Audit Certificate

CeramTec TopCo GmbH
Plochingen

Consolidated Financial Statements for the Period Ending
December 31, 2019 and the Group Management Report
for Financial Year 2019

INDEPENDENT AUDITOR'S REPORT

(Translation - the German text is authoritative)

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This audit certificate serves only to be used pursuant Article 325 et seq. HGB

(German Commercial Code).

CeramTec TopCo GmbH

Plochingen

Group Management Report

for Financial Year 2019

(Translation – the German text is authoritative)

1 Basic information about the Group

1.1 Preliminary remarks

CeramTec TopCo GmbH (hereinafter referred to as CT TopCo or Company) is headquartered in Plochingen/Germany. The financial year corresponds to the calendar year.

CT TopCo is the direct parent company and holds all shares in CeramTec BondCo GmbH, Plochingen /Germany, (hereinafter referred to as CT BondCo), which, in turn, is the direct parent company of CeramTec AcquiCo GmbH, Plochingen/Germany, (hereinafter referred to as CT AcquiCo), in which it holds all shares. CT AcquiCo acquired all shares in CeramTec Holding GmbH effective as of March 8, 2018.

The CeramTec TopCo Group (hereinafter referred to as CT TopCo Group) had hence consisted of only the mentioned three holding companies from January 1, 2018 to the acquisition date. In 2018, the CT TopCo Group accordingly operated its business for only around 10 months.

In addition to the financial statements of CT TopCo, the consolidated financial statements include the financial statements of subsidiaries which are directly and indirectly controlled by CT TopCo. Of 23 fully consolidated subsidiaries, 9 are headquartered in Germany, and 14 are headquartered abroad. The notes to the consolidated financial statements include details of shareholdings.

The consolidated financial statements of CT TopCo are prepared by applying Sec.315e (1) in conjunction with (3) German Commercial Code (HGB) in conformity with the International Financial Reporting Standards (IFRS / IAS) issued by the International Accounting Standards Board (IASB) and related interpretations (SICs / IFRICs) which must be applied in accordance with Regulation No. 1606/2002 of the European Parliament and of the Council on the application of international accounting standards in the EU, and the supplementary requirements of the German Commercial Code (HGB).

1.2 Business model / targets and strategies

CeramTec is a leading global group in the development, manufacture and supply of products made of technical high performance ceramics ("HPC"), which contain highly specialized materials with superior biological/chemical, mechanical, thermal or electric properties compared to often competing products made from metal or organic polymers (plastics). CeramTec has been engaged in the high performance ceramics industry for over 100 years, with operational expertise and experience in creating innovative system solutions for longstanding regular customers. CeramTec supplies products for all areas of life, including hip joint replacement components, actuators in engine valves for fuel injection systems, hybrid and electric vehicles components, SPK tools for high-performance cutting and various piezo components of all kinds. The versatility of high performance ceramics products and the resulting wide range of applications provides us with a highly diversified end market and customer base.

The operations can be divided into two businesses – Medical Products and Industrial.

- The Medical Products business focuses on developing and manufacturing ceramic components for joint replacements in hip endoprosthetics. In 2019, we generated 41.7% of our revenue from our Medical Products business.
- The Industrial business develops, manufactures and supplies a broad range of highly specialized, application-intensive HPC solutions for customers spanning a range of industries including automotive, electronics, industrial machinery and medical equipment. In 2019, 58.3% of our revenue was generated by products for industrial applications.

CeramTec generates approx. two thirds of revenue in Europe (including Germany). However, our customers have a strong export focus as their products, such as automotive parts or medical products, are sold to end-customers worldwide.

CeramTec has a global manufacturing footprint with 20 facilities across Europe, North America and South America as well as Asia. Manufacturing plants in Germany are located at Plochingen (headquarters), Marktredwitz, Lauf, Ebersbach, Wittlich, Lohmar and Wilhermsdorf.

In our opinion, CeramTec's business model is based on the following strengths:

- Ability to deliver compelling customer value through high-tech, tailored solutions for complex applications,
- R&D and manufacturing excellence with high degree of customer integration
- Leading market position in a critical and growing segment of the orthopedics market
- Tailored solutions for OEMs in diversified industrial business segments
- Strong financial position and performance and sustained cash flows
- Experienced management team supported by dedicated workforce

Our goal is profitable and sustainable growth taking the following steps:

- Maintain leadership in high performance ceramics through commercial, operational and innovation excellence
- Further expansion of our close cooperation with customers to jointly develop technologically innovative solutions based on the outstanding material properties of ceramics and a clear understanding of customer requirements
- Expand globally in markets with strong underlying fundamentals where we are underrepresented such as the United States and China, by focusing on growth initiatives and delivering customer driven innovations.
- Maintain a disciplined approach in using such cash while preserving attractive margins.
- Pursue a sustainable acquisition strategy in attractive end markets and technologies as well as accessing new geographies.

1.3 Research and development

As a manufacturer of high-tech solutions we believe that our continued emphasis on research and development is key to our future profitability. Our Research & Development efforts mainly reflect application-oriented developments and processes cooperatively developed with our customers as well as innovative solutions which promise high market potential. CeramTec cooperates with many well-known research institutions and universities. We have a strong, centralized Research & Development infrastructure with a large number of globally working scientists and engineers.

In the future, the focus on the applications' marketability shall be enhanced by closer cooperating with our customers. The research and development efforts will also be directed towards innovative new products and materials for markets with long-term growth potential, focusing on products which enable CeramTec to clearly differentiate from competitors, based on its in-depth knowhow.

Research and development expenses are expenses in the period in which they are incurred. In the financial year, expenses for the consolidated group's research and development efforts amounted to EUR 23,341k and the ratio of research and development expenses to revenues was 3.8 % (prior year: 3.7 %). At the balance sheet date, 186 people were employed in research and development (December 31, 2018: 191 people).

2 Economic report

2.1 Macroeconomic development and sector-related general conditions

Macroeconomic development

In its economic forecasts of December 11, 2019, the Institute for the World Economy expects the global economy to grow 3.0 % in 2019 compared to 3.7 % in 2018. This represents the lowest rate since the recession in 2009. In this context, the economic development saw a particular deterioration in advanced economies, whereas the economic momentum in the emerging countries has stabilized.

In 2018, different levels of momentum were still prevailing within the advanced economies, with sustained strong production increase in the United States and clearly diminished expansion within the Eurozone and in Japan. These differences decreased in the course of the year 2019 approaching an average value. Overall, the economic development in the emerging countries was moderate. In China, the growth rate of the gross domestic product decreased to 6.2 %, not least due to the trade policy of the United States, whereas production in the other Asian emerging countries was expanded at quite a high speed. In India, however, the economic momentum strongly declined in the summer half-year of 2019.

Since the beginning of 2018, the Eurozone's economy has noticeably lost momentum, given an increase in the gross domestic product by 1.9 %. In 2019, the gross domestic product has remained at a low level with an increase 1.2 %. Uncertainty on time and conditions of the Brexit have dampened the economic activities already for some time, both in the EU as well as in the United Kingdom itself.

In 2019, the German economy recorded a minor increase of 0.5 % in the gross domestic product. Accordingly, growth has remained below the prior-year figure (1.5 %) once more. The industry thus entered into a still mild recession which also reached the industry-oriented service sector. On the other hand, consumer-oriented economic sectors, such as the construction industry, remained on an expansion path, and this development was sufficient to let macroeconomic production slightly increase.

Development of the industry sector

Macroeconomic and Other Developments in our Key Geographical Target Markets

Sales of CeramTec are mostly generated in Europe and specifically in Germany. Despite this relative concentration, many customers, especially medical and automotive customers, are export-oriented, globally operating companies. Consequently, we assess our business as globally diversified. Our actual end-markets are likely to be stronger located in North America and Asia than our direct sales show.

Development of Hip Replacement Markets as Indicator for the Medical Products business

Medical Product revenues and operating profit are influenced by the development of the market for hip replacements in general and the market share for ceramic hip implants in particular and have historically not been particularly sensitive to macroeconomic developments.

The share of ceramic ball heads in implanted hip replacements rises continuously. In addition to growth in the total hip replacement market, the share of ceramic prostheses is expected to increase by gradually replacing traditional materials such as metal which can, for example, trigger allergic reactions. An increase in ceramic market share is expected particularly in North America and China.

Demand Cycles in Various End Markets Relevant for our Industrial Business

Sales in our Industrial business are influenced by economic growth in our target markets, particularly in Europe.

In addition to the overall GDP growth rate influencing the results of operations of our Industrial business, each industrial market is also subject to different influential factors. In particular, the automotive, electronics and engineering industries are cyclical end-markets. Demand significantly depends on the business success of our OEM customers as well as their end-customers. For example, overall economic conditions and technical framework conditions can affect new car sales, impacting automotive suppliers and thereby also influencing demand for ceramic components in automobiles and engines.

The CT TopCo Group's key revenue drivers include, among others, the automotive industry, the electronics industry and various other industrial niche markets, such as the machine component market in the textile industry. Particularly for the automotive end market, but also various other industrial end markets such as construction, the economic developments in Germany and Europe have a significant effect on our business development.

2.2 Business development

The CT TopCo Group had consisted of only three holding companies from January 1, 2018 to March 8, 2018, the acquisition date. In 2018, the CT TopCo Group hence operated its business for only around 10 months.

The CT TopCo Group has an extensive portfolio of ceramic materials, and our highly trained and experienced development and manufacturing specialists enable us to provide a wide range of applications and problem solutions for demanding customers operating in the medical technology, automotive, electronics, energy-and-environment and equipment and mechanical engineering industries.

Thus, the CT TopCo Group operates in a very heterogeneous market and in the financial year achieved revenues totaling EUR 620,376k. While the Medical Products business continued to see a positive development, sales of the Industrial business slightly decreased, which was mainly driven by a weaker economy and portfolio streamlining measures taken by customers.

Compared to the operating business of the entire financial year 2018, the management of the CT TopCo Group had anticipated a slight increase in sales revenue, a slight decline in adjusted EBITDA and a clear increase in EBITDA for 2019. Comparatively low EBITDA in 2018 had been burdened by transaction costs for the acquisition and reverse effects from the purchase price allocation on inventories. In fact, sales revenues were according to budget, EBITDA remained slightly below budget and adjusted EBITDA clearly exceeded budget in 2019.

In the financial year 2019, order intake amounted to EUR 598,21k and as of December 31, 2019 the backlog of orders on hand amounted to EUR 177,262k.

Net operating result adjusted for non-recurring items, depreciation, amortization, write-downs, and valuation allowances (adjusted EBITDA) amounted to EUR 244,321k. The adjusted EBITDA margin was hence 39.4 %.

CeramTec GmbH, Plochingen/Germany, is the largest company which engages in operating activities, and is part of the CT TopCo Group.

