.

2.5.17 Government grants

Government grants are only recognized if there is reasonable assurance that the conditions attached to them will be met and that the grants will be received. Investment grants are recorded as a reduction in the acquisition or production costs of the assets concerned and lead to a corresponding reduction in scheduled depreciation in subsequent periods. Grants that are not related to investments are shown in the functional areas in the consolidated income statement in which the underlying expenses were recorded.

2.5.18 Revenue recognition

The Vaillant Group is an international company in the heating, ventilation and air conditioning industry. The focus is on the sale of heating devices based on natural gas as well as technologies for the use of renewable energies. In addition to the product business, the service business is another focus of business activity. Commissioning, repairs and maintenance are just as much a part of this as warranty extensions, connective services and internet-based applications.

Revenue from the sale of goods and products is recognized as soon as the power of disposal over the goods has passed to the buyer. This is the case when the products have been shipped to the customer and the customer has taken on the opportunities and risks associated with ownership of the goods has.

In addition to the sale of products, the Vaillant Group also generates revenue from the provision of services. Revenues from commissioning and maintenance are recorded when the service has been performed. Income for services that are rendered through several partial services within a certain period of time are recorded on a straight-line basis within this period. This primarily relates to sales from extended warranty services as well as the realization of sales from remote monitoring and diagnosis in the context of connective services.

Revenue from contracts that contain several service promises (e.g. sales of goods in combination with services) are recognized when the respective contractual element has been delivered or performed. The allocation of the transaction price to the individual services is based on their relative individual selling prices. In particular, the cost surcharge method (expected cost plus margin approach) is used throughout the group.

Sales of goods and products that lead to the granting of bonus points to customers in accordance with the Group's loyalty point program are accounted for as multi-component contracts and the fair value of the consideration received or to be received is divided between the goods sold and the bonus points granted in accordance with the relative individual selling prices . The consideration for the bonus points granted is determined on the basis of the discount granted upon redemption, taking into account the probability of redemption. Such consideration is not realized as sales at the time of the original sales transaction, but is initially deferred as a liability under the contractual liabilities. The Vaillant Group acts largely as a principal within the framework of the customer loyalty programs it has issued. Sales are recorded when the bonus points have been redeemed and the Vaillant Group has fulfilled its performance obligations.

When determining the transaction price, financing components are only taken into account if they have a significant impact on the asset, financial and earnings position of the Vaillant Group. If the Vaillant Group grants its customers long-term payment terms and the implicit financing effect is material, the transaction price is determined by discounting the promised consideration. The present value determined in this way is compounded over the term agreed with the customer using the effective interest method, whereby the amount from the compounding is shown within the interest income. A major financing component is generally not taken into account for the amount and time of revenue recognition,

In connection with long-term service contracts in particular, customers may make advance payments. However, in accordance with IFRS 15.62 (c), these do not contain any financing components and are therefore recognized as contractual liabilities under other liabilities in the amount of the consideration received.

Directly attributable costs of contract initiation in connection with the conclusion of long-term service contracts are only recognized as other assets and released through profit or loss over the term of the underlying contracts if the resulting effects are material and the Vaillant Group also expects these costs to exceed the Returns from the service contract can be earned again. Here, too, the Vaillant Group makes use of the option of not capitalizing the costs of contract initiation, provided that the depreciation period that would otherwise be used does not exceed twelve months.

The Vaillant Group receives cash inflows from the sale of goods and products as well as the provision of services in accordance with the payment modalities agreed with the customer, which basically correspond to the usual market conditions. With regard to the sale of products, invoicing usually takes place upon delivery of the goods, taking into account the contractually agreed payment terms. In connection with the provision of services, the billing takes place either immediately after the provision of the service or in advance, especially in the case of long-term service contracts, which then leads to the delimitation of contractual obligations. Variable remuneration components primarily relate to bonus agreements, price reductions and other reimbursements. They apply to both direct and indirect customers of the Vaillant Group and are only taken into account when determining the transaction price to the extent that it is highly probable that there will be no significant adjustment to sales in future periods. The Vaillant Group uses several methods to estimate the scope of obligations from variable reimbursements to direct and indirect customers as of the balance sheet date;

For obligations from warranties in the first 24 months after the goods have been placed on the market, provisions are made at the time of sale, which are recognized within the cost of sales. Guarantee agreements that go beyond this period are recognized as an independent performance promise with their own revenue recognition.

Within the Vaillant Group, there are no material take-back or buy-back obligations from the sale of goods. The Vaillant Group basically acts as the principal in its customer relationships.

3 DISCRETIONAL DECISIONS AND ESTIMATION UNCERTAINTIES

When preparing the consolidated financial statements, management makes certain assumptions and estimates that can have a significant impact on the presentation of the Vaillant Group's net assets, financial position and results of operations. The assumptions and estimates essentially relate to the following issues:

The premises and the underlying methodology for carrying out the impairment test can have a significant influence on the respective values and ultimately on the amount of possible impairment of goodwill, capitalized development costs and property, plant and equipment. In particular, the determination of discounted cash flows is subject to extensive planning assumptions that are sensitive to changes and can thus significantly influence the value. We refer to our explanations in chapters 7.1 to 7.2.

When determining the transaction price in accordance with IFRS 15 as the basis for revenue recognition, the Vaillant Group regularly makes estimates of expected variable consideration in the form of bonuses, other price reductions and other reimbursements to direct and indirect customers. In addition to bonuses and discounts, these primarily concern performance-based reimbursement models with customers based on annual target agreements that are linked to the achievement of certain targets (e.g. sales volumes). Even if variable consideration is only taken into account to the extent that it is highly likely that they will exist, subsequent adjustments can in principle always be made.

The individual selling prices, which form the basis of the sales allocation in multi-component contracts, are reviewed annually for appropriateness and - if necessary - adjusted with prospective effect from the time of the change. If stand-alone selling prices cannot be observed directly, they are estimated using the cost surcharge method. In these cases, the determination is associated with uncertainties and requires business judgment.

Depending on the respective country-specific business practices, customer contracts can also contain implicit performance promises. These are derived from the historical empirical values available in each case and taken into account when determining the sales-relevant performance promises.

The determination of the term of leases in accordance with IFRS 16 can be associated with uncertainties. This applies in particular to long-term agreements with extension or termination options on the part of the Vaillant Group as the lessee. These are only taken into account when determining the term if it appears sufficiently certain that the option will be exercised.

Since the lessor's internal discount rate cannot usually be determined without further ado, the term-equivalent and currency-equivalent marginal borrowing rate is usually determined with regard to the discount rate relevant for discounting purposes. Its determination is generally associated with assumptions and estimates.

The determination of the impairment of financial assets, in particular for trade receivables and other receivables, includes to a considerable extent assessments and assessments of individual receivables and receivables with comparable default risk profiles with regard to the creditworthiness of customers, current economic developments and the analysis of historical bad debts. For further information we refer to chapter 7.4.

In terms of income taxes, there are uncertainties regarding the interpretation of complex tax regulations and the amount and timing of future taxable results. This applies to both actual and deferred taxes. The current income taxes in the Vaillant Group are calculated taking into account the legal requirements applicable in the respective countries. Insofar as legal discretion has been exercised in the recognition and valuation of the tax items presented in the financial statements, the local tax authorities can generally position themselves differently. Deferred tax assets are recognized to the extent that it is probable that that they can be used. The use of deferred tax assets depends on the possibility of generating sufficient taxable income within the framework of the respective tax type and tax jurisdiction. For this purpose, the planned operating business results and the effects on earnings from the reversal of taxable temporary differences are taken into account. However, since future business developments are uncertain and in some cases cannot be influenced by the Vaillant Group, the valuation of deferred taxes is associated with uncertainties. Uncertain income tax items on the balance sheet are valued at the expected value. Further information can be found in Chapter 5.9. The use of deferred tax assets depends on the possibility of generating sufficient taxable income within the framework of the respective tax type and tax jurisdiction. For this purpose, the planned operating business results and the effects on earnings from the reversal of taxable temporary differences are taken into account. However, since future business developments are uncertain and in some cases cannot be influenced by the Vaillant Group, the valuation of deferred taxes is associated with uncertainties. Uncertain income tax items on the balance sheet are valued at the expected value. Further information can be found in Chapter 5.9. 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Obligations for pensions and related expenses are determined in accordance with actuarial valuations. These valuations are based on assumptions, including discount rates, expected inflation rates, and mortality rates. The discount rates used are determined on the basis of the yields that are achieved at the end of the reporting period for high-quality fixed-income corporate bonds with a corresponding term and currency. If such yields are not available, the discount rates are based on market yields on government bonds. Sensitivity analyzes of the key actuarial assumptions made can be found in Section 7.8.

The contingent liabilities and the recognition and measurement of provisions are largely subject to estimates by the Vaillant Group. In addition to assessing the likelihood of an outflow of resources to meet the obligation, this also applies to a reliable estimate of the amount of the obligation. These assessments may change if more recent information becomes available, and this may affect the Vaillant Group's net assets, financial position and results of operations. More detailed information can be found in chapters 7.9 and 7.13.

4 SCOPE OF CONSOLIDATION

In the consolidated financial statements of the Vaillant Group as of December 31, 2019, including Vaillant GmbH as the parent company, 16 domestic (2018: 14) and 94 foreign (2018: 91) companies were fully consolidated.

The scope of consolidation changed as follows in the past fiscal year:

Reconciliation	inland	abroad	total
Fully consolidated companies 01/01/2019	14th	91	105
Accesses	2	4th	6th
Departures	0	1	1
Fully consolidated companies December 31, 2019	16	94	110

As the six additions in the financial year, viewed separately, were insignificant transactions, a summary of these acquisitions is provided below.

A total of 100 percent of the shares in two service companies and 61 percent of the shares in a logistics company with its associated subsidiaries, in which the Vaillant Group previously held 39 percent, were acquired. All acquired companies are based in Europe. In one service company, shares were acquired on December 31, 2019; all other companies were acquired on January 1, 2019. The consideration for the acquisition of the corresponding shares totaled EUR 4.8 million. There was no significant effect from the necessary revaluation of the old shares in the acquired logistics company that were already accounted for.

The following table shows the assets and liabilities acquired:

2019 million euros	Fair values
Means of payment	2.2
Requests from deliveries and services	5.3
Stocks	0.6
Other claims and tax refund claims	2.0
Other intangible assets	3.4
Property, plant and equipment	10.3
liabilities from goods and services	-1.9
Other provisions	-10.1
Other liabilities and income tax liabilities	-5.8

2019 million euros	Fair values
Deferred tax liability	-0.7
Net worth acquired	5.1

The fair value of the acquired trade receivables was EUR 5.3 million. No receivables were impaired.

The annual surplus of the Vaillant Group in 2019 was burdened by the acquired companies with 1.3 million euros, the sales revenues since inclusion in the Vaillant Group amounted to 1.1 million euros. If the time of acquisition of the above service company had been January 1, 2019, the Vaillant Group's net income would have been EUR 0.3 million and sales would have been EUR 1.5 million higher.

The cash flow impact of the acquisitions was as follows:

Purchase price payment - outflow of funds

Million Euro	2019
Outflow of cash to acquire the subsidiary without cash	4.8
Less purchased means of payment	2.2
Net cash outflow - investing activities	2.6

The disposal is a merger: The Italian service company Hermann Srl, based in Milan, was merged within the group into Vaillant Group Italia SpA.

In addition, the Vaillant Group increased its shares in the Spanish service company Ateca SLU, based in Albacete, to 100 percent in the 2019 financial year. Since the Vaillant Group had already exercised control before acquiring the additional shares, the transaction was treated as an equity transaction. Therefore, the difference between the consideration and the fair value of the shares acquired amounting to EUR 0.4 million was shown as a reduction in retained earnings.

Further information on the scope of consolidation:

Although the voting rights share in Sematec-Burgos SL, Burgos, Spain, is only 45 percent, this company belongs to the group of fully consolidated affiliated companies. In spite of the lack of a majority of voting rights, the management believes that there is a control relationship, as the Vaillant Group can determine the company's business and financial policy through all of its substantial rights.

In the case of the fully consolidated subsidiaries in which the Vaillant Group holds 50 percent of the voting rights, control also results from the ability to determine the relevant operational and financial activities of the companies concerned when the substantial rights are exercised. In addition to voting rights, the possibility of control is based in particular on existing contractual agreements between the Vaillant Group and other investors and the economic dependence of the subsidiaries on the Vaillant Group.

The Vaillant Corporation, Cinnaminson, USA, and Vaillant Ltd., Hong Kong, China are not included in the consolidated financial statements, as these companies ceased their operating activities several years ago and are therefore used for assessing the asset, financial and earnings position of the Group are of minor importance.

As of December 31, 2019, there were restrictions in the Vaillant Group for various Group companies in the form of prohibitions on disposal, obligations and burdens, which were agreed in connection with the existing defined benefit pension plans in Great Britain (so-called negative pledge subgroup). The aim of the agreement is basically to preserve the value of the companies concerned to secure the claims from the plan. This results in numerous restrictions, for example with regard to the taking out of loans, the issuing / taking up of guarantees and the transfer of participations and other assets.

There are further general restrictions on disposal of assets that have been capitalized as property, plant and equipment on the basis of leasing agreements (see Section 7.2).

No assets were pledged as security for debts. With regard to the minority interests, there are no property rights or restrictions on disposal that go beyond the usual extent.

The following table contains details on the directly and indirectly associated companies of the Vaillant Group.

Name of the company	Seat	Head office / country of establishment	Participation and voting rights quota (in%)	Type of relationship	Valuation method
Tianjin Vaillant Gas Water Heater Ltd.	Tianjin	CN	47	Sales company	At amortized cost
Manuel J. Monteiro & Co. Lda.	Barcarena	PT	26th	Sales company	Equity method

If shares in subsidiaries or associated companies are of minor importance from a group perspective, they are accounted for using the cost method.

The balance sheet date of all companies included in the consolidated financial statements is December 31, 2019.

The following companies included in the consolidated financial statements in the form of full consolidation are exempt from the application of the provisions for corporations pursuant to Sections 264 ff. Of the German Commercial Code (HGB) based on Section 264 (3) and Section 264b of the German Commercial Code:

- Vaillant Verwaltungs-GmbH, Remscheid
- Vaillant Group International GmbH, Remscheid
- Vaillant Group Business Services GmbH, Remscheid
- Vaillant Deutschland GmbH & Co. KG, Remscheid
- tecbytel GmbH, Gelsenkirchen
- PowerPlus Technologies GmbH, Wilsdruff
- HKR GmbH & Co. KG, Roding

The following information on shareholdings meets the requirements of Section 313 of the German Commercial Code (HGB).