3 Presentation of the consolidated group's position

3.1 Results of operations

In the financial year 2018, the CT TopCo Group achieved revenues of EUR 620,376k.

Medical Products generated revenues of EUR 258,687k and the Industrial business had revenues of EUR 361,689k.

Europe and Germany are the most important markets in terms of sales, accounting for 66.4 % (prior year: 68.7 %) of the revenues of the consolidated group. Asia and North America account for 16.2 % (prior year: 15.1 %) and 14.8 % (prior year: 13.1 %) of the revenues, respectively.

The consolidated group made a gross profit of sales of EUR 264,137k in the financial year. The gross margin (gross profit of sales in relation to revenue) amounted to 42.6 % (prior year: 32.3 %).

The ratio of selling costs to revenue, expressed as a percentage, stands at 15.4 % (prior year: 16.3 %), the ratio of research and development costs to revenue stands at 3.8 % (prior year: 3.7 %), and the ratio of general administrative costs to revenue stands at 4.4 % (prior year: 5.7 %).

Other expenses and income include impairment of goodwill in the amount of EUR 329,753k impairment of other intangible assets in the amount of EUR 5,456k and impairment of property, plant and equipment in the amount of EUR 4,806k.

The net operating result amounted to EUR -224,467k in the financial year.

The negative net finance result of EUR 98,314k results from interest income and similar income of EUR 2,135k and interest expense and similar expenses of EUR 100,449k.

In the financial year, interest income resulted mainly from discounting of financial liabilities of EUR 1,380k. Interest expenses were due mainly to expenses for interest on a syndicated loan and the corporate bond of EUR 52,674k as well as interest on the shareholder loan of EUR 38,768k.

Loss for the period breaks down as follows:

(kEUR)	2019	2018
Loss for the period before income tax	-322,781	-102,231
Current income tax expense	-34,434	-17,320
Deferred tax income	17,936	32,415
Net loss for the period	**-339,279**	**-87,136**

In the financial year, EBITDA and adjusted EBITDA (net operating result, plus depreciation, amortization, write-downs/impairments and special items) were determined as follows:

(kEUR)	2019	2018
Net operating result	-224,467	21,192
Depreciation, amortization, writedown/impairments	447,168	122,561
EBITDA	**222,701**	**143,753**
Special items	21,620	41,096
Adjusted EBITDA	**244,321**	**184,849**

The special items reflected in adjusted EBITDA mainly include the costs for strategic and operational re-alignment (EUR 14,711k; prior year: EUR 9,543k) as well as costs for expiring product lines (EUR 3,671k; prior year: EUR 0k). In the prior year, reverse effects from the purchase price allocation on inventories (EUR 16,500k) and transaction costs expensed in connection with the business acquisition (EUR 10,346k) as well as other transaction costs (EUR 2,051k) were also included.

In the reporting year, adjusted EBITDA in relation to revenues was 39.4 % (prior year: 37.2 %).

3.2 Net assets and financial position

Asset and capital structure

The Group's balance sheet total declined by EUR 353,321k to EUR 2,595,261k as of December 31, 2019. This corresponds to a decline of 12.0 %, mainly reflecting the loss for the financial year on the liabilities side. Moreover, financial liabilities decreased in favor of equity because part of the shareholder loan was contributed to the capital reserve (EUR 279,954k). On the assets side, mainly goodwill and intangible assets decreased due to impairments to be recognized as well as ongoing amortization. The decrease in assets was slightly offset by increased cash and cash equivalents.

Goodwill results from the acquisition of the CeramTec Group in the previous financial year. At that time, it was allocated to the cash-generating units (CGUs) Medical Technology (EUR 874,613k), and Industrial Applications (EUR 466,818k). The annual impairment test resulted in a valuation allowance to be recognized on goodwill of ZGE Industrieanwendungen in the amount of EUR 329,753k.

The trademarks CeramTec, BIOLOX, SPK and DAI Ceramics were identified during the acquisition process. The carrying amount of the above trademarks was EUR 53,544k as of December 31, 2019 (December 31, 2018: EUR 59,000k). The useful life for the recognized trademarks was classified as indefinite. The annual impairment test in the financial year resulted in a valuation allowance to be recognized on the trademarks in the amount of EUR 5,456k.

Technology has a carrying amount of EUR 302,481k (December 31, 2018: EUR 320,211k) and primarily contains the basic technology underlying the Medical Products business, and the basic technology underlying the Industrial business. These have an average weighted remaining useful life of 16.2 years (December 31, 2018: 17.2 years).

Customer relationships have a carrying amount of EUR 677,789k (December 31, 2018: EUR 723,613k) and primarily contain customer relationships from medical applications. These have an average weighted remaining useful life of 15.1 years (December 31, 2018: 16.1 years).

Long-term and short-term other financial assets include mainly the termination rights of EUR 25,139k (December 31, 2018: EUR 20,988k) associated with the corporate bond issue which are carried on the balance sheet and must be separated.

Trade receivables amounted to EUR 52,740k (December 31, 2018: EUR 57,880k). Please note that, under a factoring agreement concluded in 2017, receivables of EUR 14,422k (December 31, 2018: EUR 14,146k) were sold as of the balance sheet date.

Cash and cash equivalents are composed of bank balances of EUR 64,373k (December 31, 2018: EUR 21,049k) and cash on hand of EUR 7k (December 31, 2018: EUR 9k). For details see explanations on liquidity.

Equity of EUR 338,468k (December 31, 2018: EUR 405,613k) accounts for 13.0 % (December 31, 2018: 13.8 %) of total capital. With effect as of December 31, 2019, a nominal amount of EUR 247,929k of the existing shareholder loan and interest liabilities of EUR 32,025k were contributed to the capital reserve.

Long-term provisions of EUR 118,939k (December 31, 2018: EUR 105,083k) include mainly provisions for retirement benefits in the amount of EUR 113,433k (December 31, 2018: EUR 100,200k).

In addition to the aforementioned long-term provisions and deferred taxes in the amount of EUR 298,417k (December 31, 2018: EUR 318,200k), long-term liabilities of the consolidated group include mainly liabilities to banks of EUR 999,334k (December 31, 2018: EUR 1.045,858k), liabilities arising from the issuance of a corporate bond of EUR 415,740k (December 31, 2018: EUR 411,990k), derivative financial instruments with a negative market value of EUR 15,179k (December 31, 2018: EUR 12,748k), and financial liabilities to affiliated companies of EUR 256,270k (December 31, 2018: EUR 552,688k).

Equity and long-term liabilities cover 103.3 % of the CT TopCo Group's long-term assets (December 31, 2018: 103.4 %).

Liabilities to banks nominally amount to EUR 894,000k (December 31, 2018: EUR 938,000k) from a tranche in EUR, and EUR 133,167k (December 31, 2018: EUR 139,689k) from two tranches in USD. These loans have variable interest rates and mature on March 8, 2025. Transaction costs associated with the loan that originally amounted to EUR 26,803k are spread over the term of the loan using the effective interest method.

The bond has a fixed interest rate and a nominal volume of EUR 406,000k (December 31, 2018: EUR 406,000k). In the financial year, the bonds with a nominal amount of EUR 5,000k which were acquired from a group company in the prior year were resold. This bond matures on 15 December 2025. The CT TopCo Group has a termination option for this bond, which is recognized as a separate financial asset (see above). Associated transaction costs that originally amounted to EUR 13,570k are spread over the term of the bond using the effective interest method.

The negative market value of derivative financial instruments relates to embedded interest-rate floors which must be separated.

Long-term financial liabilities to affiliated companies consist of a shareholder loan of EUR 256,270k (December 31, 2018: EUR 523,798k). As of the balance sheet date, there was no long-term interest payables on the loan (December 31, 2018: EUR 28,890k). The loan matures on December 31, 2028 and bears interest of 7.3 % p. a.

Short-term financial liabilities to third parties of EUR 25,406k (December 31, 2018: EUR 22,227k) include mainly accrued interest on bonds payable of EUR 7,993k (December 31, 2018: EUR 7,895k), derivative financial instruments with a negative market value of EUR 5,743k (December 31, 2018: EUR 5,012k) and the short-term part of liabilities to banks of EUR 2,672k (December 31, 2018: EUR 3,103k).

Short-term financial liabilities to affiliated companies consist of the shareholder loan of EUR 19,599k (December 31, 2018: EUR 0k) and accrued interest on the loan of EUR 35,634k (December 31, 2018: EUR 0k).

Operating working capital (inventories and trade receivables, less trade payables and provisions recognized for operating activities) amounts to EUR 85,932k as of December 31, 2019 (December 31, 2018: EUR 88,565k).

Capital expenditures

In the reporting year, EUR 43,633k in total was spent on property, plant and equipment, and intangible assets. Additions to right-of-use assets pursuant to IFRS 16 are not included in this figure. Total capital expenditures are divided between expansion and replacement investments at a comparable level. Investments are made mainly by CeramTec GmbH in machines of the Medical Products (some 40 %) and Industrial applications (some 60 %). Capital expenditures in the Medical Products business are designed to add capacity and improve productivity, capital expenditures in the Industrial business are related to replacement investments and growth projects. In addition, a great number of different facilities were purchased and put into operation by other subsidiaries in Germany and abroad, mainly in the USA. Here, investments mainly related to replacement and maintenance projects.

Liquidity

In the financial year, the consolidated group received cash inflows of EUR 190,095k from its operating activities.

The cash outflows resulting from the consolidated group’s investing activities amounted to EUR 41,089k (prior year: EUR 2,493,369k). In the prior year, the cash outflows had included the purchase price payment of EUR 2,467,068k for the acquisition of the shares in CeramTec Holding GmbH, the former group parent company.

With respect to financing activities, the cash outflows amounted to EUR 105,950k (prior year: cash inflows of EUR 2,403,591k), which is mainly composed of repayments for the syndicated loan in the amount of EUR 53,872k (prior year: EUR 45,253k) as well as interest paid in the amount of EUR 54,565k (prior year: EUR 47,670k). In the prior year, this figure also reflected the raising of external and shareholder funds in order to service the purchase price.

Liquid funds amounted to EUR 64,380k as of the balance sheet date (December 31, 2018: EUR 21,058k).

The CT TopCo Group has a credit line under which it could borrow up to EUR 75,000k in revolving tranches, and on which the consolidated group did not draw as of the balance sheet date.

3.3 General statement on the consolidated group's position

Overall, the management of the parent company believes that the economic position of the consolidated group is stable. No factors are known today which could result in significant deviation from the net asset position, financial position and results of operations reported above.

4 Financial and non-financial performance indicators

4.1 Financial performance indicators

EBITDA and adjusted EBITDA are key measures of the performance of the CT TopCo Group, and are the basis of performance-related pay. Revenues and working capital are other important parameters.

The CT TopCo Group uses an extensive management system for these and other key performance indicators. This includes monthly financial reporting with a relevant scorecard and monthly meetings of the management of CeramTec GmbH with the heads of CeramTec GmbH's divisions and the managing directors of the German subsidiaries to discuss the individual divisions' business situation. At least once a year, these meetings take place at international level with the participation of the managing directors of the foreign subsidiaries in order to discuss, in addition to the current business situation and the expected course of the remaining financial year, the strategic alignment and development of the CT TopCo Group.

Earnings and expectations for the next few months are discussed with the management of the parent company of CT TopCo on a regular basis. In addition, an internal control system has been installed, and last but not least reviews are conducted by third parties on a regular basis.

Please see our explanations on the consolidated group's position for details of further financial performance indicators.

4.2 Non-financial performance indicators

The non-financial key performance indicators used within the group are measures that relate to employees, quality, and environmental protection.

Employees

By the end of the financial year, the CT TopCo Group employed a workforce of 3,525 people (December 31, 2018:. 3,589).

The staffing structure is as follows:

	12/31/2019	12/31/2018
Employees by region		
Europe	639	650
Germany	2,065	2,116
Asia	496	477
North and South America	325	346
	3,525	**3,589**
Employees by function		
Production	2,785	2,813
Sales	300	329
Research and Development	186	191
Administration	254	256
	3,525	**3,589**

Details vary, but the management and employees of the CT TopCo Group participate in performance-related pay schemes. The performance-related pay schemes generally reward participants for the achievement of company-related objectives (EBITDA or adjusted EBITDA and working capital) as well as personal targets.

In the reporting year 2019, too, the recruitment of skilled employees and executive personnel continued to be in the foreground for the CT TopCo Group.

As of the balance sheet date, 144 apprentices (December 31, 2018: 154) in total were employed by the CT TopCo Group, who are trained in technical and commercial occupations. CeramTec has always set great store by apprenticeships. With a large number of training programs and qualifications as well as through close cooperation with schools and various universities, CeramTec promotes their own young talents. Given demographic change, we regard the qualification of young employees as a core task, which will be a major task over the next few years. In order to add more weight to the qualification of our employees, we will conduct annual appraisal interviews in the future.

Established measures to improve workplace health and do staff development were performed and implemented as scheduled.

Quality and environmental management

CeramTec is subject to the health, safety and environmental legislation in the jurisdictions where our manufacturing sites are located. Most of our production is located within the European Union and specifically in Germany. Accordingly, we are principally subject to the health and safety standards as well as the environmental standards as applicable there. We have also adopted a corporate social responsibility policy aimed at achieving profitable global growth, conserving energy, protecting natural resources while acting in an ethical way with integrity. To this end, CeramTec will continue to focus on customer satisfaction, conserving scarce resources, energy management as well as working conditions for our employees.

CeramTec GmbH's environmental management and energy management systems have been certified in accordance with DIN EN ISO 14001 and ISO 50001, respectively. Expenses related to environmental protection in the CT TopCo Group amounted to EUR 2,562k in the financial year.

CeramTec's Industrial business has been certified according to DIN EN ISO 9001 and IATF 16949 (automotive sites), and CeramTec's Medical Products business has been certified according to ISO 13485. The manufacturing plants of the Medical Products business have registered with the Food and Drug Administration (FDA) from which approval has been obtained. Specific products and components implement further norms and requirements, if necessary. Suppliers of CeramTec must still follow a guideline designed to ensure the quality of supplied items.

The quality and environmental management system is regarded as appropriate, effective and suitable. The certifications are reviewed on a regular basis. The management system is used to determine, implement and review changing framework conditions, including legal developments.

5 Report on subsequent events

In January 2020, an amount of EUR 56,799k taken out of the shareholder loan and consisting of a nominal amount of EUR 19,599k as well as interest liabilities of EUR 37,200k accrued as of the payment date, was paid to the shareholder, CTEC Acquisition S.à.r.l., Luxembourg.

The economic impact of coronavirus is currently difficult to assess. We currently assume that the earnings situation (EBITDA) in 2020 will be significantly negatively affected. Based on the measures introduced for operational and strategic realignment, we do not expect any need for write-downs in 2020 based on current information. With regard to the financial position in 2020, cash flow from operating activities is likely to be significantly below the previous year's level, but should remain clearly positive.

At the end of March 2020, the existing revolving credit line with an amount of EUR 67,000k was drawn down for an initial period of 6 months to secure liquidity, which is currently still largely available for future payments. Furthermore, an additional credit line of EUR 8,000k is available, which can be drawn on daily if required.

6 Report on outlook, opportunities and risks

6.1 Report on outlook

General conditions – situation of the overall economy and the industry sector

According to economic forecasts produced by the Institute for the World Economy on December 11, 2018, the world economy will grow by 3.1 % in 2020. Growth will thus only be insignificantly higher than in the expired calendar year (3.0 %). Although it would be premature to speak of an economic downturn, the global economic expansion speed could further decline if, for example, the weakness within the industry would affect the activities in the rest of the economy to a larger extent that this has happened so far.

In the advanced economies, the increase in production is expected to remain moderate at 1.4 % when compared to 1.8 % in 2019. Growth in the Eurozone is anticipated to remain low at 1.2 % in 2020; only from 2021, a slightly stronger increase in the gross domestic product is expected (1.5 %). In Germany, the gross domestic product is expected to grow by 1.5 % in 2020, after 0.5 % in 2019. However, a considerable recovery of the industry is not anticipated before the second half of the year 2020. The expansion of the Chinese economy in 2020 is expected to further lose momentum (5.9% after 6.2% in 2019), and growth in the United States is also anticipated to slow down (1.5 % after 2.3 % in 2019).

The hip replacement market is expected to develop in line with historical trends and projections as described in Chapter 2.1 Growth potential, in general, is related to the increase of hip replacement surgeries and, in particular, the negative perception of metallic implants, which may, for example, trigger allergic reactions.

We anticipate moderate growth also in 2020 for the industries described in Chapter 2.1, although we expect end markets to be more volatile. Growth potential is related to the success of our customers' new products mainly in the automotive and electronic industries.

Forecast development of the CT TopCo Group’s business and income

Based on the above-mentioned market and industry developments and despite the tense situation of the global economy, the planning for the financial year 2020 envisaged moderate revenue growth before the coronavirus. We expected a significant increase in EBITDA adjusted for special effects, a significant increase in EBITDA compared to the expired financial year, as well as positive cash flow generated from operating activities to remain at the level of the previous year.

The economic impact of the coronavirus is currently difficult to assess. The growth expectations for sales and EBITDA are unlikely to be met. From today's perspective, a significant decline must be expected. Cash flow from operating activities is expected to be significantly below plan and the previous year's level. The influence of a weakening macroeconomic development cannot be estimated at the present time.

With respect to the non-financial performance indicators which relate to employees, quality, and environmental protection, our aim is to maintain the levels reached also in financial year 2020.

6.2 Report on opportunities and risks

The CT TopCo Group has an institutionalized risk management system which includes a relevant financial reporting system. The financial reporting system is comprised of, among other things, monthly financial reporting, reporting through individuals responsible for operations which forms an integral part of monthly scorecard meetings, an internal control system, and reviews carried out by third parties. Thus, a risk of price changes, non-payment, liquidity risk and exposure to variability in cash flows are taken into account. Risk monitoring also comprises to plan, carry out, and check the success of suitable countermeasures. Activities designed to ensure compliance with the internal control system are complementary to these systems.

Macroeconomic risk and industry risk

Generally, risks arise from uncertainty over the future of the global economy. Negative developments can hence have a marked impact on business. However, global presence and the broad customer base operating in different customer industries, e.g. medical technology, automotive industry, electrical and electronics industry, energy and environmental technology and equipment and mechanical engineering, can help us compensate for the weakness of demand experienced in individual markets or regions. Also, our broad portfolio of products and low dependence on individual customers or industries allow us to some extent to cushion the effect of weak demand experienced by certain customer industries or risks of price changes. We assess the risk of bad debts as low due to the consolidated group’s customer structure and the far-reaching protection of CeramTec GmbH's receivables through a credit insurance.

Risk of price changes / procurement risk

A risk of price changes arises from both the procurement market as well as the sales market. The latter is due mainly to increasing competition from Asia. Also, risks are associated with the rising price of raw materials and energy. These risks are mitigated by continuously improving processes and productivity, and by actively managing costs.

Product risk

The product risk is counteracted by using quality management systems in the production units. The quality management systems are based on international standards and ensure that all legal requirements are met. Quality management is completed by carrying out reviews regularly and training employees continuously. Ongoing processes do not pose a threat to the continued existence of the Company.

People-related risk

One of the biggest people-related risks is the changing population demographics and recruitment of enough skilled employees and executive personnel. CeramTec is engaged in numerous activities focused on developing and training young employees as well as on exhibiting at various trade shows and using different kinds of media.

IT risk

IT system failure or substantial data loss could affect the business operations of group companies or the consolidated group. Group companies have data backup policies in place for mitigating risks of data loss, and use modern IT infrastructures. Group-wide security measures ensure that data is protected from unauthorized access and harmful software. Risks associated with all business-critical applications have been analyzed, and emergency management policies are in place. High availability for critical systems is ensured, depending on the systems’ risk ratings.

Investment risk

All substantial acquisitions and investments are made after performing a multi-step analysis and approval process. The complex risks arising from an acquisition - e.g. the risk that, after the acquisition, issues become known that would have affected the purchase decision or the price, if they had been known before the conclusion of a contract - are counteracted by thorough examination of the individual acquisition object, the so-called due diligence procedures, and by drafting contracts accordingly.

Financial risk

The CT TopCo Group is exposed to foreign currency risks associated mainly with foreign currency loans (USD) used to receive financing.

In addition, the CT TopCo Group is exposed to variability in cash flows that is attributable to interest payments on variable-rate USD and EUR loans. To hedge its interest rate risks, the consolidated group entered into interest rate cap agreements. The interest rate floors contained in the syndicated loan agreement represent embedded derivatives which must be separated.

Compliance with financial covenants was agreed to in connection with obtaining the syndicated loan. The CT TopCo Group must hence comply with a financial covenant when an amount defined in the loan agreement is drawn down from a revolving credit line under which up to EUR 75,000k can be borrowed. As the amount drawn down in the financial year remained below the threshold specified, the Company was not required to review compliance with this financial covenant. In addition, an analysis must be undertaken by the end of the financial year to determine whether the volume of the collateral used to secure the syndicated loan does not fall below a certain threshold. If so, additional collateral would have to be provided. At the end of the current financial year, the collateral value did not fall below the threshold. We expect that the Company will continue to comply with the financial covenants in the following financial year.

The Company's risk management objective in relation to these financial instruments is to continuously monitor risks, and minimize risks by engaging in operating and financing activities. Various policies establish rules regarding the use of financial instruments, and ensure that financial transactions which go beyond a specified limit are not conducted without consulting the management. Generally, derivative financial instruments are used only to hedge risk.