The following table shows the fully consolidated, direct and indirect affiliated companies of Vaillant GmbH:

Fully consolidated holding companies

society	Seat	country	Share in%
Cogenon GmbH	Remscheid	DE	100
Heiztechnik Roding Verwaltungs GmbH	Roding	DE	100
HKR GmbH & Co. KG	Roding	DE	100
OB Bergsicherung GmbH	Remscheid	DE	100
PowerPlus Technologies GmbH	Wilsdruff	DE	100
tecbytel GmbH	Gelsenkirchen	DE	100

society	Seat	country	Share in%
TechnoCargo Logistik GmbH and Co. KG	Neuss	DE	100
TechnoCargo Logistik Beteiligungsgesellschaft mbH	Neuss	DE	100
Vaillant Germany GmbH & Co. KG	Remscheid	DE	100
Vaillant Group Business Services GmbH	Remscheid	DE	100
Vaillant Group International GmbH	Remscheid	DE	100
Vaillant Marketing GmbH	Remscheid	DE	100
Vaillant North America Holding GmbH	Remscheid	DE	100
Vaillant Verwaltungs-GmbH	Remscheid	DE	100
Vesta GmbH	Remscheid	DE	100
Vaillant Group Austria GmbH	Vienna	AT	100
Vaillant doo	Sarajevo	BA	100
Bulex Services NV	Drug abuse	BE	100
Saunier Duval Belgique SA	Destelbergen	BE	100
Vaillant NV	Drug abuse	BE	100
Globes SA Global Energy Solutions	Cadenazzo	CH	100
Vaillant GmbH	Dietikon	CH	100
Tianjin Demrad International Trading Co. Ltd.	Tianjin	CN	100
Vaillant Group (China) Heating, Cooling and Environmental Technology Co. Ltd.	Shanghai	CN	100
Vaillant (Beijing) Heating Equipment Trading Co. Ltd.	Beijing	CN	100
Vaillant (Wuxi) Heating Equipment Co. Ltd.	Wuxi	CN	100
Vaillant Group Czech sro	Chrášťany	CZ	100
Vaillant A / S	Karlslunde	DK	100
Astursat Servicio Técnico de Asturias SLU (Astursat)	Tremañes-Gijón	IT	100
Asistencia Técnica Calefacción SLU (Ateca)	Albacete	IT	100
Avisat SLU	Avila	IT	100
Centro de Asistencia Técnica y Mantenimientos Programados SL (Catemanp)	Toledo	IT	50
Dicoman Vizcaya Servicio de Asistencia Técnica SL (Dicoman Vizcaya)	Basauri	IT	75
Red Ofisat SLU	Zamudio	IT	100
Red Ofisat Eliosat SLU	Seville	IT	100
Red Ofisat La Rioja SLU	Logroño	IT	100
Red Ofisat Zaragoza SLU	Zaragoza	IT	100
Satastur SLU	Gijón	IT	100
Servicio de Asistencia Técnica Especialista en Calderas SA (Satec)	Madrid	IT	50
SAT Etxeiru SL	Pamplona	IT	100
Servicio de Asistencia Técnica Suministros y Reparaciones SL (SATSURE)	Palencia	IT	70
Saunier Duval Clima SAU	Vitoria	IT	100
Saunier Duval Dicosa SAU	Zamudio	IT	100
Sauniersat Alacant, Servicio de Asistencia al Cliente SLU (Sauniersat Alacant)	Alicante	IT	100
Sauniersat Tarragona Servicio de Asistencia al Cliente SL (Sauniersat Tarragona)	Tarragona	IT	50
Saunier Tec Mantenimientos de Calor y Frío SL (Saunier Tec)	Madrid	IT	60
Sematec Burgos Servicio de Asistencia al Cliente SL (Sematec Burgos)	Burgos	IT	45
Sematec Guipúzcoa SL	San Sebastian	IT	55
Sematec Pealber Servicio de Asistencia Técnica SL (Sematec Pealber)	Lleida	IT	60
Sematec Zaragoza SLU Técnica de Servicios (Sematec Zaragoza)	Zaragoza	IT	100
Serviat SL	Madrid	IT	50
Vaillant SLU	Vitoria	IT	100
Vaillant Saunier Duval Ibérica SL	Vitoria	IT	100
Vaillant Servi Tecnic Girona SL	Girona	IT	70
Vaillant Servicio Tecnico Levante 2009 SLU	Valencia	IT	100
Vatec Valladolid Asistencia Técnica SL (Vatec)	Valladolid	IT	75
Garanka Ile de France SAS	Paris	FR	100
Garanka Center Ouest SAS	Chambray-Iès-Tours	FR	100
Garanka Holding SAS	Fontenay-sous-Bois	FR	100
Garanka Nord Ouest SAS	Le Mans	FR	100
Garanka Sud Est SAS	Seynod	FR	100
Garanka Sud Ouest SAS	Toulouse	FR	100
Saunier Duval Eau Chaude Chauffage SAS	Fontenay-sous-Bois	FR	100
Saunier Duval Eau Chaude Chauffage Industrie SAS	Nantes	FR	100
Saunier Duval Pièces De Rechange SAS	Nantes	FR	100
Societe Financiere Saunier Duval SAS	Nantes	FR	100
Vaillant Group France Gestion SARL	Fontenay-sous-Bois	FR	100
DD Heating Ltd.	Belper	GB	100
TechnoCargo Logistics Ltd.	Ripley	GB	100

society	Seat	country	Share in%
Vaillant Ltd.	Belper	GB	100
Vaillant European Holdings Ltd.	Belper	GB	100
Vaillant Group UK Ltd.	Belper	GB	100
Vaillant Holdings Ltd.	Belper	GB	100
Vaillant Home Products Ltd.	Belper	GB	100
Vaillant Industrial UK Ltd.	Belper	GB	100
Vaillant Management Ltd.	Belper	GB	100
Vaillant Netherlands Holdings Ltd.	Belper	GB	100
Vaillant R&M Ltd.	Belper	GB	100
Vaillant doo	Zagreb	MR	100
Vaillant Saunier Duval Kft.	Budapest	HU	100
Vaillant Group Italia SpA	Milan	IT	100
Vaillant Group Korea Ltd.	Seoul	KR	100
Vaillant Group Norge AS	Vestby	NO	100
Vaillant Group Netherlands BV	Amsterdam	NL	100
Vaillant Dutch Holdings BV	Amsterdam	NL	100
Center Serwis Dariusz Ciupak Sp.K.	Rzeszów	PL	50
Partner Serwis Cezary Mielczrek Sp.K.	Szczecin	PL	50
Przedsiebiorstwo Uslogo-Handlowe Feston Waldemar Królski Sp.K.	Obernigk	PL	50
Regional Center Serwisowe Wojciech Besz Sp.K.	Wroclaw	PL	50
SEBIK Piotr Kuklinski Sp.K.	Białystok	PL	50
Serwis partner Antoni Kita Sp.K.	Krakow	PL	50
Serwis Pomorskie Eugeniusz Słowik Sp.K.	Sopot	PL	50
Serwis System Eugeniusz Słowik Sp.K.	Koenigshütte	PL	50
Serwis Warszawa Dariusz Klos Sp.K.	Kobyłka	PL	50
Thermoserwis Szymon Wozniak Sp.K.	Zielona Góra	PL	50
Vaillant Saunier Duval Sp.zoo	Warsaw	PL	100
Vaillant Group Romania Srl	Bucharest	RO	100
Vaillant doo	Belgrade	RS	100
Vaillant Group Rus Ltd.	Moscow	RU	100
Protherm Production sro	Skalica	SK	100
TechnoCargo Logistik Slovakia sro	Trenčianske Stankovce	SK	100
Vaillant Group Slovakia sro	Skalica	SK	100
Vaillant Industrial Slovakia sro	Skalica	SK	100
Vaillant Group Gaseres AB	Svedala	SE	100
Vaillant doo	Ljubljana	SI	100
Panel Radyatör Sanayi ve Ticaret A.§.	Istanbul	TR	100
Türk Demir Döküm Fabrikaları A.Ş.	Istanbul	TR	100
Vaillant İsı Sanayi ve Ticaret Limited Şirketi	Istanbul	TR	100
Daughter Enterprise "Vaillant Group Ukraine"	Kiev	UA	100

The general partner of HKR GmbH & Co. KG, based in Roding, Germany, is Heiztechnik Roding Verwaltungs GmbH, Roding, Germany. Vaillant Marketing GmbH, based in Remscheid, Germany, is the general partner of Vaillant Deutschland GmbH & Co. KG, Remscheid, Germany. TechnoCargo Logistik Beteiligungsgesellschaft mbH is the general partner of TechnoCargo Logistik GmbH u.Co. KG.

Subsidiaries of minor importance

society	Seat	country	Share in%
Vaillant Corporation	Cinnaminson	US	100
Vaillant Ltd.	Hong Kong	CN	100

The following tables contain details of the Group's subsidiaries in which there are minority interests. In terms of materiality, the presentation focuses on the Spanish service companies (hereinafter referred to as the Red Ofisat Group):

Name of the company	Head office / country of establishment	Ownership share held by the Vaillant Group (in%)	Main business activities
Red Ofisat Group			
Centro de Asistencia Técnica y Mantenimientos Programados SL (Catemanp)	IT	50	Customer service
Dicoman Vizcaya Servicio de Asistencia Técnica SL (Dicoman Vizcaya)	IT	75	Customer service
Servicio de Asistencia Técnica Especialista en Calderas SA (Satec)	IT	50	Customer service
Servicio de Asistencia Técnica Suministros y Reparaciones SL (SATSURE)	IT	70	Customer service
Sauniersat Tarragona Servicio de Asistencia al Cliente SL (Sauniersat Tarragona)	IT	50	Customer service
Saunier Tec Mantenimientos de Calor y Frío SL (Saunier Tec)	IT	60	Customer service
Sematec Burgos Servicio de Asistencia al Cliente SL (Sematec Burgos)	IT	45	Customer service
Sematec Guipúzcoa SL	IT	55	Customer service

Name of the company	Head office / country of establishment	Ownership share held by the Vaillant Group (in%)	Main business activities
Sematec Pealber Servicio de Asistencia Técnica SL (Sematec Pealber)	IT	60	Customer service
Serviat SL	IT	50	Customer service
Vaillant Servi Tecnic Girona SL	IT	70	Customer service
Vatec Valladolid Asistencia Técnica SL (Vatec)	IT	75	Customer service

The summarizing financial information regarding the subsidiaries of the group in which there are significant minority interests is given below. These correspond to the amounts before internal eliminations.

	Red Ofisat Group	
Million Euro	December 31, 2019	December 31, 2018
Short-term assets	83.7	82.0
Short term debt	65.9	60.2
Short-term net worth	17.8	21.8
Long-term assets	18.9	12.4
Long term debt	4.1	1.2
Long-term net worth	14.7	11.2
Net worth	32.6	33.0
Share of equity attributable to the shareholders of the parent company	27.2	27.7
Share without controlling influence	5.3	5.3
Sales	121.1	117.1
expenditure	-97.1	-92.9
Annual surplus / deficit (-)	24.0	24.2
Share attributable to the shareholders of the parent company	18.3	18.8
Share without controlling influence	5.7	5.4
Overall result	24.0	24.2
Share attributable to the shareholders of the parent company	18.3	18.8
Share without controlling influence	5.7	5.4
Dividends paid to minorities	5.4	5.1
Cash flow from operating activities	31.4	25.5
Cash flow from investments	-2.9	-2.3
Cash flow from financing activities	-26.4	-23.3
Net increase / decrease (-) in cash funds	2.0	-0.1

Significant associated companies no longer existed as of December 31, 2019; As of the reporting date, there were no restrictions on the ability of the remaining funds to transfer funds to the Vaillant Group in the form of cash dividends or loan repayments.

5 EXPLANATIONS TO THE CONSOLIDATED INCOME STATEMENT

The main items in the income statement are explained below.

5.1 Sales

Sales in the 2019 financial year amounted to 2,621.3 million euros (2018: 2,500.9 million euros) and were made up as follows:

Million Euro	2019	2018
Southern Europe	636.4	620.5
Central Europe	619.0	587.2
Northern Europe	592.5	560.8
Asia / export	475.3	463.0
Eastern Europe	298.1	269.4
total	2,621.3	2,500.9

The balances of the contractual assets and contractual liabilities still outstanding as of the balance sheet date are as follows:

Million Euro	December 31, 2019	December 31, 2018
Contractual Assets	240.2	266.0
Contractual Liabilities	-197.4	-173.7
Net Assets (+) / Net Liabilities (-)	42.8	92.3

The Vaillant Group receives cash inflows from the sale of goods and products as well as the provision of services in accordance with the terms and conditions of the contracts and payment methods. Contractual assets represent the right to receive the agreed consideration for deliveries and services already provided by the Vaillant Group. In addition to receivables from deliveries and services already billed in the amount of EUR 239.5 million (2018: EUR 264.9 million), this item includes also include claims from services rendered in the amount of EUR 0.7 million (2018: EUR 1.1 million) for which an invoice has not yet been issued. Contractual liabilities relate to the Vaillant Group's existing performance obligations, for which she has already received or has yet to receive consideration from the customer. Changes to the contractual assets and contractual liabilities result from the fulfillment of the respective contractual obligations. With regard to the development of value adjustments on the contractual assets, we refer at this point to the explanations in Section 7.4. Obligations to take back or buy back products sold to wholesalers exist only to such an insignificant extent that no provisions have been made in the balance sheet for them. Changes to the contractual assets and contractual liabilities result from the fulfillment of the respective contractual obligations. With regard to the development of value adjustments on the contractual assets, we refer at this point to the explanations in Section 7.4. Obligations to take back or buy back products sold to wholesalers exist only to such an insignificant extent that no provisions have been made in the balance sheet for them. Changes to the contractual assets and contractual liabilities result from the fulfillment of the respective contractual obligations. With regard to the development of value adjustments on the contractual assets, we refer at this point to the explanations in Section 7.4. Obligations to take back or buy back products sold to wholesalers exist only to such an insignificant extent that no provisions have been made in the balance sheet for them. With regard to the development of value adjustments on the contractual assets, we refer at this point to the explanations in Section 7.4. Obligations to take back or buy back products sold to wholesalers exist only to such an insignificant extent that no provisions have been made in the balance sheet for them. With regard to the development of value adjustments on the contractual assets, we refer at this point to the explanations in Section 7.4. Obligations to take back or buy back products sold to wholesalers only exist to such an insignificant extent that no provisions have been made in the balance sheet for them.

In the financial year, sales of EUR 104.6 million (2018: EUR 97.7 million) were recognized from contractual liabilities that were included in the balance of liabilities at the beginning of the financial year. In the year under review, no subsequent changes to existing contracts were agreed with customers that would have led to a reassessment of the contractual liabilities and thus to a revision of the associated sales. Adjustments to expected variable consideration in the form of bonuses, other price reductions and other reimbursements based on sales in the previous year resulted in an overall increase in sales of EUR 10.3 million in the reporting year (2018: EUR 6.4 million).

As in the previous year, there were no significant financing components from existing customer contracts as of the balance sheet date.

As in the previous year, as of December 31, 2019, there were no assets from directly attributable costs of contract initiation in connection with the conclusion of long-term customer contracts.

The contractual liabilities from services still to be performed as of December 31, 2019 break down as follows:

Million Euro	December 31, 2019	December 31, 2018
Due within one year	121.5	104.6
Due in 1 to 5 years	71.8	65.3
Due after 5 years	4.1	3.8
Contractual Liabilities	197.4	173.7

The contractual liabilities relate to outstanding services in connection with the bonus point programs as well as to service contracts. Deliveries and services from the bonus point programs are expected within twelve months of the balance sheet date; the remaining term of the service contracts ranges from 1 month to 120 months (2018: 1 to 120 months). Contractual liabilities from long-term service contracts result from prepayments from customers to whom the Vaillant Group has outstanding performance obligations. Over time, these liabilities are reduced in accordance with the proportionate performance progress of the respective performance obligation.

5.2 Production cost of sales

The cost of sales in the financial year was 1,570.7 million euros (2018: 1,510.0 million euros). This item includes the manufacturing costs of the products sold, the purchase costs of the merchandise sold and the costs that can be allocated to service sales. In addition to the directly attributable costs such as material and personnel costs, they also include production-related variable and fixed overheads. In addition, the cost of sales includes income from government grants for personnel measures in the amount of EUR 1.0 million (2018: EUR 1.3 million).

5.3 Research and Development Costs

Research and development costs amounted to EUR 107.6 million in the financial year (2018: EUR 97.8 million). For the 2019 financial year, government grants of 2.4 million euros (2018: 1.8 million euros) were included in research and development costs.

Research costs are generally recognized as an expense in the period in which they are incurred. Development costs are capitalized as soon as the criteria listed in Section 2.5.5 are met on a cumulative basis. Research and development costs included EUR 4.0 million in impairment losses on capitalized development costs (2018: EUR 1.2 million) (see Section 7.1.2).

5.4 Marketing and Distribution Expenses

Marketing and sales costs rose to EUR 562.8 million in the financial year (2018: EUR 523.7 million). In addition to the costs of sales promotion measures, marketing costs also include costs for advertising measures and external training. Selling costs include the costs of the sales-related units of the Vaillant Group as well as the logistics costs including customs duties for the physical distribution and warehousing of the salable products. In addition, marketing and selling expenses included government grants for personnel measures in the amount of EUR 0.2 million (2018: EUR 0.5 million).

5.5 Administration costs

Administrative costs amounted to 142.2 million euros in the financial year (2018: 130.2 million euros). The increase compared to the previous year is mainly due to increased expenses in the context of digitization projects. The administrative costs generally include the personnel and material costs of the central administrative organization. These staff functions mainly include the management, strategy department, legal department, human resources department, corporate communication, quality and the central finance department as well as group-wide supported projects that cannot be assigned to any of the other areas. Also included are those expenses of the Group's manufacturing units that are neither product-related, This means that research and development expenses incurred in connection with the production are still included. Administrative costs include government grants for personnel measures in the amount of EUR 21 thousand (2018: EUR 40 thousand).

5.6 Other operating result

Million Euro	2019	2018
Other company income	16.7	15.1
Other operating expenses	-16.1	-33.1
total	0.7	-18.0

The other operating income amounted to 16.7 million euros and was thus slightly above the previous year's level, mainly due to higher income from reimbursements. Other operating income included income from the disposal of property, plant and equipment in the amount of EUR 0.7 million (2018: EUR 1.3 million) and government grants of EUR 0.9 million (2018: EUR 1.5 million)) contain.

At a total of 16.1 million euros, other operating expenses were significantly below the corresponding expenses of the previous year, which is mainly due to the fact that in the 2018 financial year 11.0 million euros were included from past service costs (see section 7.8) that were incurred in the past Fiscal year no longer occurred. The losses from the disposal of fixed assets included in other operating expenses amounted to EUR 0.1 million (2018: EUR 0.2 million).

5.7 Result from other financial assets and investments accounted for using the equity method

As in the previous year, the result from other financial assets was immaterial.

5.8 Interest income

Million Euro	2019	2018
Interest income and similar income	4.5	4.7
Interest expense and similar expenses	-19.9	-19.6
total	-15.4	-14.9

Interest expenses included the net interest expense for the defined benefit pension plans at EUR 7.5 million (2018: EUR 7.4 million) (see Section 7.8). In 2019, there were no expenses from the foreign currency valuation of loans that were not taken out in the functional currency (2018: 0 million euros). The application of the effective interest method resulted in interest expenses of 1.5 million euros (2018: 1.3 million euros). Of this, 1.5 million euros (2018: 0.2 million euros) relate to the compounding of provisions. A further 1.9 million euros resulted from the compounding of lease liabilities (2018: 0 million euros).

In connection with the implementation of the ABS program (see Section 7.4), interest expenses and fees totaling EUR 0.3 million (2018: EUR 0.3 million) were recognized.

Interest income includes EUR 0.2 million (2018: EUR 1.9 million) from the application of the effective interest method.

5.9 Income taxes

Million Euro	2019	2018
Actual tax expense	40.4	46.9
Expense (+) or income (-) from deferred taxes	12.5	-2.0
total	52.9	44.8

The taxes on earnings before taxes differ from the theoretical taxes using the tax rates applicable in Germany as follows:

Million Euro	2019	2018
Earnings before taxes	223.3	206.1
Tax calculation at the rate of 32.55% (2018: 32.55%)	72.7	67.1
Effect from different tax rates in other countries	-17.0	-15.4
Effect of change in tax rate on deferred taxes	-0.4	1.5
Tax effects from tax-free income	-5.8	-5.4
Tax effects from tax goodwill write-ups	0.7	1.4
Tax effects from non-tax-deductible expenses	6.2	6.2
Tax effects from losses for which no deferred taxes are / have been recognized	0.8	-7.4
Tax effect from interest expense (not tax deductible)	0.8	0.7
Tax previous years	-6.0	-2.9
Deferred taxes from previous years	1.1	-1.0
Income tax expense according to the income statement	52.9	44.8

The applicable tax rate in the reconciliation of 32.55 percent (2018: 32.55 percent) consists of corporation tax (15.0 percent), solidarity surcharge (0.8 percent) and trade tax (16.75 percent).

Of the total income tax liabilities of 34.8 million euros (2018: 30.8 million euros) reported in the balance sheet, 21.7 million euros (2018: 19.0 million euros) relate to uncertain tax obligations. We refer to chapter 2.4 for the changed disclosure of uncertain tax obligations.

The development of the netted items of deferred tax assets and liabilities was as follows:

Million Euro	2019	2018
As of 01.01. (as previously reported)	93.5	89.9
Adjustments from retrospective application	-	0.6
As of 01.01.	93.5	90.6
Currency differences	1.2	-0.1
Expense (-) / income (+) in the income statement	-12.5	2.0
Taxes recognized directly in other comprehensive income	18.7	1.0
Accesses	-0.0	-
As at 31.12.	100.9	93.5

The tax effects on the components of other comprehensive income are as follows:

	2019			2018		
Million Euro	Before tax	Tax share	After tax	Before tax	Tax share	After tax
Currency differences from the translation of the financial statements of foreign subsidiaries	-16.6	-	-16.6	-36.7	-	-36.7
Change in the revaluation reserve from defined benefit pension commitments	-74.2	18.3	-55.9	7.7	-1.5	6.2
Profits and losses from hedging instruments used to hedge cash flows	-3.5	0.5	-3.0	-8.5	2.5	-6.0
total	-94.3	18.7	-75.6	-37.5	1.0	-36.5

Deferred taxes are recognized for tax loss carryforwards for which the realization of the corresponding tax advantage is probable due to future taxable income.On this basis, deferred taxes include EUR 18.3 million (2018: EUR 24.4 million) for tax losses from various companies of the Vaillant Group has been activated. The deferred tax assets include an amount of 6.2 million euros (2018: 7.0 million euros), which relates to loss carryforwards of Vaillant GmbH. The company has made tax losses and has capitalized deferred tax assets on the basis of a five-year tax planning calculation. that future offsettable income will be available against which the loss carryforwards can be offset. The Vaillant Group also has unrecognized tax loss carryforwards amounting to EUR 42.9 million (2018: EUR 34.6 million), which can be offset against future taxable income. Of the total tax loss carryforwards of the Vaillant Group, 45.9 million euros will expire in 2044 at the latest (2018: 65.8 million euros in the period between 2044 and 2047). which can be offset against future taxable income. Of the total tax loss carryforwards of the Vaillant Group, 45.9 million euros will expire in 2044 at the latest (2018: 65.8 million euros in the period between 2044 and 2047). which can be offset against future taxable income. Of the total tax loss carryforwards of the Vaillant Group, 45.9 million euros will expire in 2044 at the latest (2018: 65.8 million euros in the period between 2044 and 2047).

In addition, the Group has tax loss carryforwards that have not been offset, mainly from the sale of company shares in the amount of 116.9 million euros (2018: 111.2 million euros). These tax loss carryforwards can only be offset against certain future profits from the sale, for example of intangible assets or land, and have not resulted in deferred tax assets. The tax loss carryforwards can be carried forward indefinitely.

No deferred tax liabilities were recognized for temporary differences in connection with affiliated companies and investments in the amount of 4.0 million euros (2018: 3.4 million euros), as it is not likely that these temporary differences will reverse in the foreseeable future and the Vaillant Group is able to control the reverse.

The development of deferred tax assets and liabilities (before offsetting the balances within the same tax jurisdiction) in the reporting period was as follows:

Deferred tax assets EUR million	Provisions / inventories / receivables	pensions	Loss carryforwards
As of 01/01/2019	48.8	55.8	24.4
Reduction / increase in net income	17.1	-5.2	-6.0
Currency conversion	-0.3	1.1	0.0

Deferred tax assets EUR million	Provisions / inventories / receivables	pensions	Loss carryforwards
Change in the scope of consolidation	0.8	0.0	-
Success-neutral change	-	18.3	-
As of December 31, 2019	66.3	70.1	18.4

Deferred tax assets EUR million	Intangible assets / derivatives	total
As of 01/01/2019	1.9	131.0
Reduction / increase in net income	-0.2	5.7
Currency conversion	-0.0	0.8
Change in the scope of consolidation	-	0.8
Success-neutral change	0.5	18.7
As of December 31, 2019	2.2	156.9

Deferred tax liabilities in millions of euros	Intangible assets / property, plant and equipment	Reassessment
As of 01/01/2019	30.3	-
Reduction / increase in net income	18.1	-
Currency conversion	-0.4	-
Change in the scope of consolidation	0.8	-
As of December 31, 2019	48.8	-

Deferred tax liabilities in millions of euros	Provisions / inventories / receivables	Capital gain
As of 01/01/2019	7.1	-
Reduction / increase in net income	0.0	-
Currency conversion	-	-
Change in the scope of consolidation	-	-
As of December 31, 2019	7.1	-

Deferred tax liabilities in millions of euros	pensions	total
As of 01/01/2019	-	37.4
Reduction / increase in net income	-	18.1
Currency conversion	-	-0.4
Change in the scope of consolidation	-	0.8
As of December 31, 2019	-	55.9

The following amounts for deferred tax assets and liabilities are shown in the consolidated balance sheet after proper offsetting:

	December 31, 2019		December 31, 2018	
Million Euro	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Status before settlement	156.9	55.9	131.0	37.4
billing	-52.3	-52.3	-33.7	-33.6
Balance sheet approach	104.6	3.7	97.3	3.8
Of which in the long term	65.8	2.0	61.8	2.5

5.10 Personnel expenses / employees

The following personnel expenses were included in the expense items in the consolidated income statement:

Million Euro	2019	2018
Wages and salaries	573.0	538.6
Social security and pension and support expenses	128.8	123.5
Of which for defined benefit pension schemes	5.4	16.3
Thereof for defined contribution and other pension schemes	32.5	30.6
Total personnel expenses	701.8	662.1
Number of employees (annual average without temporary workers)	13,039	12,398
Employed in production	3,493	3,508

The social security contributions and expenses for pensions and support include employer contributions to state pension plans in the amount of EUR 30.1 million (2018: EUR 28.9 million). The expense from defined contribution pension plans was distributed across all functional areas of the Group. With regard to the reduction in expenses from defined benefit pension schemes in the reporting year, we refer to the explanations in Section 7.8.

5.11 Other result

In addition to the income statement, the other result is the second component of the statement of comprehensive income. The table shows the values recognized directly in equity in 2019 and 2018 and the amounts reclassified to the income statement.

Million Euro	2019		2018	
Currency differences from the translation of the financial statements of foreign subsidiaries		-16.6		-36.7
Changes not affecting profit	-16.6		-36.7	
Change in the revaluation reserve from defined benefit pension commitments		-55.9		6.2

Million Euro	2019		2018	
Profits and losses from hedging instruments used to hedge cash flows		-3.0		-6.0
Changes not affecting profit	-5.4	-	-4.6	
Changes from reclassification affecting net income	2.4	-	-1.4	
Other result		-75.6		-36.5

6 INFORMATION ON THE GROUP CASH FLOW STATEMENT

The financial resources included in the consolidated cash flow statement include liquid funds and cash equivalents. These include cash and sight deposits at banks as well as short-term, highly liquid financial investments with a remaining term of no more than three months, which can be converted into fixed amounts of cash at any time and are only subject to insignificant fluctuations in value. The returns on such short-term deposits were 0.00 percent (2018: 0.00 and 0.15 percent) for EUR deposits and 0.6 percent for GBP deposits (2018: 0.4 percent).

The financial resources are made up as follows:

Million Euro	2019	2018
Liquid funds	238.3	189.0
Cash equivalents	47.0	39.6
Cash and cash equivalents	285.3	228.6

The cash inflows and outflows shown for the individual areas of activity resulted in cash and cash equivalents of EUR 285.3 million (2018: EUR 228.6 million). Compared to the previous year, the portfolio increased by EUR 56.7 million.This increase included currency conversion differences of EUR 2.5 million that increased the financial resources (2018: currency conversion differences of EUR 5.9 million that decreased).

In addition to the operational improvement in the cash flow from operating activities, the first-time application of IFRS 16 also had a positive effect, as the previous operating lease payments, provided that these were not payments from short-term or low-value leases, are now shown in the cash outflow from financing activities.

This is the reason for the significant increase in the repayments of lease liabilities compared to the previous year. The cash flow from financing activities now accounts for EUR 26.5 million for the repayment of financial liabilities from leases and EUR 1.9 million for interest payments for leases.