For details see explanations in the notes to the consolidated financial statements under '6.1 Management of financial risk' and '4.15 Financial instruments'.

Opportunities

We aim to expand further globally in markets with strong underlying fundamentals where we are underrepresented such as the United States and China. For example, China is becoming one of the most important markets for HPC applications. In particular, China is one of the fastest growing markets for hip replacements. With an existing presence in Suzhou, China, we also intend to partner with local players to accelerate growth and achieve scale. Furthermore, by using our expertise, we want to maximize our focus on key projects and achieve sustainable regional standing.

As part of our growth strategy, we intend to extend our customer base and form partnerships with further global companies which can benefit from our expertise in materials and production processes, our broad range of products and global presence.

In addition, we intend to focus on capturing emerging growth opportunities beyond our core markets as we believe that the versatility and the lasting technical benefits of ceramics leave room for ceramics to expand into new fields of application in various end markets. In our Medical Products business, we intend to maximize the value of existing solutions by exploring additional medical applications such as knee, dental (focusing on implants) shoulder and spine components, as well as use our research and development strength and expertise in regulatory procedures to produce new innovative solutions, such as ceramic foams or dental ceramics for tooth replacements. In our Industrial business, we are continuously monitoring technology trends such as 3D printing, e-mobility, autonomous vehicles and big data in order to consider how best to apply our materials expertise, manufacturing know-how and regulatory experience to develop relevant HPC solutions that can be successfully commercialized.

Overall statement on the consolidated group’s risks and opportunities

Risks that go beyond the risks that every entrepreneur must take and that might jeopardize the entire group are currently not seen because the companies of the CT TopCo Group operate in many markets. The risk position did not change substantially. We use insurance to protect against liability risks, the forces of nature, and further risks to the extent possible.

A subsidiary issued a bond, and further subsidiaries arranged a framework financing agreement with sufficient lines of credit being extended at conditions consistent with the market, so that no liquidity risks are expected for the future.

Market risks should be considered in relation to substantial opportunities. Generally, our broad and diversified portfolio of products provides opportunities to compensate for weak economic activity in individual industries.

At the time this report is prepared the management is not aware of any claims of third parties which would be expected to significantly impact the net assets, financial position and results of operations of the CT TopCo Group. CeramTec GmbH and the other companies included in the consolidated group do currently not see any risks that go beyond the risks that every entrepreneur must take and that might jeopardize the CT TopCo Group.

Corporate governance declaration

Insofar as CT TopCo does not have a supervisory board, a gender quota could not be set for a supervisory board. The gender quota targets set in 2015 by the supervisory board of CeramTec GmbH, requiring that 25 % of supervisory and management board seats should be held by women and 75 % should be held by men, and that 7 % and 93 % of second-level management executives should be women and men respectively, have not been fully achieved so far. CeramTec GmbH remains committed to achieving the gender quota targets.

Plochingen, April 9, 2020

CeramTec TopCo GmbH

The Management

Dr. Hadi Saleh

CeramTec
THE CERAMIC EXPERTS

CeramTec TopCo GmbH

Plochingen

Consolidated Financial Statements for the year ended 31 December 2019

CeramTec TopCo GmbH, Plochingen

Consolidated statement of financial position as at 31 December 2019

Assets	**Notes**	**31 December 2019**	**31 December 2018**
		EUR k	EUR k
Goodwill	4.1	1,011,678	1,341,431
Other intangible assets	4.1	1,038,533	1,105,674
Property, plant and equipment	4.2	289,387	288,994
Other financial assets	4.3	25,243	21,063
Other assets	4.4	1,107	1,316
Deferred tax assets		1,172	363
Non-current assets		**2,367,120**	**2,758,841**
Inventories	4.5	97,093	96,497
Trade receivables	4.6	52,740	57,880
Trade accounts receivable from affiliates		20	0
Income tax receivables		2,808	3,242
Other financial assets	4.3	3,074	2,397
Other receivables and assets	4.4	8,026	8,667
Cash and cash equivalents	4.7	64,380	21,058
Current assets		**228,141**	**189,741**
Total Assets		**2,595,261**	**2,948,582**

CeramTec TopCo GmbH, Plochingen

Consolidated statement of financial position as at 31 December 2019

Equity and Liabilities	Notes	31 December 2019	31 December 2018
		EUR k	EUR k
Issued capital	4.8	25	25
Capital reserves	4.8	780,371	500,417
Accumulated losses	4.8	-442,793	-96,096
Accumulated other comprehensive income	4.8	865	1,267
Equity		**338,468**	**405,613**
Provisions for pension obligations	4.9	113,433	100,200
Other provisions	4.10	5,506	4,883
Financial liabilities to affiliates	4.11	256,270	552,688
Financial liabilities to third parties	4.12	1,433,324	1,471,844
Deferred tax liabilities		298,417	318,200
Non-current liabilities		**2,106,950**	**2,447,815**
Other provisions	4.10	17,765	20,156
Provision for taxes	4.10	4,425	6,347
Financial liabilities to affiliates	4.11	55,233	0
Financial liabilities to third parties	4.12	25,406	22,227
Trade payables		30,277	34,907
Other liabilities	4.13	16,737	11,517
Current liabilities		**149,843**	**95,154**
Total liabilities		**2,256,793**	**2,542,969**
Total equity and liabilities		**2,595,261**	**2,948,582**

CeramTec TopCo GmbH, Plochingen

Consolidated statement of comprehensive income

from 1 January to 31 December 2019

	Notes	1 January to 31 December 2019	1 January to 31 December 2018
		EUR k	EUR k
Revenue	3.1	620,376	496,909
Cost of sales	3.2	356,239	336,608
Gross profit		**264,137**	**160,301**
Selling costs	3.3	95,236	81,087
Research and development costs	3.4	23,341	18,571
General administrative costs	3.5	27,140	28,262
Other income and expenses (-), net	3.6	-342,887	-11,189
Operating income		**-224,467**	**21,192**
Interest income and other finance income		2,135	1,626
Interest expenses and other finance costs		100,449	125,049
Financial result	3.7	**-98,314**	**-123,423**
Loss before income tax		**-322,781**	**-102,231**
Income tax benefit / expense (-)	3.8	-16,498	15,095
Net loss for the period		**-339,279**	**-87,136**
Items that will not be reclassified through profit or loss			
Income / expenses (-) from the remeasurement of pension provisions		-10,386	453
Deferred taxes		2,969	-116
		-7,417	**337**
Items that may be reclassified subsequently to profit or loss			
Losses (-) / gains on cash flow hedges		718	0
Deferred taxes		-208	0
		510	**0**
Changes in the fair value of financial assets available for sale		-331	331
Deferred taxes		95	-95
		-236	**236**
Exchange differences on translation of foreign operations		-676	1,031
Other comprehensive income / loss (-), net of income tax		**-7,819**	**1,604**
Total comprehensive loss		**-347,098**	**-85,532**

CeramTec TopCo GmbH, Plochingen

Consolidated statement of cash flows from 1 January to 31 December 2019

	1 January to 31 December 2019 EUR k	1 January to 31 December 2018 EUR k
Net loss for the period	-339,279	-87,136
Income tax expense / benefit (-)	16,499	-15,095
Interest result	96,997	92,466
Amortisation, depreciation and impairment charges of non-current assets	447,168	122,561
Loss on disposal of property, plant and equipment and intangible assets	1,059	150
Decrease (-) in provisions (excluding deferred taxes)	-817	-2,566
Income tax payment (-)	-35,950	-29,248
Other non-cash income (-) / expenses, net	-1,553	30,659
Increase (-) / decrease in inventories	-596	7,094
Decrease in trade receivables	5,140	672
Decrease in other receivables and (financial) assets	597	32,955
Decrease in other receivables and (financial) assets	-6,820	-42,361
Decrease (-) in trade payables	7,650	646
Cash flow from operating activities	**190,095**	**110,797**
Cash received from disposals of property, plant and equipment	355	580
Cash paid (-) for investments in property, plant and equipment	-38,417	-25,022
Cash paid (-) for investments in intangible assets	-3,027	-1,859
Cash paid (-) for the acquisition of entities	0	-2,467,068
Cash flow from investing activities	**-41,089**	**-2,493,369**
Cash received from contribution to capital reserve	0	500,367
Cash received from issuance of bond	0	392,430
Cash received from (+) / paid for (-) the sale / repurchase of bond	5,163	-4,814
Cash received from syndicated loan	0	1,084,733
Repayment (-) of syndicated loan	-53,872	-45,253
Interest paid (-)	-54,565	-47,670
Cash received from shareholder loan	0	523,798
Cash paid for capitalized leases (right-of-use assets)	-2,676	0
Cash flow from financing activities	**-105,950**	**2,403,591**
Increase in cash and cash equivalents	**43,056**	**21,019**
Net foreign exchange difference	266	0
Cash and cash equivalents at the beginning of the period	21,058	39
Cash and cash equivalents at the end of the period	**64,380**	**21,058**

Please refer to notes, section 5

CeramTec TopCo GmbH, Plochingen

Consolidated statement of changes in equity for the period ended 31 December 2019

	Issued capital	Capital reserves	Accumulated losses	Accumulated other comprehensive income			Equity
				Cash flow hedge reserve	Financial assets available for sale	Difference from currency translation	
	EUR k	EUR k	EUR k	EUR k	EUR k	EUR k	EUR k
01 January 2018	**25**	**50**	**-9,297**	**0**	**0**	**0**	**-9,222**
Net loss for the period	0	0	-87,136	0	0	0	-87,136
Other comprehensive income	0	0	337	0	236	1,031	1,604
Total comprehensive income / loss (-)	*0*	*0*	*-86,799*	*0*	*236*	*1,031*	-85,532
Contribution by owners	0	500,367	0	0	0	0	500,367
31 December 2018	**25**	**500,417**	**-96,096**	**0**	**236**	**1,031**	**405,613**
31 December 2018	**25**	**500,417**	**-96,096**	**0**	**236**	**1,031**	**405,613**
Net loss for the period	0	0	-339,279	0	0	0	-339,279
Other comprehensive income / loss (-)	0	0	-7,417	510	-236	-676	-7,819
Total comprehensive income / loss (-)	*0*	*0*	*-346,697*	*510*	*-236*	*-676*	-347,098
Contribution by owners	0	279,954	0	0	0	0	279,954
31 December 2019	**25**	**780,371**	**-442,793**	**510**	**0**	**355**	**338,468**

CeramTec TopCo GmbH

Plochingen

Notes to the Consolidated Financial Statements for the year ended December 31, 2019

1 General

1.1 Corporate information and purpose of the Company

The purpose of CeramTec TopCo GmbH (hereinafter "CeramTec TopCo") is to render management services as well as administrative, financial and business services in return for remuneration to entities in which it has a direct or indirect controlling shareholding or to entities that are controlled by the same shareholder. It is authorized to establish branch offices, legal entities and other operations in Germany and abroad, and acquire, invest in and hold these investments and/or manage them as well as enter into and/or issue various financial instruments.