The reconciliation of financial debts, the cash flows of which are shown as financing activities in the consolidated cash flow statement, is as follows:

Million Euro	01/01/2019	Adjustment through IFRS 16	01/01/2019 adjusted	Cash change
Lease liabilities	3.9	76.0	79.9	-28.3
Long-term lease liabilities	1.6	58.8	60.4	0.0
Short-term lease liabilities	2.3	17.2	19.5	-28.3
Financial liabilities	238.7	-	238.7	-29.3
longterm financial obligations	144.6	-	144.6	52.6
Short-term financial liabilities	94.1	-	94.1	-81.9
total	242.6	76.0	318.5	-57.6

	Changes not affecting payment	
Million Euro	Change in the scope of consolidation	Currency conversion
Lease liabilities	8.9	0.1
Long-term lease liabilities	7.1	0.0
Short-term lease liabilities	1.8	0.0
Financial liabilities	-	0.8
longterm financial obligations	-	1.6
Short-term financial liabilities	-	-0.8
total	8.9	0.9

	Changes not affecting payment	
Million Euro	Others	December 31, 2019
Lease liabilities	35.6	96.1
Long-term lease liabilities	0.1	67.6
Short-term lease liabilities	35.5	28.5
Financial liabilities	-	210.1
longterm financial obligations	-	198.8
Short-term financial liabilities	-	11.3
total	35.6	306.2

The financial liabilities listed in the table are valued at amortized cost. The liabilities from derivatives with a hedging relationship are generally non-cash and are therefore not listed in the table above. The other non-cash changes in short-term lease liabilities essentially relate to additions in the current year (33.7 million euros) and the compounding of liabilities (1.9 million euros).

7 NOTES TO THE CONSOLIDATED BALANCE SHEET

7.1 Goodwill and other intangible assets

The intangible assets developed as follows in the 2019 reporting year:

2019		Other intangible assets			
		acquired	self-made		
Million Euro	Company Value	Concessions, Industrial Rights and Similar Rights	Business process-related development projects	Product-related development projects	total
Acquisition and production costs					

2019		Other intangible assets			
		acquired	self-made		
Million Euro	Company Value	Concessions, Industrial Rights and Similar Rights	Business process-related development projects	Product-related development projects	total
As of 01.01.	776.1	84.6	17.9	204.2	1,082.8
Change in the scope of consolidation	-	3.5	-	-	3.5
Currency conversion	-4.6	-1.6	-	-0.2	-6.4
Accesses	-	9.3	11.2	34.3	54.9
Departures	-	2.3	0.0	-	2.3
Rebooking	-	0.3	-	-	0.3
As at 31.12.	771.4	93.7	29.2	238.3	1,132.7
Depreciation					
As of 01.01.	220.2	49.4	2.6	130.0	402.2
Currency conversion	0.1	-0.5	-	0.1	-0.3
Accesses	-	7.7	2.8	22.8	33.3
according to plan	-	7.5	1.9	18.8	28.2
unscheduled	-	0.2	0.9	4.0	5.2
Departures	-	2.3	0.0	-	2.3
Rebooking	-	0.1	-	-	0.1
As at 31.12.	220.3	54.5	5.4	152.9	433.1
Book value December 31, 2018	555.9	35.2	15.4	74.2	680.7
Book value 31.12.	551.1	39.2	23.9	85.6	699.9

2018		Other intangible assets			
		acquired	self-made		
Million Euro	Company Value	Concessions, Industrial Rights and Similar Rights	Business process-related development projects	Product-related development projects	total
Acquisition and production costs					
As of 01.01.	793.1	87.7	12.2	170.0	1,063.1
Change in the scope of consolidation	-	-	-	-	-
Currency conversion	-17.0	-6.3	-	-0.4	-23.7
Accesses	-	4.4	5.7	34.5	44.7
Departures	-	1.4	-	-	1.4
Rebooking	-	0.2	-	-	0.2
As at 31.12.	776.1	84.7	17.9	204.2	1,082.9
Depreciation					
As of 01.01.	220.2	46.0	-	114.7	380.9
Currency conversion	-0.0	-1.9	-	-0.1	-2.1
Accesses	-	6.6	2.6	15.4	24.6
according to plan	-	6.6	1.2	14.2	22.1
unscheduled	-	-	1.4	1.2	2.6
Departures	-	1.4	-	-	1.4
As at 31.12.	220.2	49.3	2.6	130.0	402.1
Book value December 31, 2017	572.9	41.6	12.2	55.3	682.2
Book value 31.12.	555.9	35.2	15.4	74.2	680.6

7.1.1 Concessions, Commercial Rights and Similar Rights

A key component of this item is the DemirDöküm brand, which was capitalized in 2007 with 61.6 million euros. This is amortized on a straight-line basis over 40 years and was still valued at 10.9 million euros at the end of 2019 (2018: 12.5 million euros). In addition to the scheduled depreciation, which was recorded in marketing and sales costs, the book value changed due to the exchange rate

In the reporting period, there was an order commitment for intangible assets in the amount of 1.7 million euros (2018: 1.2 million euros).

7.1.2 Business process and product-related development projects

The impairment of the product-related development projects in the past fiscal year in the amount of 4.0 million euros (2018: 1.2 million euros) related to development projects from various product segments for which the relevant market field parameters have deteriorated. This impairment was recognized in the income statement under research and development costs. The impairment of business process-related development projects in the amount of 0.9 million euros (2018: 1.4 million euros) was recognized in administrative costs.

The useful life of all product-related development projects capitalized in 2019 was five years, and business process-related projects between five and ten years.

7.1.3 Goodwill

The goodwill essentially consists of the goodwill arising from the British Hepworth acquisition in the amount of EUR 448.6 million and the goodwill arising from the Turkish Türk-Demir-Döküm acquisition in the amount of 46.0 million euros (2018: 51.0 million euros). While the goodwill from the British acquisition is fixed in euros, the goodwill from the Turkish acquisition decreased by EUR 5.0 million in the year under review due to exchange rate effects (2018: decrease by EUR 17.0 million).

The following table provides an overview of the book values of the goodwill and their allocation to the CGU:

Million Euro	2019	2018

Million Euro	2019	2018
ZGE heating technology	531.6	536.4
CGU service activities France	19.5	19.5
total	551.1	555.9

For all CGUs, the recoverable amount was determined based on the value in use. The Vaillant Group generally determines this value using valuation methods based on discounted cash flows. These discounted cash flows are based on forecasts based on financial plans approved by management. The forecasts take into account past experience and are based on management's best estimate of future developments.

The most important assumptions on which the determination of the value in use is based include the assessment of future margin development and the amount of the discount rates used:

Discount rate (before taxes)

%	2019	2018
ZGE heating technology	8.7	9.9
CGU service activities France	7.8	9.2

The discount rates were determined based on the average, weighted cost of capital customary in the industry. These interest rates were further adjusted to reflect the market assessment with regard to all ZG E-specific risks for which the estimates of future cash flows were not adjusted. When extrapolating future cash flows beyond the detailed planning period of five years, a growth rate of 1.4 percent (2018: 1.4 percent) for the CGU heating technology and a growth rate of 0.8 percent (2018: 0, 9 percent).

This year's impairment test for goodwill did not reveal an impairment requirement for any CGU (2018: EUR 0 million). In addition to the impairment test, two sensitivity analyzes were carried out for both CGUs. In the first sensitivity analysis, the expected future cash flows were reduced by 10 percent. As part of the second sensitivity analysis, the discount rate was increased by 10 percent. These two changes in the underlying assumptions would not result in an impairment loss on goodwill for either of the two CGUs.

7.2 Property, plant and equipment

Property, plant and equipment (excluding the assets from usage rights in accordance with IFRS 16) developed as follows in the 2019 financial year:

2019 million euros	Land, leasehold rights and buildings	Technical equipment and machinery	Other equipment, factory and office equipment	Payments on account and assets under construction	total
Acquisition and production costs					
As of 01.01.	293.8	212.6	351.9	75.4	933.7
Change in the scope of consolidation	0.0	0.2	1.5	-	1.7
Currency conversion	-0.7	-1.3	0.5	-0.0	-1.6
Accesses	12.1	10.8	21.5	37.4	81.8
Departures	31.5	8.0	24.7	0.9	65.1
Rebooking	23.9	6.8	9.0	-43.4	-3.6
As at 31.12.	297.6	221.1	359.7	68.5	947.0
Depreciation					
As of 01.01.	170.1	158.8	273.6	-	602.5
Currency conversion	-0.3	-0.6	0.3	-	-0.6
Accesses	9.8	14.7	28.6	-	53.1
according to plan	9.8	13.5	26.4	-	49.7
unscheduled	-	1.2	2.2	-	3.5
Departures	31.3	7.8	22.0	-	61.1
Rebooking	-0.1	0.1	-2.0	-	-2.0
As at 31.12.	148.3	165.2	278.5	-	591.9
Book value December 31, 2018	123.7	53.9	78.3	75.4	331.3
Book value 31.12.	149.4	56.0	81.2	68.5	355.1

2018 million euros	Land, leasehold rights and buildings	Technical equipment and machinery	Other equipment, factory and office equipment	Payments on account and assets under construction	total
Acquisition and production costs					
As of 01.01.	293.2	212.2	353.6	42.4	901.4
Change in the scope of consolidation	-	-	-	-	-
Currency conversion	-5.1	-5.5	-4.6	-0.8	-16.1
Accesses	3.2	10.4	15.3	57.0	85.8
Departures	2.1	10.6	23.8	-	36.5
Rebooking	4.7	6.2	11.4	-23.1	-0.9
As at 31.12.	293.8	212.6	351.9	75.4	933.7
Depreciation					
As of 01.01.	165.2	159.3	272.2	-	596.7
Currency conversion	-2.7	-3.5	-3.2	-	-9.4
Accesses	9.7	13.3	28.3	-	51.3
according to plan	9.7	12.8	27.0	-	49.4
unscheduled	0.1	0.5	1.3	-	1.8

2018 million euros	Land, leasehold rights and buildings	Technical equipment and machinery	Other equipment, factory and office equipment	Payments on account and assets under construction	total
Departures	1.6	10.4	23.3	-	35.3
Rebooking	-0.5	0.1	-0.4	-	-0.7
As at 31.12.	170.1	158.8	273.6	-	602.5
Book value December 31, 2017	128.0	53.0	81.4	42.4	304.7
Book value 31.12.	123.7	53.9	78.3	75.4	331.2

In 2019, property, plant and equipment was impaired in the amount of 3.5 million euros (2018: 1.8 million euros); Of this, 1.2 million euros (2018: 0.5 million euros) were attributable to technical equipment and 2.2 million euros (2018: 1.3 million euros) to operating and office equipment. These impairments were essentially taken into account in the cost of sales.

As of the reporting date, there was an order commitment for property, plant and equipment in the amount of EUR 21.3 million (2018: EUR 34.8 million).

From operating leases for buildings with third parties outside the Group, for which the Vaillant Group acts as the lessor, payments totaling EUR 0.7 million were received in the financial year. The minimum lease payments to be expected as income in the future are as follows:

Million Euro	December 31, 2019
Operating lease income	0.7
Due within one year	0.3
Due in 1 to 5 years	0.2
Due after 5 years	0.2

As in the previous year, no property, plant and equipment were pledged as collateral for debts.

The assets from rights of use, which are accounted for in accordance with the requirements of IFRS 16, developed as follows:

2019 million euros	Rights of use to real estate, rights equivalent to real estate and buildings	Rights of use to technical systems and machines	Rights of use to other systems, operating and office equipment	total
Acquisition and production costs				
As of 01.01.	-	-	-	-
Change in the scope of consolidation	6.9	-	2.0	8.9
Currency conversion	-	-	-	-
Accesses	73.4	0.1	40.9	114.4
Departures	-	-	0.1	0.1
Rebooking	-	-	3.3	3.3
As at 31.12.	80.3	0.1	46.1	126.5
Depreciation				
As of 01.01.	-	-	-	-
Currency conversion	0.0	-0.0	0.1	0.1
Accesses	14.8	0.1	13.5	28.4
according to plan	14.8	0.1	13.4	28.3
unscheduled	-	-	0.1	0.1
Departures	-	-	0.1	0.1
Rebooking	-	-	1.9	1.9
As at 31.12.	14.9	0.1	15.3	30.3
Book value December 31, 2018	-	-	-	-
Book value December 31, 2019	65.4	0.0	30.8	96.2

In the area of land, leasehold rights and buildings, the Vaillant Group primarily rents production and warehouse buildings as well as office buildings. The rights of use reported under other equipment and factory and office equipment relate in particular to rented vehicles.

The transfers relate to assets from finance leases in accordance with IAS 17, which were adopted unchanged with their balance sheet items as of January 1, 2019.

Expenses of EUR 2.3 million were recognized in the consolidated income statement for short-term leases with a maximum term of twelve months and a further EUR 2.0 million for lease agreements for low-value assets. The effort corresponds to the payments made.

As of the balance sheet date, there were no outstanding short-term lease obligations.

Expenses from variable lease payments, which were not included in the book value of the lease liabilities, were recognized in the financial year in the amount of 0.1 million euros.

In the financial year, the Vaillant Group received payments of EUR 0.7 million from subleases with external third parties that concern buildings.

With regard to the interest expenses recorded in connection with accounting for lease liabilities, we refer to the explanations in Section 5.8 of these notes. Details on the payments made in connection with leases can be found in Chapter 6 and information on the expected maturity profile of the lease liabilities in Chapter 7.10.

7.3 Other financial assets

The other financial assets are made up as follows:

	December 31, 2019		December 31, 2018	
Million Euro	total	Of which in the short term	total	Of which in the short term
Financial assets that are measured at fair value through profit or loss	0.2	-	0.2	-
Loans to affiliated, non-consolidated companies	3.4	-	3.4	-
Financial assets at amortized cost	2.3	0.1	2.5	-
Receivables from derivatives with a hedging relationship	2.2	1.2	1.4	1.3

Million Euro	December 31, 2019 total	December 31, 2019 Of which in the short term	December 31, 2018 total	December 31, 2018 Of which in the short term
Receivables from derivatives without a hedging relationship	-	-	0.1	0.1
total	8.1	1.2	7.6	1.4

The "financial assets at amortized cost" are, in particular, loans to employees and third parties; these are essentially held without any collateral.

7.4 Trade accounts receivable

Million Euro	December 31, 2019 total	December 31, 2019 Of which in the short term	December 31, 2018 total	December 31, 2018 Of which in the short term
Trade accounts receivable from third parties	266.2	266.1	299.2	299.1
Cumulative value adjustment	-26.1	-26.1	-34.6	-34.6
Book value	240.0	240.0	264.6	264.5
Trade accounts receivable from:				
a) affiliated companies	0.0	0.0	0.0	0.0
b) Companies with which there is a participation relationship	0.2	0.2	1.4	1.4
total	240.2	240.2	266.0	265.9

The trade receivables contain contractual assets from sales transactions in the amount of EUR 0.7 million (see Section 5.1).

The Vaillant Group has been selling trade accounts receivable as part of an ABS program since 2007. As of December 31, 2019, the nominal volume of the receivables sold was EUR 50.2 million (2018: EUR 50.2 million). The sales of receivables associated with the ABS program are - insofar as all opportunities and risks have been transferred - to be treated as a partial disposal, as the Vaillant Group is obliged to pass on the payments from the respective receivables (pass-through arrangements). The obligations from the pass-through arrangements are reported under other liabilities.

Since some risks (e.g. bad debt risks) remain in the Vaillant Group, this leads to a pro rata write-off of the receivables (continuing involvement). The remaining financial assets as of December 31, 2019 amounted to EUR 1.2 million (2018: EUR 0.9 million). These are shown under other receivables. The continuing involvement corresponds to the fair values and reflects the maximum default risk. The execution of the program resulted in expenses totaling 0.2 million euros in the financial year (2018: 0.3 million euros).

The value adjustments on trade receivables developed as follows:

Million Euro	2019	2018
As of 01.01.	34.6	42.5
Exchange rate effects on the opening balance	-1.9	-7.6
Feed	0.9	1.2
consumption	-5.8	-0.4
resolution	-1.7	-1.2
As at 31.12.	26.1	34.6

Maturity analysis of trade receivables:

Million Euro	Gross book value December 31, 2019	Allowance December 31, 2019	Net book value December 31, 2019
Requests from deliveries and services	266.4	-26.1	240.2
Age analysis			
0-30 days	225.8	-0.4	225.4
31-60 days	7.1	-0.1	7.1
61-90 days	1.8	-0.1	1.8
91-120 days	0.8	-0.0	0.7
over 120 days	30.8	-25.5	5.3

The non-impaired receivables portfolio was considered valuable based on established credit management processes and individual assessment of the individual customer risks. The default risk of the receivables as of the balance sheet date was adequately taken into account in the value adjustments. Enforcement measures on written-off claims are carried out until they are finally written off. In principle, the contractually outstanding amounts correspond to the gross book values of the relevant receivables.

7.5 Other claims

Million Euro	December 31, 2019 total	December 31, 2019 Of which in the short term	December 31, 2018 total	December 31, 2018 Of which in the short term
Sales tax receivables	23.5	23.5	26.8	26.8
Other receivables from ABS	2.6	2.6	0.9	0.9
Prepaid expenses	7.5	7.5	8.4	8.2
other demands	24.4	18.7	25.3	19.7
Including non-financial claims	11.3	11.3	8.5	8.4
total	57.9	52.2	61.3	55.5

The other receivables mainly include creditors with debit balances and restricted cash equivalents. This includes EUR 0.2 million (2018: EUR 0.0 million) pledged as security for liabilities. Other receivables also include valuation allowances of EUR 0.3 million (2018: EUR 0.8 million), which are made up as follows:

Million Euro	2019	2018
As of 01.01.	0.8	0.4
Exchange rate effect on the opening balance	0.0	-0.0

Million Euro	2019	2018
Feed	0.1	0.4
consumption	0.6	0.1
resolution	0.0	0.0
total	0.3	0.8

Maturity analysis of other financial receivables:

	Gross book value	Allowance	Net book value
Million Euro	December 31, 2019	December 31, 2019	December 31, 2019
Other financial receivables	15.6	-	15.6
Age analysis			
0-30 days	15.1	-	15.1
31-60 days	0.1	-	0.1
61-90 days	0.1	-	0.1
91-120 days	0.0	-	0.0
over 120 days	0.3	-	0.3

7.6 Inventories

	December 31, 2019			December 31, 2018		
Million Euro	Gross	devaluation	net	Gross	devaluation	net
Raw materials and supplies	107.0	-1.8	105.1	111.4	-1.8	109.6
Unfinished products	36.8	-2.0	34.8	31.6	-1.7	29.9
Finished products and goods	232.5	-26.3	206.2	235.9	-25.3	210.5
Prepayments made	0.5	-	0.5	0.9	-	0.9
total	376.7	-30.1	346.6	379.8	-28.9	350.9

Inventories of 1,274.9 million euros (2018: 1,029.6 million euros) were recognized as an expense in the reporting period. In 2019, the impairment loss amounted to 6.5 million euros (2018: 8.0 million euros). Reversing this, reversals of impairment losses due to changed risk assessments with regard to assumptions about the net selling price and due to a better inventory structure in the sense of an increased inventory turnover rate of 2.4 million euros (2018: 3.0 million euros) had a positive effect.

As of December 31, 2019, as in the previous year, no inventories were pledged for security purposes.

7.7 Equity

The development of equity is shown in the consolidated statement of changes in equity.

By a resolution of the shareholders' meeting, part of the net profit of the parent company Vaillant GmbH can be transferred to the retained earnings as part of the appropriation of profits.

The subscribed capital of the parent company Vaillant GmbH remained unchanged at EUR 60.0 million on the balance sheet date; it was paid in full. The shareholders Joh. Vaillant GmbH & Co KG, Haan, hold 6 percent and VBV Vaillant Beteiligungsverwaltung GmbH, Haan, 94 percent of the subscribed capital. The shares held by VBV Vaillant Beteiligungsverwaltung GmbH, Haan, do not grant any voting rights.

The capital reserve of the Vaillant Group comprises the capital reserve of Vaillant GmbH, which remained unchanged at EUR 75.0 million. It was added to the company by a shareholder resolution of November 15, 2006.

The revenue reserves contain the net result for the financial year as well as the results achieved in the past, insofar as they were not distributed.

The other equity components show the differences from the currency translation of the annual financial statements of foreign subsidiaries that do not have the euro as their functional currency, as well as the valuation effects of hedging instruments that are included in cash flow hedge accounting. Furthermore, the revaluation effects in the context of accounting for defined benefit pension plans are shown here.

The minority interests are mainly attributable to the non-group shareholders in the Spanish Red Ofisat Group.

7.8 Provisions for pensions

The defined benefit plans comprised 18,153 beneficiaries (2018: 19,023), including 7,209 active employees (2018: 7,002), 4,260 former employees with vested benefits (2018: 4,932) and 6,684 retirees and surviving dependents (2018: 7,089). The characteristics and associated risks of the defined benefit plans vary depending on the legal, tax and economic framework in the respective country. The features of the defined benefit plans that are essential for the Vaillant Group are described below.

Great Britain

Vaillant Holdings Ltd. in Great Britain, together with the Vaillant Group UK Ltd. and Vaillant Industrial UK Ltd. the Vaillant Group Pension Scheme.

This pension plan has been closed for new entrants after April 5, 2013, and after consultation between the company, the trustees and the employees concerned, the entitlements from the Vaillant Group pension plan were frozen with effect from April 5, 2015. Active employees cannot earn any further claims beyond this point in time. After this date, the company's employees will be offered membership in a defined contribution pension plan.

The plan is administered by the Vaillant Trust UK, whose board of trustees is solely committed to the benefit of the beneficiaries by law and the trust agreement. Based on local regulations, a so-called actuarial assessment must be carried out at least every three years to determine any funding deficit. If necessary, a plan to compensate for the funding deficit must be coordinated with the Board of Trustees on the basis of this actuarial assessment.

Germany

In Germany, the companies listed below grant pension benefits either in accordance with the general pension scheme or in accordance with individual commitments:

society	Seat
Vaillant GmbH	Remscheid
Vaillant Germany GmbH & Co. KG	Remscheid
HKR GmbH & Co. KG	Roding
tecbytel GmbH	Gelsenkirchen
Vaillant Group Business Services GmbH	Remscheid

society	Seat
Vaillant Group International GmbH	Remscheid
TechnoCargo Logistik GmbH and Co. KG	Neuss

The majority of Vaillant's active employees in Germany participate in the general pension scheme introduced in the 1980 financial year. The amount of the performance-oriented pension commitment essentially corresponds to a fixed amount commitment, since the benefit amount depends on the salary level applicable at the time.

In addition, Vaillant grants selected executives individual commitments that provide a lifelong pension. The amount of individual pension benefits is based on the labor value of the position.

The general pension scheme as well as the respective individual commitments are defined benefit plans that are exclusively financed by provisions. In both pension plans, the company bears the actuarial risks such as financing risk, inflation risk, interest rate risk and longevity risk.

For the entire Vaillant Group, the defined benefit plans for post-employment benefits resulted in the following amounts in the consolidated financial statements:

	Performance-Based Obligation (DBO)		Fair value of plan assets		Net balance from defined benefit plans	
Million Euro	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Great Britain	931.9	826.0	771.8	675.4	160.0	150.7
Germany	170.8	134.7	-	-	170.8	134.7
Others	59.3	49.0	22.6	20.5	36.7	28.5
total	1,162.0	1,009.7	794.4	695.8	367.6	313.9

The net balance sheet from defined benefit plans in the amount of 367.6 million euros (2018: 313.9 million euros) consisted of a net liability of 367.6 million euros (2018: 313.9 million euros) and a net asset value of 2,000 euros (2018 : 8 thousand euros) together.

The expenses for the net obligation from defined benefit plans are made up as follows:

Million Euro	2019	2018
Ongoing service cost	5.7	6.1
Past service costs	-0.3	10.7
Profits (-) / losses from plan settlement	0.0	-0.6
Net interest expense	7.5	7.4
Obligation-related administrative costs	0.0	0.0
Expenses recognized in the income statement	12.9	23.7
Actuarial gains (-) / losses	121.4	-50.4
Income (-) / losses on plan assets (excluding amounts included in net interest expenses and income)	-47.1	42.7
Revaluations recorded in the statement of comprehensive income	74.2	-7.7
Expense / Income (-) for defined benefit plans	87.1	16.0

On October 26, 2018, the High Court in England ruled that men and women must not be treated unequally in company pension commitments. The unequal treatment resulting from the different standard age limits (men: 65 years of age, women: 60 years of age) must be compensated by the pension fund in terms of value. The above decision relates to the group of people whose original state pension commitment was transferred to today's Vaillant Trust UK. This adjustment resulted in past service costs of 11.0 million euros in the previous year, which were reported under other operating expenses.

The actuarial result results in particular from the adjustment of the financial assumptions when assessing the scope of the obligation.

The pension expenses for defined benefit plans recognized in the income statement are distributed across the functional areas as follows:

Million Euro	2019	2018
Production cost of sales	2.0	2.3
Research and development costs	0.7	0.7
Marketing and distribution costs	2.2	1.0
administrative expenses	0.2	1.0
Other operating result	0.3	11.4
Financial result	7.5	7.4
Expenses recognized in the income statement	12.9	23.7

The transition from the financing status to the provisions for pensions shown in the consolidated balance sheet was as follows:

Million Euro	December 31, 2019	December 31, 2018
DBO of the pension plans	1,162.0	1,009.7
Fair value of plan assets for pension plans	794.4	695.8
Funding status of the pension plans	367.6	313.9

The company's defined benefit plans are described in more detail in the following sections:

a. Reconciliation of the DBO and plan assets

b. Actuarial Assumptions

c. Sensitivity analysis

d. Asset-liability matching strategies

e. Breakdown of plan assets

f. Future cash flows

a. Reconciliation of the DBO and plan assets

The following tables show the development of the DBO in detail:

Million Euro	December 31, 2019	December 31, 2018
DBO at the beginning of the financial year	1,009.7	1,076.4
Ongoing service cost	5.7	6.1
Past service costs	-0.3	10.7
Profits (-) / losses from plan settlement	-	-0.6

Million Euro	December 31, 2019	December 31, 2018
Interest expenses	27.7	26.2
Reassessment		
Actuarial gains (-) / losses due to changes in financial assumptions	146.5	-46.3
Actuarial gains (-) / losses due to changes in demographic assumptions	12.7	-3.3
Profits (-) / losses based on experience	-37.9	-0.9
Contributions from beneficiary employees	0.9	0.8
Payment of benefits directly by the company	-4.8	-5.0
Benefit payments from plan assets	-42.0	-46.5
Other changes (including changes to the group of companies)	-	-
Exchange rate changes	43.8	-8.0
DBO at the end of the financial year	1,162.0	1,009.7

A detailed reconciliation of the change in the fair value of plan assets can be found in the following table:

Million Euro	December 31, 2019	December 31, 2018
Fair value of plan assets at the beginning of the financial year	695.8	738.8
Interest income	20.2	18.8
Reassessment		
Loss (-) / income from plan assets excluding amounts included in net interest expense and income	47.1	-42.7
Employer contributions	36.7	33.0
Contributions from beneficiary employees	0.9	0.8
Benefit payments from plan assets	-42.0	-46.5
Payments for compensation	-	-0.6
Obligation-related administrative costs	-0.0	-0.0
Exchange rate changes	35.7	-5.7
	794.4	695.8
Fair value of plan assets at the end of the financial year		

b. Actuarial Assumptions

The assumptions on which the calculation of the DBO is based on discount rates, salary and pension trends and mortality rates vary depending on the economic and other framework conditions of the country in which the plans exist.

The weighted average discount rate and the mortality tables on which the actuarial calculation of the main DBO was based on the balance sheet date are as follows:

Calculation bases and parameters	Great Britain		Germany	
%	December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Discount rate	2.1	2.9	0.8	1.9
inflation rate	2.1	2.2	2.0	2.0
Life tables	S3PMA (men) and S3PFA_ M (women)	S2PxA	Heubeck mortality tables 2018 G	Heubeck mortality tables 2018 G

The conversion of the mortality tables for the valuation of the British pension plans to the S3 tables in the past financial year resulted in a total loss of GBP 6.2 million, which was recognized as part of the actuarial result from the change in demographic assumptions in other comprehensive income.

In the previous year, the conversion of the mortality tables when evaluating the German pension plans to the Heubeck mortality tables 2018 G resulted in a total loss of EUR 1.2 million, which is also recognized as part of the actuarial result from the change in demographic assumptions in other comprehensive income would.

In addition, the DBO is influenced by assumptions about future wage trends, pension trends and fluctuation rates.

These effects are taken into account in the above assumptions (if applicable).

c. Sensitivity analysis

A change in the above-mentioned assumptions used to determine the DBO as of December 31, 2019 would increase or decrease the DBO as follows:

	Change in DBO as of December 31, 2019		Change in DBO as of December 31, 2018	
Million Euro	(+ = Increase, - = decrease)		(+ = Increase, - = decrease)	
Discount rate variation (+ / -0.5 percent)	-90.4	99.7	-83.6	91.2
Inflation rate variation (+ / - 0.5 percent)	35.0	-33.7	29.6	-28.8
Life expectancy + / - 1 year	48.6	-51.2	33.7	-35.3

For example, the increase in the discount rate by half a percentage point resulted in a reduction in the DBO of 90.4 million euros.

When calculating the sensitivity of the DBO for the relevant actuarial assumptions, the same method was used (determination of the present value according to the method of recurring single premiums) as for the calculation of the DBO in the amount of 1,162.0 million euros, which is recorded in the consolidated balance sheet. Increases and decreases in the discount rate, the inflation rate and the mortality rate do not have the same absolute value when determining the DBO - mainly due to the compound interest effect when calculating the present value of future benefits. If several assumptions are changed at the same time, the overall effect does not necessarily have to correspond to the sum of the individual effects due to the changes in the assumptions. In addition, that the sensitivities reflect a change in the DBO only for the respective specific magnitude of the change in assumptions (e.g. 0.5 percent). If the assumptions change by any other magnitude, this does not necessarily have a linear effect on the DBO.

d. Asset-liability matching strategies

A strategic asset allocation has been defined for the UK final salary pension plan. The final salary plan is financed and administered by the Vaillant Trust UK. The direct responsibility for the financing and administration of the Vaillant Trust lies with the trustees of the Vaillant Trust UK.