CeramTec TopCo and its subsidiaries are a group of leading global developers, manufacturers and suppliers of high performance ceramics ("HPC") solutions. The HPC solutions are made of advanced ceramics, which are highly specialized materials with superior biological, mechanical, thermal, electric and/or chemical properties compared to competing products often made from metal or organic polymers (plastics). The operations can be divided into two businesses – Medical Products and Industrial. Medical Products business focuses on developing and manufacturing ceramic components for hip joint prostheses. Industrial business develops, manufactures and supplies a broad range of highly specialized, application-intensive HPC solutions for customers spanning a range of industries, including automotive, electronics, industrial machinery and medical equipment.

CeramTec TopCo's registered office is located at CeramTec-Platz 1-9 in 73207 Plochingen, Germany, and is registered at the Stuttgart local court (*Amtsgericht*) under the number HRB 764651. CeramTec TopCo is the parent company of the Group (hereinafter "CeramTec TopCo Group" or "Group") and the ultimate parent, which prepares exempting consolidated financial statements.

The management of CeramTec TopCo approved the consolidated financial statements on April 9, 2020 for submission to the shareholder meeting.

1.2 Basis for the preparation of the consolidated financial statements

As of March 8, 2018, the former owner Cinven closed the acquisition of CeramTec Group by a consortium led by funds advised by leading private equity firm BC Partners ("BC Partners"). The Public Sector Pension Investment Board (PSP Investments) and Ontario Teachers' Pension Plan (Ontario Teachers') are part of the consortium. On February 22, 2018, anti-trust authorities approved the takeover. As a result, CeramTec AcquiCo GmbH (hereafter "CeramTec AcquiCo") acquired the shares in CeramTec Holding GmbH (hereafter "CeramTec Holding"). CeramTec AcquiCo GmbH is a 100% subsidiary of CeramTec BondCo GmbH (hereafter "CeramTec BondCo"), which is itself a 100% subsidiary of CeramTec TopCo. CeramTec TopCo is the

German ultimate parent, and prepares the consolidated financial statements. CTEC I S.a.r.l., Luxembourg, is the ultimate parent company.

The consolidated financial statements are prepared pursuant to Section 315e (1) and (3) of the German Commercial Code (*Handelsgesetzbuch* – HGB) in accordance with the International Financial Reporting Standards (IFRS/IAS) as adopted by the EU as well as the applicable interpretations of the IFRS Interpretations Committee (IFRS IC) for the financial year and the supplementary requirements of German commercial law. These consolidated financial statements are prepared for the largest and smallest groups of consolidated companies.

CeramTec TopCo and the subsidiaries CeramTec BondCo and CeramTec AcquiCo were founded in 2017. Until the CeramTec Group was acquired on March 8, 2018, the CeramTec TopCo Group consisted exclusively of the aforementioned holding companies without running an operational business activity.

The requirements of the standards and interpretations adopted were satisfied in full. Furthermore, all applicable requirements of German commercial law were observed during the preparation. The consolidated financial statements give a true and fair view of the financial position and financial performance of the CeramTec TopCo Group.

The consolidated financial statements are presented in euro. The amounts are in thousands of euros (kEUR). All amounts are rounded using standard commercial principles. In individual cases, adding individual values to the total value may therefore lead to differences.

For the purpose of clarity, various items in the consolidated statement of financial position and consolidated statement of comprehensive income were combined and explained accordingly in the notes to the consolidated financial statements. Assets and liabilities are broken down into current and non-current items. Assets and liabilities are classified as current if they are expected to be realized within twelve months from the reporting date. The expense recognized in profit or loss is broken down using the cost of sales method. In the cash flow statement, cash flow from operating activities is determined using the indirect method, while cash flow from investing and financing activities is determined using the direct method.

1.3 Business combination

CeramTec AcquiCo acquired 100% of the shares of CeramTec Holding, the former group parent company, effective as of March 8, 2018. CeramTec AcquiCo is a wholly owned subsidiary of CeramTec BondCo which, in turn, is a wholly owned subsidiary of CeramTec TopCo. CeramTec TopCo is the ultimate parent company in Germany.

The acquisition took place with the objectives of accelerating CeramTec's targeted growth, especially outside the core European markets, of supporting launches of new product initiatives, and of investing in the expansion of production facilities in order to support further growth in the hip implants market.

1.4 Entities included in the consolidated financial statements

In addition to the financial statements of the parent company, the financial statements of the following subsidiaries in which CeramTec TopCo has a direct or indirect shareholding are included in the consolidated financial statements for the financial year:

	Share of capital in %		Business activities
Name of the entity	December 31, 2019	December 31, 2018	
CeramTec BondCo GmbH, Plochingen	100.00	100.00	1
CeramTec AcquiCo GmbH, Plochingen	100.00	100.00	1
CeramTec Holding GmbH, Plochingen	100.00	100.00	1
CeramTec Group GmbH, Plochingen	100.00	100.00	1
CeramTec FinCo GmbH, Plochingen	100.00	100.00	1
CeramTec GmbH, Plochingen	100.00	100.00	2
Cerasiv GmbH Innovatives Keramik-Engineering, Plochingen	100.00	100.00	1
CeramTec-ETEC GmbH, Lohmar	100.00	100.00	3
Emil Müller GmbH, Wilhermsdorf	100.00	100.00	3
CeramTec UK Ltd., Southampton/Great Britain	100.00	100.00	3
CeramTec Czech Republic s.r.o., Sumperk/Czech Republic	100.00	100.00	3
CeramTec Ibérica Innovative Ceramic Engineering S.L., Vilassar de Mar/Spain	100.00	100.00	4

Name of the entity	Share of capital in % December 31, 2019	Share of capital in % December 31, 2018	Business activities
CeramTec Innovative Ceramic Engineering, (M) Sdn. Bhd., Seremban/Malaysia	100.00	100.00	3
CeramTec Korea Ltd., Suwon-Si/South Korea	100.00	100.00	3
CeramTec Suzhou Ltd., Suzhou/China	100.00	100.00	3
PST Press Sintertécnica Brasil Ltda., Nova Odessa/Brazil	100.00	100.00	3
CeramTec India Innovative Ceramic Engineering Pvt. Ltd., Panaji – Goa/India	99.90	99.90	3
Press and Sinter Technics de Mexico S.A. de C.V., Puebla/Mexico	100.00	100.00	3
CeramTec BidCo LLC, Laurens/USA	100.00	100.00	1
CeramTec Acquisition LLC, Laurens/USA	100.00	100.00	1
CeramTec North America LLC, Laurens/USA	100.00	100.00	3
DAI Ceramics Inc., Willoughby/USA	100.00	100.00	3
PST Press + Sintertechnik Sp. z.o.o., Gorzyce/Poland	100.00	100.00	3

1 Entities performing the functions of a holding company.
2 Manufacturing and distribution companies operating in the Industrial and Medical Products segments.
3 Manufacturing and distribution companies operating in the Industrial segment.
4 Distribution companies.

CeramTec TopCo has a direct shareholding in CeramTec BondCo, and an indirect shareholding in the other subsidiaries.

CeramTec BondCo, CeramTec AcquiCo, CeramTec Holding, CeramTec Group, CeramTec FinCo GmbH, CeramTec GmbH, Cerasiv GmbH Innovatives Keramik-Engineering, Emil Müller GmbH and CeramTec-ETEC GmbH make use of the exemption from publishing the financial statements and the management report for financial year 2019 pursuant to Section 264 (3) HGB.

2 Accounting Principles and Policies

2.1 Basis of consolidation

Entities included in the consolidated financial statements are included as of the date on which CeramTec TopCo obtains control over them. They are deconsolidated on the date on which CeramTec TopCo ceases to have control.

In accordance with IFRS 10, uniform accounting policies are used to prepare the separate financial statements of the companies included in the consolidated financial statements.

All significant intercompany receivables and liabilities, revenue, income and expenses and any inter-company profits and losses within the scope of consolidation are eliminated. Pursuant to IAS 12, deferred tax liabilities are recognized for temporary differences arising from consolidation procedures.

If less than 100% of equity in a subsidiary is allocable to CeramTec TopCo, the interests allocated to the other shareholders are generally disclosed separately under equity as non-controlling interests. For reasons of immateriality, this does not apply to the non-controlling interests in CeramTec India Innovative Ceramic Engineering Pvt. Ltd., Panaji – Goa, India.

Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value. This is determined as the total of the acquisition-date fair values of the transferred assets, the liabilities assumed from the former owners of the acquired entity and the equity instruments issued by the acquirer in exchange for control of the acquiree. Acquisition-related costs are recognized in profit or loss as incurred.

Goodwill is measured as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree and the fair value of the equity share in the acquiree previously held by the acquirer (if available) over the net of the acquisition-date fair value of the identifiable assets acquired and liabilities assumed. If the fair value of the acquired net assets is higher than the consideration transferred, CeramTec TopCo reassesses and examines whether it has correctly identified all acquired assets and all assumed liabilities. In the event of a negative difference, even after reassessment, the resulting gain is recognized directly in profit or loss.

For acquisitions of equity investments with shares in capital below 100%, IFRS 3 allows for the goodwill attributable to non-controlling interests to also be recognized. Non-controlling interests that are present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation may be initially measured either at fair value or at the non-controlling interests' proportionate share in the recognized amounts of the acquiree's identifiable net assets. This option can be newly exercised each time a business combination takes place. Other types of non-controlling interests are measured at fair value or according to a basis specified in other standards.

If a company which is part of the CeramTec TopCo Group acquires an entity, it measures the financial assets and liabilities for appropriate classification and designation in accordance with the contractual terms, economic conditions and pertinent conditions as of the acquisition date. This also includes separating embedded derivatives in host contracts of the acquiree.

If the business combination is achieved in stages, previously held equity interests are remeasured at their acquisition-date fair value. Any gain or loss is recognized through profit or loss and is taken into account when determining goodwill.

All contingent consideration that must be transferred by the acquirer is recognized at fair value as of the date of acquisition. Any contingent consideration classified as an asset or liability, which is recognized as a financial instrument under IFRS 9 *Financial Instruments*, is measured at fair value. Changes in the fair value are recognized through profit or loss. Should the contingent consideration not fall under IFRS 9, it is accounted for under IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. If the contingent consideration is classified as equity, it is not remeasured and its subsequent settlement is accounted for within equity.

After initial recognition, goodwill is measured at cost less any accumulated impairments. Goodwill is tested for impairment at least once a year (in the fourth quarter) as well as when there are indications of impairment. For the purpose of impairment testing, goodwill acquired in a business combination must, from the acquisition date, be allocated to each of the cash-generating units of CeramTec TopCo, which is expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the acquirer are assigned to those units or groups.