The Vaillant Group has identified the deterioration in the financing status due to an unplanned development of plan assets and / or the liability side as a major risk from the final salary pension plan financed by the Vaillant Trust UK. As part of the ongoing risk adjustment, the development of the liability side is regularly compared with the development of the related plan assets. Significant risks on the obligation side can be seen in the development of the discount rate, inflation and life expectancy. With regard to the development of plan assets, the main risk factors result from the development of the respective stock and bond markets.

With a view to suitable risk minimization, the trustees will coordinate with the fiduciary manager they appointed in the 2019 financial year, the actuaries and the Vaillant Group. The primary goal is to restore a balanced financing status as quickly as possible and thereby maximize the return on investments with the lowest possible risk. A broadly diversified investment of assets can be guaranteed on the basis of the management principles and frameworks agreed between the trustees and the Vaillant Group. A concentration of investments in certain areas, sectors or branches can be avoided. Derivatives are only used to the extent that

The Vaillant Group expects that the investments of the final salary pension plan will generate a return in the medium to long term in line with the actuarial assumptions under which the financing plan was agreed. The Vaillant Group is aware of the fact that short-term success can differ significantly from long-term goals.

e. Breakdown of plan assets

The breakdown of the plan assets of the pension plans is as follows:

Asset category	Fair values to	
Million Euro	December 31, 2019	December 31, 2018
Debt instruments	456.2	282.0
Equity instruments	207.7	281.7
property	55.0	51.6
Cash and cash equivalents	37.1	60.1
Qualifying Insurance Policies	22.6	20.5
Structured Debt Instruments	15.7	-
total	794.4	695.8

With the exception of the qualifying insurance policies, all asset categories had price quotations on an active market. In addition, most of the cash and cash equivalents are intended for investment in corporate bonds.

The plan assets did not include any of the Vaillant Group's own transferable financial instruments, and the properties contained in the plan assets were not used by the Vaillant Group itself.

f. Future cash flows

On February 15, 2017, the trustees of the Vaillant Trust in Great Britain and the Vaillant Group adopted a new plan to cover the existing funding deficit (recovery plan). The basis for determining the amount of the recovery plan payments was the actuarial assessment of April 5, 2016. According to this, the Vaillant Group is obliged to make contributions to compensate for underfunding underfunding totaling GBP 167.4 million by October 2024 Afford. In the past financial year, funds amounting to GBP 30.0 million (2018: GBP 28.3 million) were made available. In accordance with the legal requirements, an actuarial assessment was carried out again in April 2019,

The total expected employer contributions to the Vaillant Group's defined benefit plans for post-employment benefits for the 2020 financial year amount to EUR 28.2 million (payments expected in 2018 for 2019: EUR 35.3 million).

From the perspective of the balance sheet date, future payments to the service recipients were as follows:

Expected benefit payments

Million Euro	December 31, 2019
2020	47.1
2021	48.0
2022	49.1
2023	50.9
2024	51.9

Expected benefit payments

Million Euro	December 31, 2018
2019	52.0
2020	53.0
2021	54.1
2022	56.2
2023	57.3

The weighted average duration of the DBO of the Vaillant Group's defined benefit plans was 16.7 years (2018: 17.9 years).

7.9 Other provisions

Million Euro	* Total 01/01/2019	Change in the scope of consolidation	Currency conversion	Feedings	Consume	Resolutions
Provisions for						
Discounts / bonuses	111.9	-	2.6	112.2	95.6	10.3
staff	72.7	1.4	0.2	53.8	49.0	1.3
Other provisions	120.1	3.1	-0.1	64.6	48.1	11.5
total	304.7	4.4	2.8	230.6	192.7	23.2

Million Euro	Total December 31, 2019	Of which in the short term
Provisions for		
Discounts / bonuses	120.9	120.9
staff	77.6	57.9
Other provisions	128.2	92.4
total	326.6	271.3

* Values adjusted, see explanation in Section 2.4 of the Notes to the Consolidated Financial Statements.

The provisions for personnel include obligations from severance payments, from partial retirement, from remaining vacation wages and salaries and other personnel obligations. The additions to the other provisions in the year included interest expense of EUR 1.5 million (2018: EUR 0.1 million). The other provisions essentially contain risks from warranties and possible impending losses.

The provisions were not matched by any reimbursement claims (2018: 0 million euros).

For the other long-term provisions recognized in the financial year, the following cash outflows are expected:

Million Euro	2019 *		Expected cash outflows (present values)			
Provisions for		2021	2022	2023	2024	2025
staff	19.7	5.3	2.4	1.5	4.9	5.6
Other provisions	35.7	25.3	4.2	1.5	0.9	3.9
total	55.4	30.6	6.6	2.9	5.8	9.5

* Values adjusted, see explanation in Section 2.4 of the Notes to the Consolidated Financial Statements.

7.10 Financial Liabilities

		Book values	
Million Euro	Final maturity	December 31, 2019	December 31, 2018
Lease liabilities	December 31, 2020	28.5	2.3
Other liabilities to banks	December 31, 2020	11.3	94.1
Liabilities from derivatives		7.0	1.6
Of which derivatives with a hedging relationship		7.0	1.6
Total short-term financial liabilities		46.7	98.0
Promissory note loan	11/30/2026	80.0	-
Promissory note loan	11/30/2024	60.0	-
Syndicated loan (total EUR 250.0 million)	December 15, 2021	0.0	87.3
US private placement (total EUR 27.5 million)	08/15/2021	27.5	27.5
US private placement (total GBP 27.1 million)	08/15/2021	31.9	30.3
Lease liabilities	12/31/2029	67.6	1.6
Other liabilities to banks		-0.6	-0.5
Liabilities from derivatives		0.2	1.4
Of which derivatives with a hedging relationship		0.2	1.4
Total long-term financial liabilities		266.5	147.6
Total financial liabilities		313.3	245.6

The syndicated loan (revolving credit facility) in the amount of EUR 250.0 million, which has existed since November 2011, bears interest on the basis of EURIBOR / LIBOR plus margin, with interest margins based on the ratio of net debt to EBITDA. In 2016, the revolving credit facility was prematurely extended by a further year until December 15, 2021 and adjusted to the current market situation. The fees paid in connection with the loan are reported under long-term loan liabilities. Of the credit facility of EUR 250.0 million, a partial amount of EUR 0 million (2018: EUR 87.3 million) had been drawn on December 31, 2019.

In August 2006, the Vaillant Group issued a US private placement in USD, GBP and EUR. These papers were acquired by institutional investors. These are seven series with terms of 10, 12 and 15 years, with the tranches with terms of 10 and 12 years being redeemed in August 2016 and August 2018, respectively.

In May 2019, the Vaillant Group took out two promissory notes, one for 60.0 million euros (due in November 2024) and one for 80 million euros (due in November 2026).

The cash flows from the Vaillant Group's financial liabilities are as follows:

Million Euro	Book value December 31, 2019	Cash flows 2020 interest + repayment	Cash flows 2021 interest + repayment	Cash flows 2022-2027 interest + repayment	Cash flows 2028 ff. Interest + repayment
Original financial liabilities					
liabilities from goods and services	290.6	290.5	0.1	-	-
Liabilities to banks	10.7	12.0	-	-	-
Promissory note loan	80.0	0.8	0.8	83.9	-
Promissory note loan	60.0	0.4	0.4	61.1	-
US private placement	59.4	3.1	-	62.5	-
Lease liabilities	96.1	29.4	23.2	47.4	0.9
Other liabilities	61.0	60.8	0.2	-	-
Liabilities from derivatives					
Liabilities from derivatives with gross settlement	6.5	7.4	-	-	-
Cash outflow	-	157.6	-	-	-
Cash inflow	-	-150.3	-	-	-
Liabilities from derivatives with net settlement	0.6	0.4	0.2	-	-

Million Euro	Book value December 31, 2018	Cash flows 2019 interest + repayment	Cash flows 2020 interest + repayment	Cash flows 2021-2026 interest + repayment	Cash flows 2027 ff. Interest + repayment
Original financial liabilities					
liabilities from goods and services	298.3	298.2	0.2	-	-
Liabilities to banks	180.9	96.2	1.0	88.3	-
US private placement	57.8	3.0	3.0	59.7	-
Lease liabilities	3.9	2.6	1.4	0.3	-
Other liabilities	52.0	51.6	0.3	-	-
Liabilities from derivatives					

Million Euro	Book value December 31, 2018	Cash flows 2019 interest + repayment	Cash flows 2020 interest + repayment	Cash flows 2021-2026 interest + repayment	Cash flows 2027 ff. Interest + repayment
Liabilities from derivatives with gross settlement	0.5	0.4	-	-	-
Cash outflow	-	143.8	-	-	-
Cash inflow	-	-143.4	-	-	-
Liabilities from derivatives with net settlement	2.4	1.0	1.0	0.4	-

The tables show all financial liabilities that were in existence on December 31 and for which payments are contractually agreed. In addition to the repayment, the cash flows also contain the interest component.

The Vaillant Group controls the financing risk mainly using the key figure net debt to EBITDA, as this is decisive for the debt capacity of the corporate group. In the case of outside debt, particular attention is paid to a balanced maturity structure.The remaining terms of the individual financing instruments are spread over a period of one to seven Years. In addition to cash and cash equivalents of EUR 285.3 million (2018: EUR 228.6 million), unused, committed credit lines of EUR 250 million (2018: EUR 162.7 million) were available at the end of the year to cover short-term financing requirements. In addition, the Vaillant Group ensures that Avoid concentrations on individual lenders. The main financing instruments are the revolving credit facility, promissory note loans, US private placement and bilateral credit agreements. In detail, the liquidity planning takes place in the long term as part of the business plan, in the medium term as part of the budget planning and the related interim updates, and in the short term as part of the liquidity requirement calculation to determine short-term borrowings or investments.

7.11 Trade payables

	December 31, 2019		December 31, 2018	
Million Euro	total	Of which in the short term	total	Of which in the short term
Trade payables to third parties	290.6	290.5	295.9	295.8
Trade payables to:				
a) affiliated, non-consolidated companies	0.0	0.0	0.0	0.0
b) Companies with which there is a participation relationship	0.0	0.0	2.4	2.4
total	290.6	290.5	298.3	298.2

7.12 Other liabilities

	December 31, 2019		December 31, 2018	
Million Euro	total	Of which in the short term	total	Of which in the short term
Liabilities from accepting bills of exchange	0.0	0.0	0.0	0.0
Payments received	11.0	11.0	10.0	10.0
Accruals and deferrals	200.0	123.9	176.3	107.1
Tax liabilities	9.7	9.7	9.4	9.4
Social security liabilities	12.9	12.9	12.6	12.6
Other miscellaneous liabilities	61.0	60.8	52.0	51.6
Sales tax liabilities	32.3	32.3	27.6	27.6
total	326.8	250.5	287.9	218.3

The contractual performance liabilities from sales transactions amount to 197.4 million euros (see section 5.1), the other other liabilities include liabilities in connection with the pass-through arrangement from the ABS program in the amount of 23.8 million euros (2018: 20, 0 million euros).

7.13 Contingent Liabilities and Other Financial Obligations

Million Euro	December 31, 2019	December 31, 2018
Other financial obligations	21.1	25.7
Contingent liabilities from guarantees	15.6	17.8
Other contingent liabilities	5.3	-

The Vaillant Group has entered into future financial obligations of 6.7 million euros (2018: 13.5 million euros) by concluding contracts for comprehensive services in the administrative area. These services will be paid evenly over the period up to December 31, 2020. Furthermore, the future financial obligations include 14.4 million euros (2018: 12.2 million euros) arising from contractually agreed purchase obligations for steel in Turkey result. These services will be paid by January 1, 2020. The contingent liabilities from guarantees in the amount of 15.6 million euros (2018: 17.8 million euros) mainly relate to bills of exchange drawn in Turkey.

7.14 Contingent Claims

There are contingent claims amounting to 12.1 million euros (2018: 6.5 million euros), which relate to possible claims for damages from defective deliveries.

7.15 Additional information on financial instruments

Financial assets and liabilities are valued either at (amortized) cost or at fair value in the balance sheet. This takes place in accordance with the assessment categories according to IFRS 9.

The following tables contain information on book values, measurement categories of IFRS 9 and fair values:

December 31, 2019	Valued at amortized cost		Measured at fair value through profit or loss	Measured at fair value with no effect on income	Not assigned to any evaluation category	Book value in the balance sheet
Million Euro	Book value	Informational: fair value	Book value	Book value	Book value	
Requests from deliveries and services	240.2	239.9	-	-	-	240.2
Other financial assets	5.7	5.7	0.2	2.2	-	8.0
Other financial receivables	5.7	5.7	-	-	-	5.7

December 31, 2019	Valued at amortized cost		Measured at fair value through profit or loss	Measured at fair value with no effect on income	Not assigned to any evaluation category	Book value in the balance sheet
Million Euro	Book value	Informational: fair value	Book value	Book value	Book value	
Investments in equity instruments	-	-	0.2	-	-	0.2
Derivatives with a hedging relationship	-	-	-	2.2	-	2.2
Derivatives without a hedging relationship	-	-	-	-	-	-
Other claims	15.6	15.6	-	-	42.3	57.9
Other financial receivables	15.6	15.6	-	-	-	15.6
Non financial assets	-	-	-	-	42.3	42.3
Cash and cash equivalents	285.3	285.3	-	-	-	285.3
Total financial assets	546.8	546.5	0.2	2.2	-	549.1

December 31, 2019	Valued at amortized cost		Measured at fair value through profit or loss	Valued in accordance with IFRS 16	Not assigned to any evaluation category	Book value in the balance sheet
Million Euro	Book value	Informational: fair value	Book value	Book value	Book value	
Financial liabilities	210.1	217.5	7.1	96.1	-	313.3
Other financial liabilities	210.1	217.5	-	96.1	-	306.2
Derivatives with a hedging relationship	-	-	7.1	-	-	7.1
Derivatives without a hedging relationship	-	-	-	-	-	-
liabilities from goods and services	290.6	290.6	-	-	-	290.6
Other liabilities	61.0	61.0	-	-	265.8	326.8
Other financial liabilities	61.0	61.0	-	-	-	61.0
Non-financial liabilities	-	-	-	-	265.8	265.8
Total financial liabilities	561.6	569.1	7.1	96.1	-	664.9

The reconciliation of the previous year's figures in accordance with IAS 39 is as follows:

December 31, 2018	Valued at amortized cost		Measured at fair value through profit or loss	Measured at fair value with no effect on income	Not assigned to any evaluation category	Book value in the balance sheet
Million Euro	Book value	Informational: fair value	Book value	Book value	Book value	
Requests from deliveries and services	266.0	265.8	-	-	-	266.0
Other financial assets	5.9	5.9	0.3	1.4	-	7.6
Other financial receivables	5.9	5.9	-	-	-	5.9
Investments in equity instruments	-	-	0.2	-	-	0.2
Derivatives with a hedging relationship	-	-	-	1.4	-	1.4
Derivatives without a hedging relationship	-	-	0.1	-	-	0.1
Other claims	17.7	17.7	-	-	43.6	613
Other financial receivables	17.7	17.7	-	-	-	17.7
Non financial assets	-	-	-	-	43.6	43.6
Cash and cash equivalents	228.6	228.6	-	-	-	228.6
Total financial assets	518.3	518.0	0.3	1.4	-	519.9

December 31, 2018	Valued at amortized cost		Measured at fair value with no effect on income	Valued in accordance with IAS 17	Not assigned to any evaluation category	Book value in the balance sheet
Million Euro	Book value	Informational: fair value	Book value	Book value	Book value	
Financial liabilities	238.7	241.6	3.0	3.9	-	245.6
Other financial liabilities	238.7	241.6	-	3.9	-	242.6
Derivatives with a hedging relationship	-	-	3.0	-	-	3.0
Derivatives without a hedging relationship	-	-	-	-	-	-
liabilities from goods and services	298.3	298.3	-	-	-	298.3
Other liabilities	52.0	52.0	-	-	235.9	287.9
Other financial liabilities	52.0	52.0	-	-	-	52.0
Non-financial liabilities	-	-	-	-	235.9	235.9
Total financial liabilities	589.0	591.9	3.0	3.9	-	595.9

A fair value measurement of open trade receivables that can still be sold in subsequent months under the existing ABS program would have resulted in a reduction in the book value of EUR 0.3 million (2018: 0, 3 million euros). The effect was not recorded on the basis of materiality considerations.