If goodwill has been allocated to a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal of the operation. If the internal management reporting structure is reorganized, any goodwill allocated to a cash-generating unit is reallocated based on the new reporting structure. Any goodwill reallocated under these circumstances is measured based on the relative values of the newly established operation and the portion of the cash-generating unit.

Foreign currency translation

The consolidated financial statements are prepared in euros, the functional currency of the CeramTec TopCo Group. The financial statements prepared by entities that use a different functional currency are translated into euros in accordance with IAS 21. The equity of the foreign entities included in the consolidated financial statements is translated at the historical rate. The remaining items of the statement of financial position are translated at the respective closing rates. Income and expenses are translated at average annual rates. These are calculated as the mean value from the individual average monthly rates of the past twelve months.

Differences from the currency translation of assets and liabilities compared to the translation of December 31, 2018 as well as exchange differences between the income statement and the statement of financial position are recognized under other comprehensive income and retained in equity under accumulated other comprehensive income. These amounts recognized under other comprehensive income are reclassified to the income statement upon the partial or complete disposal of a subsidiary included in the consolidated financial statements.

Foreign currency transactions in the local financial statements are translated at the spot rate at the date of the transaction.

The exchange rates of significant currencies used for the currency translation to the euro are as follows:

		2019		2018	
		Closing rate	Average rate	Closing rate	Average rate
USD	USA	1.1189	1.1196	1.1454	1.1815
CNY	China	7.8175	7.7338	7.8778	7.8071
GBP	Great Britain	0.8521	0.8773	0.9027	0.8848
PLN	Poland	4.2567	4.2975	4.3028	4.2604
CZK	Czech Republic	25.4630	25.6701	25.7780	25.6431

The individual items in the consolidated statement of cash flows are translated at average rates, while cash and cash equivalents are measured at the spot rate at the balance sheet date.

2.2 Accounting policies

Revenue recognition

Revenue is recognized in accordance with the five-step model framework in accordance with IFRS 15: First, the contract with a customer is identified (step 1). The performance obligations in the contract are then identified (step 2). The transaction price is then determined (step 3) with explicit requirements stipulated on how to account for variable consideration, financing components, payments made to a customer, and exchanges of goods or services. After determining the transaction price, the transaction price is allocated to the each of the performance obligations (step 4) by reference to their relative standalone selling prices. Finally, revenue is recognized when (or as) the entity satisfies a performance obligation (step 5). As a requirement, revenue can only be recognized once (or as) control of the goods or services is transferred to the customer.

The Group does not offer guarantees to customers that provide greater protection than that stipulated by the law. The Group does usually not grant customers extensions of payment terms. However, in specific cases, special agreements can be concluded. In addition, agreements are in place with individual customers (mainly Medical Products customers), which provide for a bonus//malus system. Revenues are recorded only to the extent that it is highly probable that a significant cancellation of revenues will not be necessary if the related uncertainty has ceased to exist. There is no significant financing component, as payment terms of between 30 and 60 days are mostly agreed. A warranty provision is set up for the Group's obligation to repair defective products under standard warranty conditions or to replace such products. The Group does not offer substantial quantity discounts or price discounts to customers.

Upon conclusion of a contract, the CeramTec TopCo Group companies determine whether revenue should be recognized at a point in time or over time. The CeramTec TopCo Group uses specific criteria to determine whether control is transferred over time. If it is not, revenue is recognized when control is passed to the customer.

The CeramTec TopCo Group generates revenue mainly through the sale of goods and merchandise. Consequently, revenue from the majority of contracts with customers is recognized when control is transferred to a customer (when the customer has legal title to the asset, has the significant risks and rewards related to the ownership of the asset, or has formally accepted the asset).

Interest income, royalties, dividend income

Interest income is recognized pro rata temporis using the effective interest method. Income from royalties is recognized in accordance with the terms of the underlying contracts on an accrual and pro rata basis. Dividend income is recognized when the right to receive payment is established.

Research and development costs

Research costs are recognized as expenses in the period in which they are incurred. If the requirements for capitalization are not satisfied, development costs are also recognized in profit or loss in the period in which they are incurred.

Intangible assets

Intangible assets are recognized if a future economic benefit is probable and can be measured reliably.

Individually acquired intangible assets are recognized at cost. The cost of intangible assets acquired in a business combination is their acquisition-date fair value. Internally generated intangible assets are stated at the cost that arises during the development phase if all of the following criteria are met:

- Technical feasibility of completing the intangible asset
- Intention to complete development of the intangible asset and use or sell it
- Ability to use or sell the intangible asset
- Existence of a market or demonstration of the usefulness of the intangible asset if it is to be used internally
- Availability of technical and financial resources to complete the development
- Ability to measure reliably the expenditure attributable to the intangible asset during its development

Following initial recognition, intangible assets are carried at cost less accumulated amortization and any accumulated impairments.

Intangible assets with finite useful lives are amortized on a straight-line basis over their useful life. Intangible assets acquired during the year are amortized pro rata temporis. The useful life and amortization method are reviewed at least annually at the end of each financial year. Changes are treated as changes in accounting estimates. Amortization is recognized in the cost of sales, research and development, general administrative and selling costs. The useful life for technology amounts to 10 to 18 years and for customer relationships it amounts to 5 to 18 years. Intangible assets with finite useful lives are tested for impairment if there is an indication that the asset may be impaired.

Intangible assets with an indefinite useful life are tested annually for impairment. If the carrying amount of the asset is no longer recoverable, an impairment is recognized. Trademarks are assigned an indefinite useful life based on expectations of future use.

Impairment is assessed by comparing the carrying amount of the intangible assets with its recoverable amount at the level of the cash-generating units. Intangible assets are grouped at the lowest level for which the cash flows can be separately identified. The recoverable amount of a cash-generating unit is defined as the higher of the cash-generating unit's fair value less the cost to sell or its value in use. An impairment is carried out if the carrying amount exceeds the recoverable amount. In the event of an impairment being reversed, the amortized cost is written up.

Property, plant and equipment

Property, plant and equipment are recognized at cost if a future economic benefit is probable and can be measured reliably. The cost of internally generated property, plant and equipment comprises direct material and labor costs as well as the directly attributable material and labor overheads. If the requirements of a qualifying asset are met, the cost also includes borrowing costs incurred during production pursuant to IAS 23. A qualifying asset is an asset that takes a substantial period of time to get ready for its intended use or sale.

Following initial recognition, property, plant and equipment are carried at cost less accumulated depreciation and any accumulated impairments.

Property, plant and equipment are generally depreciated using the straight-line method. Property, plant and equipment acquired during the year are depreciated pro rata temporis. The useful lives of property, plant and equipment amount to 10 to 40 years for buildings and building components, 3 to 25 years for plant and machinery and 3 to 12 years for other equipment, furniture and fixtures. Low-value assets with an acquisition cost not exceeding EUR 250 are expensed immediately. Low-value assets with a cost of between EUR 250 and EUR 1,000 are recognized in a catch-all item and depreciated collectively over five years using the straight-line method.

Property, plant and equipment are tested for impairment if there is an indication that the asset may be impaired. Impairment is assessed by comparing the carrying amount of the item of property, plant and equipment with its recoverable amount at the level of the cash-generating unit. Property, plant and equipment are grouped at the lowest level for which the cash flows can be separately identified. The recoverable amount of a cash-generating unit is defined as the higher of the cash-generating unit's fair value less the cost to sell, or its value in use. An impairment is carried out if the carrying amount exceeds the recoverable amount. In the event of an impairment being reversed, the amortized cost is written up.

Leases

A lease within the meaning of IFRS 16 exists if a customer is contractually given the right to control an identified asset. For all leases, the lessee must account for the right-of-use asset (RoU asset) as well as a corresponding lease liability. Exceptions to this exist only for short-term leases and leases of low value assets.

The initial amount of the right-of-use asset corresponds to the amount of the lease liability. In subsequent reporting periods, the right-of-use asset is (apart from certain exceptions) measured at cost less accumulated depreciation and impairments, adjusted for any remeasurement of the lease liability. The lease liability is initially measured at the present value of the lease payments that will be paid over the lease term. The weighted average incremental borrowing rate used for discounting amounted to 4.20 % as of January 1, 2019. Subsequently, the carrying amount of the lease liability is adjusted for interest using the discount rate and reduced in the amount of the lease payments made. Modifications to the lease payments result in a remeasurement of the lease liability. Cash flows are broken down into payments of principal and payments of interest, which are part of the cash flow from financing activities and the cash flow from operating activities respectively.

Financial assets

Financial assets are recognized when a group entity becomes a party to the contractual provisions of the instrument.

Financial assets are initially measured at fair value. Transaction costs that are directly attributable to the acquisition of financial assets (other than financial assets at fair value through profit or loss) are added to the fair value of the financial assets on initial recognition. Transaction costs directly attributable to the acquisition of financial assets that are measured at fair value through profit or loss are recognized immediately in profit or loss.

Financial assets are recognized and derecognized on a trade date basis if their delivery takes place within the conventional timeframe for the market concerned.

All recognized financial assets are subsequently measured at either amortized cost or fair value, depending on the classification of the financial assets.

Classification of financial assets

Debt instruments that meet the following conditions are subsequently measured at amortized cost:

- the financial asset is held within a business model whose objective is to collect contractual cash flows; and
- the contractual terms of the financial asset give rise solely to payments of principal and interest on the principal amount outstanding.

Debt instruments that meet the following conditions are measured at FVTOCI:

- the financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling the financial assets; and
- the contractual terms of the financial asset give rise solely to payments of principal and interest on the nominal amount outstanding.

All other financial assets that do not fulfill the aforementioned conditions are generally measured at FVTPL.

The Group neither recognizes debt instruments that are measured at FVTOCI nor equity instruments designated to be classified as FVTOCI.

Amortized cost and effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and of allocating interest income over the relevant period.

For financial assets for which no objective evidence of impairment was present upon their origination or purchase, the effective interest rate is the rate that discounts estimated future cash receipts (including all fees that form an integral part of the effective interest rate, transaction costs and other premiums or discounts), excluding expected credit losses, through the expected life of the debt instrument, or, where appropriate, a shorter period, to the gross carrying amount on initial recognition. For financial assets for which objective evidence of impairment was already present upon their origination or purchase, a credit-adjusted effective interest rate is calculated based on the estimated future cash flows, including expected credit losses.

The amortized cost of a financial asset is the amount at which the financial asset is measured at initial recognition minus the principal repayments, plus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount, adjusted for any loss allowance. The gross carrying amount of a financial asset is the amortized cost of a financial asset before adjusting for any loss allowance.