If a measurement is made at fair value or is provided for information purposes, these financial instruments must be assigned to one of the three levels of the fair value hierarchy (for the fair value hierarchy, see also Section 2.5.10).

Financial assets		December 31, 2019 Fair value classified in	
Million Euro	Level 1	Level 2	Level 3
Non-derivative financial assets			
Investing in Equity Instruments - Exchange Traded	0.2	-	-
Derivative financial assets with a hedging relationship			
Commodity futures - copper	-	2.2	-
Foreign Currency Forwards - GBP	-	-	-
Foreign Currency Forwards - Other	-	-	-
Derivative financial assets without a hedging relationship			
Foreign currency swaps	-	-	-
Assets for which the fair value is given for information only			
Valued at amortized cost	-	239.9	-

Financial liabilities		December 31, 2019 Fair value classified in	
Million Euro	Level 1	Level 2	Level 3
Derivative financial liabilities with a hedging relationship			
Commodity futures - copper	-	0.6	-
Foreign Currency Forwards - GBP	-	6.5	-
Foreign Currency Forwards - Other	-	0.1	-
Derivative financial liabilities without a hedging relationship			
Foreign Currency Forwards - GBP	-	-	-
Liabilities for which the fair value only needs to be stated			
Valued at amortized cost	-	217.5	-

The previous year's figures are as follows:

Financial assets		December 31, 2018 Fair value classified in	
Million Euro	Level 1	Level 2	Level 3
Non-derivative financial assets			
Investing in Equity Instruments - Exchange Traded	0.2	-	-
Derivative financial assets with a hedging relationship			
Commodity futures - copper	-	0.5	-
Foreign Currency Forwards - GBP	-	0.7	-
Foreign Currency Forwards - Other	-	0.1	-
Derivative financial assets without a hedging relationship			
Foreign currency swaps	-	0.1	-
Assets for which the fair value is given for information only			
Valued at amortized cost	-	265.8	-

Financial liabilities		December 31, 2018 Fair value classified in	
Million Euro	Level 1	Level 2	Level 3
Derivative financial liabilities with a hedging relationship			
Commodity futures - copper	-	2.4	-
Foreign Currency Forwards - GBP	-	0.4	-
Foreign Currency Forwards - Other	-	0.1	-
Derivative financial liabilities without a hedging relationship			
Foreign Currency Forwards - GBP	-	-	-
Liabilities for which the fair value only needs to be stated			
Valued at amortized cost	-	241.6	-

For some financial instruments, such as cash, short-term trade receivables and payables, the carrying amount is a reasonable approximation of the fair value. In accordance with IFRS 7.29 (a), disclosure of the fair value is not required for such financial instruments.

Evaluation process

The DCF method was used to determine the fair value of the liabilities from the US private placement and the promissory note loan. Possible refinancing rates for the Vaillant Group were used as discount factors.

The other long-term liabilities are non-interest-bearing and - if material - have been discounted according to their remaining term at the current market interest rate.

The financial assets are either short-term assets (trade receivables) or variable-interest values or assets for which the agreed nominal interest rate differs only insignificantly from the interest rates of the corresponding remaining terms. For outstanding trade receivables that will be sold in subsequent months under the ABS program, the fair value is only given for information. This is based on the purchase price discount agreed with the program partner on the book value of the items in question.

There were no changes to the carrying amounts for any of the other financial liabilities, as these are either short-term (trade payables) or variable interest rates. In some cases, the market interest rates for the corresponding remaining terms differed only insignificantly from the agreed nominal interest rates.

The determination of the fair values recognized in the balance sheet for derivative financial instruments depends on the type of instrument:

The fair value of currency derivatives is determined on the basis of the current ECB reference rates plus a premium or discount based on the interest rate differentials.

The fair values of commodity derivatives are determined on the basis of quotations from the LME (London Metal Exchange).

If material, the credit risk of the contractual partner is taken into account in the application of valuation techniques for derivative financial instruments by calculating credit and debit valuation adjustments.

The net gains (+) and net losses (-) from financial instruments resulted as follows:

Million Euro	Valuation categories according to IFRS 9	2019	2018
Trade accounts receivable from the ABS program	FAFVPL	-0.2	-0.3
Financial assets valued at amortized cost	FAAC	0.9	1.2
Financial liabilities valued at amortized cost	FLAC	1.2	-5.1
Derivatives without a hedging relationship	FAFVPL / FLFVPL	-	0.3

Net gains and losses from "financial assets measured at amortized cost" and "financial liabilities measured at amortized cost" contain changes in value adjustments as well as incoming payments and reversals of impairment losses on loans and receivables previously written off. It also includes gains or losses from foreign currency translation and the sale of assets.

With regard to the interest expenses or income resulting from the application of the effective interest method, we refer to the corresponding comments on the interest result in section 5.8.

8 RISK AND CAPITAL MANAGEMENT AND SECURITY INSTRUMENTS

8.1 Risk management policy in general

The globalization of marketplaces forces the economy to react flexibly to changes in financial and other market parameters such as exchange rates, interest rates or metal prices. As an international company, the Vaillant Group is also exposed to these risks. The Vaillant Group uses over-the-counter derivative financial instruments to eliminate or reduce the risks resulting from operational business and its financial support. Interest rate, metal price and exchange rate risks are hedged through the use of compensatory derivatives for direct relationships between the underlying and the hedging transaction (micro-hedges).

The conclusion, processing and control of the use of financial derivatives are centrally controlled by the Group Treasury department on the basis of a group-wide treasury guideline. The use of foreign exchange and non-ferrous metal derivatives is limited exclusively to the hedging of operational business.

The maximum default risk of the derivative financial instruments recognized in the balance sheet is reflected by their book values, which correspond to their fair values.

8.2 Capital management

Sustainable profitable growth is the central goal of the long-term strategy of the Vaillant Group. This ensures the continuation of the company so that dividends can continue to be paid to the shareholders and benefits can also be generated for other interest groups. In addition, an adequate return for the shareholders is ensured in accordance with the company's risk situation.

Sales and EBIT are the key figures with which the Vaillant Group measures and controls the company's growth.

The primary goal of the Vaillant Group's capital management is to ensure that the Group's ability to repay debt and its financial substance is maintained in the future and that sufficient free cash flow is available so that dividends can be distributed to shareholders on a regular basis. The Vaillant Group's capital management is therefore geared in particular to safeguarding the equity on the balance sheet.

A stable financial structure is therefore essential. In order to be able to continuously achieve this objective, a consistent and systematic control of the debt capital in the balance sheet is necessary. Financial covenants serve as a control parameter for this. Failure to comply with the financial covenants leads, in the worst case, to an immediate maturity of the loan.

The Group Treasury therefore continuously monitors the following two financial covenants, the components of which are determined according to the definitions of the agreed loan agreement clauses and which must be met cumulatively:

- Net debt ratio, defined as the quotient of net debt to EBITDA (profit from operations before depreciation and amortization of property, plant and equipment and intangible assets), and the
- Interest coverage ratio, defined as the quotient of EBITDA to net interest expense.

As in previous years, the financial covenants were fulfilled as of the reporting date (December 31, 2019).

8.3 Market Risks

8.3.1 Currency Risks

The Vaillant Group's exchange rate risks result from its operating business (transaction risks).

The underlying transactions on which the currency hedging considerations are based are defined as the balance of receivables and liabilities as well as expected sales and costs for the next twelve months. The Vaillant Group attaches particular importance to the natural hedge, which means that sales revenues in individual currencies should, if possible, also offset expenses (costs for materials, personnel, etc.) in the same currency. The cash flows from foreign currency transactions are due in 2020 and have a nominal value of EUR 317.0 million as of the balance sheet date (2018: EUR 294.9 million). Of this nominal amount, around 47 percent (2018: 42 percent) were hedged by currency forwards as of the balance sheet date.

The most important currency relation for the Vaillant Group is EUR / GBP. The fair value of these currency forwards was EUR -6.5 million on the balance sheet date (2018: EUR 0.3 million).

The currency sensitivity analysis is based on the following assumption:

For the hedged part of the cash flow, changes in exchange rates do not affect the result. The sensitivity analysis in accordance with IFRS 7 for determining the market risk results in a theoretical fair value of EUR -16.3 million (2018: EUR -12.6 million) based on GBP forward sales for a GBP 10 percent stronger. For the unsecured part of the foreign currency underlying transactions, an average devaluation of the GBP by 10 percent would have burdened the 2019 annual result with an additional approximately 3.9 million euros (2018: 5.6 million euros).

8.3.2 Raw material risks

As an industrial company, the Vaillant Group is also exposed to the risk of price changes for raw materials. In the case of unlisted raw materials, attempts are made to hedge the price risk through long-term purchase contracts. Of the raw materials listed on the stock exchange, copper is mainly used. The Vaillant Group has concluded corresponding purchase futures contracts (OTC swaps) here. The fair values of the raw material contracts with a hedge as of December 31, 2019 amounted to 1.6 million euros (2018: -1.9 million euros).

The table below shows the expected cash flows for copper purchases:

Nominal values of the cash flows	Million Euro
Due in 2020	26.2
Due in 2021	16.2
Due in 2022	8.0

The raw material sensitivity analyzes are based on the assumption that non-ferrous metals of consistent quality can be bought in advance on the commodity futures exchanges. Although there is no physical delivery of the metals here, the profit or loss resulting from these transactions is offset against the cost of sales when due. Fluctuations in metal prices do not affect the results of the hedged transactions.

The sensitivity analysis shows that if the market price had been 10 percent lower, the fair value of the corresponding contracts would have been EUR -5.0 million (2018: EUR -6.7 million).

8.3.3 Interest rate risks

Interest rate risks essentially result from variable interest-bearing financial debts. Fixed-interest financial debts such as the US private placement are recognized at amortized cost and not at fair value, so that a change in the market interest rate did not have any effect on the profit or loss for the period. The interest rate risks relate mainly to the variable-interest liabilities to banks. The sensitivity analysis carried out resulted in an increase in interest expenses of EUR 0.3 million (2018: EUR 0 million) for liabilities to banks with an interest rate that was 1 percentage point higher.

8.3.4 Risks of Default

The Vaillant Group is exposed to the risk of default, particularly in its operational business. In the operative business, the outstanding accounts for deliveries and services are monitored decentrally. Default risks are taken into account by means of individual value adjustments and flat-rate individual value adjustments. The Vaillant Group sold some of the trade receivables as part of an ABS program and booked them out in the amount of the risks and opportunities transferred. There remains a risk of default in the amount of the recognized financial assets.

In order to minimize the default risk of trade receivables, non-cash collateral (mainly trade credit insurance, bank guarantees and letters of credit as well as mortgages) has been taken out to cover part of the default risk.

The maximum default risk of the financial assets recognized in the balance sheet (including derivative financial instruments with a positive fair value) is reflected in the book values.

8.4 Additional information on derivatives in hedging relationships

The following overview contains information about the cash flows of the derivative financial instruments used in hedging relationships:

2019	Commodity futures		Forward foreign exchange transactions	
	Nominal volume million euros	Ø secured price per ton (in euros)	Nominal volume million euros	Ø forward rate *
Due in 2020	26.2	5,311	147.0	0.89
Due in 2021	16.2	5,228	-	-
Due in 2022	8.0	5,158	-	-

* The information on the average forward rate relates to the hedging of the GBP exchange rate risk as the only essential currency hedging component.

2018	Commodity futures		Forward foreign exchange transactions	
	Nominal volume million euros	Ø secured price per ton (in euros)	Nominal volume million euros	Ø forward rate
Due in 2019	25.9	5,255	120.1	0.90
Due in 2020	15.3	5,369	9.0	0.0
Due in 2021	6.7	5,177	-	0.0

The hedging instruments that the Vaillant Group had designated in hedging relationships had the following effects on the consolidated balance sheet and the consolidated statement of comprehensive income (in million euros, unless otherwise stated):

2019	Book value of the hedging instruments used		Change in fair value to measure ineffectiveness in the reporting year	Amount recorded in other result (+ = profit, - = loss)
Million Euro	Other financial assets	Financial liabilities		
Forward foreign exchange transactions	-	6.5	-6.7	-7.8
Commodity futures	2.2	0.6	3.5	2.4

2019	Amount reclassified from other income to the income statement (+ = profit, - = loss)	Item in the group income statement
Million Euro		
Forward foreign exchange transactions	-2.5	Sales
Commodity futures	0.1	Production cost of sales

2018	Book value of the hedging instruments used		Change in fair value to measure ineffectiveness in the reporting year	Amount recorded in other result (+ = profit, - = loss)
Million Euro	Other financial assets	Financial liabilities		
Forward foreign exchange transactions	0.8	0.6	-0.2	-0.4
Commodity futures	0.5	2.4	-8.8	-4.2

2018	Amount reclassified from other income to the income statement (+ = profit, - = loss)	Item in the group income statement

2018 Million Euro	Amount reclassified from other income to the income statement (+ = profit, - = loss)	Item in the group income statement
Forward foreign exchange transactions	-0.3	Sales
Commodity futures	1.7	Production cost of sales

The losses from hedging transactions recognized in other comprehensive income in the financial year totaled EUR 5.4 million. The loss of 7.8 million euros attributable to foreign currency forwards will, as expected, largely be reversed through profit or loss within the next twelve months and the profit of 2.4 million euros attributable to commodity futures contracts within the next 36 months.

Results from the currency forwards were shown in the sales revenue, insofar as the underlying transactions concerned the sale of goods. If, on the other hand, it was a purchase transaction, it was shown in the cost of sales. Amounts for commodity futures were also included in the cost of sales.