Interest income is recognized using the effective interest method for debt instruments measured at amortized cost or at FVTOCI. For financial assets for which no objective evidence of impairment was present upon their origination or purchase, interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets for which objective evidence of impairment subsequently arose. For these latter financial assets, interest income is recognized by applying the original effective interest rate to the net carrying amount of the financial asset at the beginning of the reporting period that follows the occurrence of objective evidence of impairment. If, in subsequent reporting periods, the credit risk of such a financial instrument improves so that there is no longer objective evidence of impairment, interest income is recognized again by applying the effective interest rate to the gross carrying amount of the financial asset at the beginning of the following reporting period.

For purchased or originated credit-impaired financial assets, the Group recognizes interest income by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The interest rate calculation does not revert to the gross basis even if the credit risk of the financial asset subsequently improves so that the financial asset is no longer credit-impaired.

Interest income is recognized in the consolidated statement of comprehensive income and is included in the "Interest income and other finance income" line item.

Financial assets at FVTPL

Financial assets at FVTPL are measured at fair value at the end of each reporting period, with any fair value gains or losses recognized in profit or loss to the extent they are not part of a designated hedging relationship. The net gain or loss recognized in profit or loss incorporates any dividend or interest earned on financial assets and is included in the "Interest income and other finance income" or "Interest expenses and other finance expenses" line item.

Impairment of financial assets

The Group generally recognizes a loss allowance for expected losses on financial investments in debt instruments that are measured at amortized cost or at FVTOCI, finance lease receivables, trade receivables and contract assets. The amount of expected losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Group recognizes a loss allowance for all trade receivables in the amount of the expected losses based on debtor-specific factors and information about their current economic situations. When estimating this, reference is also made to actual credit loss experiences of debtors. Irrespective of the above approach, the Group considers a default to have occurred when a financial asset is more than 60 days/90 days past due unless the Group has reasonable and supportable information to demonstrate that a financial asset is still unimpaired.

For all other financial instruments, the Group recognizes a loss allowance in the amount of the expected losses over their lifetimes if the credit risk of the financial instrument has increased significantly since initial recognition. If, however, the credit risk of the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to the expected 12-month loss.

The Group directly writes off a financial asset and hence reduces the gross carrying amount when there is information indicating that the debtor is in significant financial difficulty and there is no realistic prospect of recovery, e.g. when the debtor has been placed under liquidation or has entered into bankruptcy proceedings. Financial assets written off may still be subject to enforcement activities under the Group's recovery procedures. Any recoveries made are recognized in profit or loss.

In addition to using external sources of information, the measurement of expected credit losses is based on the probability of default, loss given default (i.e. the magnitude of the loss if there is a default) and the exposure at default. The assessment of the probability of default and loss given default is based on historical data adjusted by forward-looking information as described above.

Derecognition of financial assets

Derecognition of financial assets is carried out by the Group only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to a third party. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognizes a collateralized borrowing for the consideration received.

On derecognition of a financial asset measured at amortized cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. In addition, on derecognition of an investment in a debt instrument classified as at FVTOCI, the cumulative gain or loss previously accumulated in the investments revaluation surplus is reclassified to profit or loss. In contrast, on derecognition of an investment in equity instruments which the Group has elected on initial recognition to measure at FVTOCI, the cumulative gain or loss previously accumulated in the investments revaluation surplus is not reclassified to profit or loss, but is transferred to retained earnings.

Financial liabilities

Financial liabilities are recognized when a group entity becomes a party to the contractual provisions of the instrument. Financial liabilities are measured at amortized cost using the effective interest method, or at fair value through profit or loss.

Financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the issue of financial liabilities (other than financial liabilities at fair value through profit or loss) are deducted from the fair value of the financial assets or financial liabilities on initial recognition. Transaction costs directly attributable to the acquisition of financial liabilities that are measured at fair value through profit or loss are recognized immediately in profit or loss.

Financial liabilities at FVTPL

Financial liabilities are classified as financial liabilities at FVTPL when the financial liability is contingent consideration of an acquirer in a business combination, is held for trading, or is voluntarily designated as at FVTPL.

A financial liability is classified as held for trading if:

- it has been acquired principally for the purpose of repurchasing it in the near term; or
- on initial recognition it is part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit-taking; or
- it is a derivative, except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument.

A financial liability other than a financial liability held for trading or contingent consideration of an acquirer in a business combination may be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise; or
- the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the grouping is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and IFRS 9 permits the entire combined contract to be designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value with any gains or losses arising on changes in fair value recognized in profit or loss to the extent that they are not part of a designated hedging relationship.

However, for financial liabilities that are designated as at FVTPL, the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability is recognized in other comprehensive income, unless the recognition of the effects of changes in the liability's credit risk in other comprehensive income would create or enlarge an accounting mismatch in profit or loss. The remaining amount of change in the fair value of the liability is recognized in profit or loss. Changes in fair value attributable to a financial liability's credit risk that are recognized in other comprehensive income are not subsequently reclassified to profit or loss; instead, they are transferred to retained earnings upon derecognition of the financial liability.

Financial liabilities measured at amortized cost

Financial liabilities that are not contingent consideration of an acquirer in a business combination, held for trading, or voluntarily designated as at FVTPL, are financial liabilities subsequently measured at amortized cost using the effective interest method.

The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or a shorter period, to the net carrying amount of a financial liability on initial recognition.

Derecognition of financial liabilities

Derecognition of financial liabilities is carried out by the Group when, and only when, the Group's obligations are discharged, canceled or they expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

Derivative financial instruments

Derivative financial instruments are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately.

Derivatives embedded in non-derivative host contracts that are not financial assets within the scope of IFRS 9 (e.g. financial liabilities) are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are not closely related to those of the host contracts and the entire contract concerned is not measured at FVTPL.

Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the statement of financial position if there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis, or realize the asset and settle the liability simultaneously.

Measurement at fair value

On the reporting date, the CeramTec TopCo Group measures derivative financial instruments at fair value. The fair value is also stated in the notes to the financial statements for all other financial instruments.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This applies regardless of whether the price is directly observable or has been determined by applying a valuation method. Measurement at fair value is based on the assumption that the transaction, in order to sell or transfer the asset or liability, is performed in one of the following places:

- On the principal market for the asset or the liability or,
- if there is no principal market, on the most advantageous market for the asset or the liability.

The principal market or the most advantageous market must be accessible for the CeramTec TopCo Group as of the reporting date.

When calculating the fair value of an asset or a liability, the Group takes into account certain characteristics of the asset or the liability (such as condition and location of the asset or limitations of sale and use) if market participants also would also take these characteristics into account when determining the price for the acquisition of the respective asset or transferring the liability as of the reporting date.

Fair value measurement of a non-financial asset takes into account the ability of a market participant to generate economic benefits through the best use of the asset or by selling it to another market participant that would find the best use for the asset.

Inventories

Inventories are measured at the lower of cost or net realizable value.

Costs of purchase comprise the purchase price as well as all other ancillary costs directly attributable to the acquisition. Costs of purchase are determined using the moving weighted average cost method.

In addition to direct material and labor costs, costs of conversion comprise a share of production-related indirect material and labor overheads, including depreciation insofar as it is a consequence of the production process, as well as production-related administrative costs. Production costs do not contain any borrowing costs incurred during production as inventories held at the CeramTec TopCo Group are not qualifying assets pursuant to IAS 23.

Inventories are written down to reflect risks from reduced salability. The net realizable value is the selling price during the ordinary course of business less the estimated costs of completion and selling costs. Previously recognized write-downs are reversed if the reasons for the write-downs cease to apply. In this case, the write-up can at most be up to the original cost amount.

Cash and cash equivalents

Cash and cash equivalents generally comprise cash in hand and bank deposits as well as cash and short-term deposits with an original term of up to three months. The cash and cash equivalents reported in the statement of cash flows correspond to the amounts recognized in the statement of financial position.

Provisions for pension obligations

Defined benefit obligations are measured using the projected unit credit method. These take into account the benefits vested in the current period and previous periods in exchange for the work performed by employees. When calculating the amount of total obligations, adjustment to salaries and pensions expected in the future as well as the probability of employee turnover and employee age and gender are also factored into calculations. Pension obligations in Germany are determined on the basis of the 2018G Guideline Tables of Prof. Dr. Klaus Heubeck. Pension obligations outside of Germany are determined taking into account country-specific parameters.

The obligations are discounted using discount rates derived from high-quality, fixed-interest corporate bonds with the same currency and term. If no high-quality, fixed-interest corporate bonds are available, yields on government bonds are used instead. Net interest on the net liability is determined by multiplying the net liability with the discount rate.

Remeasurements comprise actuarial gains and losses, the return on plan assets and changes in the effect of the asset ceiling while excluding net interest on the net liability. These are recognized in other comprehensive income. Remeasurements are not reclassified to the income statement in later periods.

Past service cost results from the change in the present value of the defined benefit obligation arising from a plan amendment or curtailment and is recognized as an expense.

The fair value of the plan assets is deducted from the present value of the pension obligations. Plan assets are assets that are held by a long-term employee benefit fund. This fund must be legally separate from the reporting entity and exist solely to pay or fund employee benefits.

Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event and it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made of the amount of the provision. Information on estimation uncertainties can be found in note 2.3.

The amount of the provision recognized is the best estimate of the expenditure required to settle the present obligation as of the reporting date. The best estimate must take account of inherent risks and uncertainties. If a provision is measured on the basis of the estimated cash flow required to settle the obligation, these cash flows are discounted in cases where the effect of the time value of money is significant.

If it can be assumed that portions of or the entire economic benefits required to settle the provision are reimbursable by an external third party, this claim is recognized as an asset if the reimbursement is virtually certain and the amount can be reliably determined. The amount recognized for the reimbursement should not exceed the amount of the provision.

Contingent liabilities and contingent assets

Contingent liabilities are not recognized in the consolidated statement of financial position. A contingent liability is disclosed, unless the possibility of an outflow of resources embodying economic benefits is remote. Contingent assets are also not recognized in the statement of financial position. They are described in the notes to the financial statements provided an inflow of economic benefits is probable.

Taxes

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities based on the tax rates that have been enacted or substantively enacted as of the reporting date.

Deferred tax assets and liabilities are recorded for all deductible and taxable temporary differences between the carrying amounts in the tax accounts and the IFRS consolidated statement of financial position. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or the initial recognition (other than in a business combination) of other assets and liabilities in transactions that effect neither the taxable profit nor the accounting profit. Deferred tax assets are recognized to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax assets also include tax refund claims that result from the expected utilization of existing unused losses or interest carryforwards in subsequent years and the recognition of which is ensured with reasonable assurance.

Deferred tax assets and deferred tax liabilities are measured at the tax rates that are expected to apply in the period when the temporary differences are likely to reverse, based on tax rates and tax laws that have been enacted or substantively enacted as of the reporting date of the relevant company.

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which event the current and deferred taxes are also recognized in other comprehensive income or directly in equity, respectively.

Deferred tax assets and deferred tax liabilities are offset if the Group has a legally enforceable right to set off current tax assets against current tax liabilities and the deferred tax assets relate to the same taxable entity and the same taxation authority.