Since the underlying transactions designated in hedging relationships for ongoing hedges are only expected transactions with a high probability of occurrence, which are pending in nature as of the balance sheet date, they have no impact on the consolidated balance sheet. There were also no inefficiencies from the hedging relationships affecting net income in the reporting period. Remaining balances from hedging relationships, for which the accounting treatment of hedging transactions is no longer used, result exclusively from hedges of net investments in foreign businesses at the time and are included in the currency translation reserve with a total of EUR -75.3 million,

The development of the reserve for the time valuation of hedging instruments contained in the other equity components and their influence on the other result in the reporting period are shown as follows:

2019 million euros	Forward foreign exchange transactions	Commodity futures	total
As of 01.01.	0.9	-0.8	0.1
Amount recorded in other result (+ = profit, - = loss)	-7.8	2.4	-5.4
Amounts that were transferred to the income statement because the secured underlying transaction was entered in the income statement (- = profit, + = loss)	2.5	-0.1	2.4
As at 31.12.	-4.4	1.5	-2.9

2018 million euros	Forward foreign exchange transactions	Commodity futures	total
As of 01.01.	1.1	5.0	6.1
Amount recorded in other result (+ = profit, - = loss)	-0.4	-4.2	-4.6
Amounts that were transferred to the income statement because the secured underlying transaction was entered in the income statement (- = profit, + = loss)	0.3	-1.7	-1.4
As at 31.12.	0.9	-0.8	0.1

9 RELATIONSHIPS WITH AFFILIATED COMPANIES AND PERSONS

Related companies and persons within the meaning of IAS 24 are legal and natural persons who can exert an influence on Vaillant GmbH and its subsidiaries or who are under the control or significant influence of Vaillant GmbH or its subsidiaries. This includes in particular non-consolidated subsidiaries, joint ventures and associated companies, pension plans and also the members of the executive bodies of Vaillant GmbH and their close relatives. The remuneration of the members of the governing bodies can be found in the following chapter 10, the information on the payment obligations in defined benefit plans can be found in chapter 7.8.

Transactions with these related companies result from the normal exchange of supplies and services; the scope of business relationships is shown in the following table:

Million Euro	Type of relationship		Services to related companies	Services from related companies	Receivables from related companies	Liabilities to related companies
Manuel J. Monteiro & Co. Lda.	Sales of finished products	2019	1.3	0.0	0.2	0.0
		2018	1.3	-	-	-
Vaillant Cooperation	Handling of warranty claims	2019	-	-	-	0.4
		2018	-	-	-	0.5
Joh. Vaillant GmbH & Co KG	Real estate management, accounting	2019	0.1	1.2	3.4	0.0
		2018	0.1	1.1	3.4	0.0

Vaillant GmbH had received interest income of 0.1 million euros (2018: 0.1 million euros) from the Vaillant Group's loan receivable from Joh.Vaillant GmbH & Co KG.

The receivables from Vaillant Ltd., Hong Kong, China, which were not included in the consolidated financial statements, which had already been fully written down, were fully derecognized in the amount of EUR 0.4 million in the 2019 financial year.

10 TOTAL REMUNERATION OF THE MANAGEMENT, THE SHAREHOLDERS 'COMMITTEE AND THE SUPERVISORY BOARD

The remuneration of the management in key positions of the Vaillant Group, which must be disclosed in accordance with IAS 24, includes the remuneration of the management, the shareholders' committee and the supervisory board.

The members of the management were remunerated as follows:

Million Euro	2019	2018
Short-term benefits	3.7	2.5
Benefits on the occasion of / after the end of the employment relationship	0.5	2.9
total	4.2	5.3

Temporary continued salary payments and expenses for pension commitments earned in the current year are reported as benefits on the occasion of / after the end of the employment relationship. As of December 31, 2019, as in the previous year, no loans or advances were granted to the management; As in the previous year, no contingent liabilities were entered into in favor of members of the management.

The total remuneration of former members of the management and their surviving dependents amounted to EUR 0.5 million (2018: EUR 0.4 million). A provision of 12.8 million euros (2018: 9.6 million euros) was set aside for pension obligations to active and former members of the management, of which 9.8 million euros (2018: 8.1 million euros) relate to former members of the management and their surviving dependents .

The Shareholders' Committee received total remuneration of EUR 0.6 million in the 2019 financial year (2018: EUR 0.6 million) and the Supervisory Board received total remuneration of EUR 0.1 million (2018: EUR 0.1 million).

As of December 31, 2019, as in the previous year, no loans or advances were granted to members of the Supervisory Board or the members of the Shareholders' Committee; As in the previous year, no contingent liabilities were entered into in favor of these bodies.

11 AUDITOR FEES AND SERVICES

The following fees (including expenses) were recorded as expenses for the services provided by the group auditor in the 2019 financial year:

Million Euro	2019	2018
Audit services	1.0	0.7
Other certification services	-	0.4
Tax advisory services	0.0	0.0
Other services	0.8	1.6
total	1.8	2.7

12 EVENTS AFTER THE BALANCE SHEET DATE

After the balance sheet date, the Vaillant Group acquired additional shares in three Spanish service companies. This increases the shares to 100 percent each. Since the Vaillant Group had already exercised control before acquiring the additional shares, this acquisition will be treated as a pure equity transaction. Beyond this, no other events are of material significance for Vaillant's asset, financial and earnings position Group that would have required separate disclosure outside of the preceding information in the notes.

Remscheid, February 21, 2020

Vaillant GmbH

The Board

Dr.-Ing. Schiedeck, chairman

Dr. Borchers

Dr. Groos

Jacob

INDEPENDENT AUDITOR'S REPORT

To Vaillant GmbH, Remscheid

Examination Opinions

We have prepared the consolidated financial statements of Vaillant GmbH, Remscheid, and its subsidiaries (the Group) - consisting of the consolidated balance sheet as of December 31, 2019, the consolidated statement of comprehensive income, the consolidated income statement, the consolidated statement of changes in equity and the consolidated Cash flow statement for the financial year from January 1, 2019 to December 31, 2019 and the notes to the consolidated financial statements, including a summary of significant accounting methods. In addition, we have audited the group management report of Vaillant GmbH, which is combined with the company's management report, for the financial year from January 1, 2019 to December 31, 2019. The declaration on corporate governance according to Section 289f Para.

According to our assessment based on the knowledge gained during the audit

- the attached consolidated financial statements comply in all material respects with the IFRS as they are to be applied in the EU and the additional German legal regulations to be applied according to § 315e Abs. 1 HGB and give a true and fair view of the asset and financial situation in compliance with these regulations of the group as of December 31, 2019 and its earnings position for the financial year from January 1, 2019 to December 31, 2019 and
- the attached group management report gives an overall accurate picture of the group’s position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and accurately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the above-mentioned corporate governance statement.

In accordance with Section 322 (3) sentence 1 of the German Commercial Code (HGB), we declare that our audit has not led to any objections to the correctness of the consolidated financial statements and the group management report.

Basis for the examination results

We carried out our audit of the consolidated financial statements and the group management report in accordance with Section 317 of the German Commercial Code (HGB) and in compliance with the generally accepted German auditing principles established by the Institut der Wirtschaftsprüfer (IDW). Our responsibility in accordance with these regulations and principles is described in more detail in the section "Responsibility of the auditor for the audit of the consolidated financial statements and the group management report" of our auditor's report. We are independent of the group companies in accordance with the German commercial and professional regulations and have fulfilled our other German professional obligations in accordance with these requirements.

Other Information

The legal representatives are responsible for the other information. The other information includes the declaration on corporate governance obtained by us prior to the date of this auditor's report in accordance with Section 289f (4) of the German Commercial Code (information on the quota of women). The other information also includes the remaining parts of the annual report that we received before the date of this auditor's report - without any further cross-references to external information - with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and the group management report do not extend to the other information and accordingly we do not issue an audit opinion or any other form of audit conclusion thereon.

In connection with our audit, it is our responsibility to read the other information and, in doing so, to assess whether the other information

- have material inconsistencies with the consolidated financial statements, the group management report or our knowledge obtained during the audit or
- otherwise appear materially misrepresented.

Responsibility of the legal representatives and the supervisory board for the consolidated financial statements and the group management report

The legal representatives are responsible for the preparation of the consolidated financial statements, which comply with the IFRS as they are to be applied in the EU, and the additional German legal regulations to be applied according to § 315e Abs. 1 HGB in all essential respects, and for that the consolidated financial statements under Compliance with these regulations provides a true and fair view of the Group's asset, financial and earnings position. Furthermore, the legal representatives are responsible for the internal controls that they have determined to be necessary to enable the preparation of consolidated financial statements that are free from material - intentional or unintentional - is misrepresentation.

When preparing the consolidated financial statements, the legal representatives are responsible for assessing the Group's ability to continue as a going concern. Furthermore, they are responsible for disclosing matters relating to the going concern of the company, if relevant. In addition, they are responsible for reporting on a going concern basis unless the intention is to liquidate the group or to cease operations or there is no realistic alternative to doing so.

In addition, the legal representatives are responsible for the preparation of the group management report, which as a whole provides an accurate picture of the group's position, is consistent with the consolidated financial statements in all material respects, complies with German legal requirements and appropriately presents the opportunities and risks of future development . Furthermore, the legal representatives are responsible for the precautions and measures (systems) that they have deemed necessary to enable the preparation of a group management report in accordance with the applicable German legal regulations and to be able to provide sufficient suitable evidence for the statements in the group management report .

The Supervisory Board is responsible for monitoring the Group's accounting process for the preparation of the consolidated financial statements and the group management report.

Auditor's responsibility for the audit of the consolidated financial statements and the group management report

Our objective is to obtain sufficient certainty as to whether the consolidated financial statements as a whole are free from material - intended or unintentional - misrepresentation and whether the group management report as a whole gives an accurate picture of the Group's position and, in all material matters, with the consolidated financial statements as well as with is consistent with the knowledge gained during the audit, complies with German legal requirements and correctly presents the opportunities and risks of future development, as well as issuing an auditor's report that includes our audit opinions on the consolidated financial statements and the group management report.

Adequate security is a high level of security, but no guarantee that an audit carried out in accordance with Section 317 of the German Commercial Code (HGB) in accordance with the German principles of proper auditing established by the Institute of Auditors (IDW) will always reveal a material misrepresentation. Misrepresentations can result from violations or inaccuracies and are regarded as material if it could reasonably be expected that they individually or collectively influence the economic decisions of the addressees made on the basis of these consolidated financial statements and the group management report.

During the examination, we exercise our due discretion and maintain a critical attitude. Furthermore

- We identify and assess the risks of material - intentional or unintentional - misrepresentations in the consolidated financial statements and in the group management report, plan and carry out audit procedures in response to these risks and obtain audit evidence that is sufficient and suitable to serve as a basis for our audit opinions. The risk that material misrepresentations are not detected is higher in the case of violations than inaccuracies, since violations can involve fraudulent cooperation, forgeries, intentional incompleteness, misleading representations or the overriding of internal controls.
- We gain an understanding of the internal control system relevant to the audit of the consolidated financial statements and the provisions and measures relevant to the audit of the group management report in order to plan audit procedures that are appropriate under the given circumstances, but not with the aim of providing an audit opinion on the effectiveness of these Systems.
- we assess the appropriateness of the accounting methods used by the legal representatives as well as the acceptability of the estimated values presented by the legal representatives and the related information.
- we draw conclusions about the appropriateness of the going concern accounting principle applied by the legal representatives and, on the basis of the audit evidence obtained, whether there is any material uncertainty in connection with events or circumstances, the significant doubts about the ability of the group to continue business operations can raise. If we come to the conclusion that there is material uncertainty, we are obliged to draw attention to the relevant information in the consolidated financial statements and in the group management report in the auditor's report or, if this information is inappropriate, to modify our respective audit opinion. We draw our conclusions based on the audit evidence obtained up to the date of our auditor's report. Future events or circumstances can, however, mean that the Group can no longer continue its business activities.
- We assess the overall presentation, structure and content of the consolidated financial statements, including the information, as well as whether the consolidated financial statements present the underlying business transactions and events in such a way that the consolidated financial statements take into account the IFRS, as they are to be applied in the EU, and the supplementary according to § 315e Paragraph 1 of the German Commercial Code (HGB) provides a true and fair view of the Group's asset, financial and earnings position.
- We obtain sufficient suitable audit evidence for the accounting information of the companies or business activities within the group in order to issue audit opinions on the consolidated financial statements and the group management report. We are responsible for the direction, supervision and execution of the group audit. We are solely responsible for our audit opinions.
- We assess the consistency of the group management report with the consolidated financial statements, its compliance with the law and the picture it provides of the group's position.
- we perform audit procedures on the future-oriented information presented by the legal representatives in the group management report. On the basis of sufficient, suitable audit evidence, we particularly review the significant assumptions on which the future-oriented information is based on the legal representatives and assess the appropriate derivation of the future-oriented information from these assumptions. We do not issue an independent audit opinion on the future-oriented information or the underlying assumptions. There is a significant unavoidable risk

Among other things, we discuss with those responsible for monitoring the planned scope and timing of the audit as well as significant audit findings, including any deficiencies in the internal control system that we discover during our audit.

Düsseldorf, February 21, 2020

PricewaterhouseCoopers GmbH
auditing company

Lutz Granderath, auditor

Matthias Mühlenfeld, auditor

SUPERVISORY BOARD REPORT

The Supervisory Board met on March 29, 2019 and December 13, 2019 in the 2019 calendar year. He performed his duties under the law and the Articles of Association and obtained information about the development of the Vaillant Group through verbal and written reports from the management. The Supervisory Board dealt in particular with the 2018 annual financial statements, business development for the current year, key corporate projects and management personnel matters. The department of the Managing Director Industrial (CTO) has been filled.

The auditor elected by the shareholders' meeting and commissioned by the supervisory board, PwC PricewaterhouseCoopers GmbH, Wirtschaftsprüfungsgesellschaft, has prepared the annual financial statements (according to HGB) as well as the consolidated financial statements (according to IAS / IFRS) and the combined management report for the financial year from 1. Examined from January 1, 2019 to December 31, 2019. The examination did not reveal any objections. In its unqualified auditor's report, the auditor declared that the individual financial statements and the consolidated financial statements give a true and fair view of the assets, financial and earnings position of Vaillant GmbH and the Group, taking into account the statutory provisions.

Representatives of the auditor attended the meeting of the Supervisory Board on March 27, 2020, at which the audited financial statements were presented to the Supervisory Board. They presented key findings from the audit and answered questions put by the Supervisory Board in this context. The audit reports were made available to all members of the Supervisory Board. The Supervisory Board took note of the audit result. After the final result of its examination, the Supervisory Board raised no objections and approved the financial statements. The Shareholders' Committee adopted the annual financial statements and approved the consolidated financial statements.

The Supervisory Board thanks all employees, the elected representatives of the workforce and the management for the work they have done and their successful commitment in the interests of the company and its customers.

Remscheid, March 2020

The board of directors

Dr. Matthias Blaum, chairman

editor

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The annual report is also available in German.