There is a consolidated tax group for income tax purposes between CeramTec BondCo (as the parent), CeramTec AcquiCo, CeramTec Holding (beginning on August 1, 2018), CeramTec Group, CeramTec FinCo GmbH, CeramTec GmbH, Cerasiv GmbH Innovatives Keramik-Engineering, CeramTec-ETEC GmbH and Emil Müller GmbH. In the abridged financial year

January 1, 2018 – July 31, 2018, CeramTec Holding GmbH was not included in the consolidated tax group relationship with CeramTec BondCo, and was hence liable to income tax.

There was also a consolidated tax group for VAT purposes between CeramTec Service GmbH as the parent company and CeramTec GmbH, Cerasiv GmbH Innovatives Keramik-Engineering, CeramTec-ETEC GmbH and Emil Müller GmbH until May 2018 inclusive. Since June 2018, there has been a consolidated tax group for VAT purposes between CeramTec AcquiCo as the new parent company and CeramTec GmbH, Cerasiv GmbH Innovatives Keramik-Engineering, CeramTec-ETEC GmbH and Emil Müller GmbH. In addition, until May 2018 inclusive, CeramTec AcquiCo was an independent entrepreneur as defined in the German Value Added Tax Act (UStG).

2.3 Estimation uncertainties and exercise of judgment

The preparation of the consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of income, expenses, assets and liabilities, and the disclosure of contingent liabilities, at the reporting date. These estimates and assumptions are made to obtain an appropriate overview of the financial position and financial performance of the CeramTec TopCo Group. The underlying assumptions are revised regularly. However, the actual results may vary from those anticipated.

In the process of applying the accounting and valuation methods of the CeramTec TopCo Group, management performed the following measurements, which have a significant impact on the consolidated financial statements.

Business combinations

Business combinations are accounted for using the acquisition method. The acquired assets and liabilities are measured at their acquisition-date fair value.

Using the acquisition method requires certain estimates and judgments, particularly with regard to determining the fair value of the acquired intangible assets and property, plant and equipment as well as the fair value of liabilities assumed. In addition, the expected useful lives of acquired intangible assets and property, plant and equipment need to be determined.

This measurement is largely based on estimated future cash flows. Deviations between the actual cash flows and those determined when calculating the fair value can have a significant effect on the future net profit/loss for the period of the CeramTec TopCo Group.

Goodwill of EUR 1,011,678k (December 31, 2018: EUR 1,341,431k) and other intangible assets of EUR 1,038,533k (December 31, 2018: EUR 1,105,674k) were recognized as of the reporting date.

Impairment of non-financial assets

Assumptions were made to calculate the recoverable amount to determine whether impairment losses had to be recognized on intangible assets and property, plant and equipment. In this regard, future cash flows were derived from the budget planning and medium-term forecast for each of the cash-generating units. Management assumes that the assumptions and estimates, on which the discounted cash flows are based, are accurate. Nevertheless, changes in the economic environment and growth assumptions can affect impairment testing resulting in the need to recognize impairment losses or to reverse impairment losses in the future.

Impairment losses recognized on non-financial assets for the financial year can be found in notes 4.1 Goodwill and intangible assets and 4.2 Property, plant and equipment.

Valuation allowances on receivables

Allowances for receivables are recognized based on assumptions about default risk and expected loss given default. The CeramTec TopCo Group exercises judgment to make the assumptions and select inputs used in determining the allowances by reference to past default experience, prevailing market conditions, and forward-looking estimates as of the end of the reporting period.

Accordingly, receivables are reduced by appropriate specific allowances for amounts estimated to be irrecoverable (for example receivables from customers on whose assets insolvency proceedings have been initiated are written off in full to the extent that any collateral provided is not recoverable). The allowances are allocated to level 3 in the fair value hierarchy under IFRS 9. As of the reporting date, an impairment loss of EUR 760k was identified as necessary (December 31, 2018: EUR 530k).

Provisions for pension obligations

Defined benefit plans are measured using actuarial valuations. These contain assumptions of discount rates, future salary trends, mortality rates and future pension increases.

Provisions for pension obligations of EUR 113,433k were recorded as of the end of the reporting period (December 31, 2018: EUR 100,200k).

Provisions

Provisions for the expected expenses from warranty obligations in accordance with national sales contract law are recognized as of the date on which the relevant products are sold according to the management's best estimate regarding the expenses required to settle the Group's obligation.

A provision is set up for the obligation to eliminate environmental damage if it is likely to occur and the costs can be estimated reliably. With ongoing examination and over the course of performing renovation measures, the provisions are adjusted in line with the knowledge gained.

The amount of the individual provisions is influenced by factors such as the extent of the contamination, the renovation measures called for and additional demands from authorities, companies or private persons.

In the aggregate provisions (other provisions and provision for taxes) of EUR 27,696k were recorded as of the end of the reporting period (December 31, 2018: EUR 31,386k).

Deferred tax assets

The calculation of deferred tax assets requires assumptions to be made relating to the future taxable income and historical use of deferred tax assets. These assumptions take into account the anticipated development and effect on earnings from the reversal of taxable temporary differences. As future business developments cannot be foreseen with certainty and are not entirely within the CeramTec TopCo Group's sphere of influence, the measurement of deferred tax assets involves a level of uncertainty.

As of the reporting date, deferred tax assets of EUR 1,172k were recognized (December 31, 2018: EUR 363k).

2.4 Adoption of amended and new standards and interpretations: Changes in accounting and valuation policies due to first-time adoption of revised and newly issued IFRSs and IFRICs

The following revised IFRSs and IFRICs were adopted for the first time:

Standards and interpretations	Date of first-time adoption
IFRS 16: "Accounting for Leases"	January 1, 2019
IFRIC 23: "Uncertainty over Income Tax Treatments"	January 1, 2019
Amendments to IAS 28: "Long-term Interests in Associates and Joint Ventures"	January 1, 2019
Amendments to IFRS 9: "Prepayment Features with Negative Compensation"	January 1, 2019
Annual Improvements Project (2015 – 2017) for IFRS 3, IFRS 11, IAS 12 and IAS 23	January 1, 2019
IAS 19: "Employee Benefits"	January 1, 2019

The aforementioned changes will have no effect on the consolidated financial statements of the CeramTec TopCo Group, except for IFRS 16.

IFRS 16 introduces a comprehensive model for the identification of lease arrangements and accounting treatments for both lessors and lessees. IFRS 16 supersedes the current lease guidance including IAS 17 Leases and the related interpretations.

IFRS 16 distinguishes leases and service contracts on the basis of whether an identified asset is controlled by a customer. Previous distinctions of operating leases and finance leases are removed for lessees and are replaced by a model where a right-of-use asset (or RoU asset) and a corresponding liability have to be recognized for all leases by lessees (i.e. all on balance sheet) except for short-term leases and leases of low value assets.

At the commencement date, the amount of the right-of-use asset corresponds to the amount of the lease liability. In subsequent periods, the right-of-use asset is measured at cost (subject to certain exceptions) less accumulated depreciation and impairment losses, adjusted for any remeasurement of the lease liability. At the commencement date, the lease liability is measured at the present value of the lease payments that are paid over the lease term. Subsequently, the carrying amount of the lease liability is adjusted for interest using the discount rate and reduced in the amount of the lease payments made. Modifications to the lease payments result in a remeasurement of the lease liability. Furthermore, the classification of cash flows will also be affected as operating lease payments under IAS 17 are presented as operating cash flows; whereas under the IFRS 16 model, the lease payments will be split into a principal and an interest portion which will be presented as financing and operating cash flows respectively.

Furthermore, the disclosure requirements for lessees and lessors have become significantly more extensive in IFRS 16 when compared to IAS 17.

The operating result takes account of depreciation of right-of-use assets, and interest expense associated with unwinding of discount on lease liabilities is included in the financial result.

Revised and newly issued IFRSs and IFRICs not yet mandatorily to be adopted

The following revised and newly issued IFRSs and IFRICs were not yet to be adopted mandatorily in the financial year or have not yet been adopted by the Commission of the European Communities under the endorsement procedure for the European Union. In the financial year, none of these new or amended standards and interpretations has been early adopted.

Standards and interpretations	**Date of first-time adoption**
IFRS 3: "Business Combinations"	January 1, 2020
IAS 1 / IAS 8: "Definition of Material (Amendments to IAS 1/IAS 8)"	January 1, 2020
IFRS 9 / IAS 39 / IFRS 7: "Interest Rate Benchmark Reform"	January 1, 2020
IFRS 17: "Insurance Contracts"	January 1, 2021

The aforementioned changes will have no effect on the consolidated financial statements of the CeramTec TopCo Group.

3 Notes to the Consolidated Statement of Comprehensive Income

3.1 Revenue

Revenue results primarily from the sale of goods and merchandise. Revenue breaks down into regions and businesses as follows:

	2019 kEUR	2018 kEUR
Regions		
Europe (w/o Germany)	270,261	215,843
Germany	141,908	125,734
Asia	100,416	75,126
North America	91,766	64,988
Other regions	16,025	15,218
Total	**620,376**	**496,909**
Businesses		
Industrial	361,689	309,393
Medical Products	258,687	187,516
Total	**620,376**	**496,909**

Orders on hand amount to EUR 177,262k as of the reporting date (December 31, 2018: EUR 206,201k)., of which EUR 117,676k (December 31, 2018: EUR 136,489k) and EUR 59,586k (December 31, 2018: EUR 69,712k) are attributable to the Industrial and Medical Products businesses respectively.

3.2 Cost of sales

The cost of sales breaks down as follows:

	2019 kEUR	2018 kEUR
Personnel expenses	130,864	103,497
Material and packaging costs	116,295	100,040
Amortization and depreciation	55,885	79,898
Other costs of sales	53,195	53,173
Total	**356,239**	**336,608**

In the prior year, as part of the purchase price allocation, amortization and depreciation included an amount of EUR 33,500k from capitalized orders on hand. This amount had been written off by December 31, 2018 as scheduled.

Other costs of sales primarily contain energy costs, freight costs and maintenance expenses.

3.3 Selling costs

Selling costs primarily contain amortization and depreciation as well as personnel expenses.

3.4 Research and development costs

Research and development costs mainly contain personnel expenses.

3.5 General administrative costs

General administrative costs primarily contain personnel expenses.

3.6 Other income / expenses (-), net

Other income / expenses (-) breaks down as follows:

	2019 kEUR	2018 kEUR
Impairment of goodwill	-329,753	0
Impairment of other intangible assets	-5,456	0
Write-downs and impairment of property, plant and equipment	-4,806	-643
Losses on disposal of property, plant and equipment	-1,059	-150
Foreign currency results	-667	-63
Addition to allowance for bad debts	-591	-61
Transaction costs	-146	-10,346
Income from reversal of allowances for bad debts	74	0
Impairment of financial assets	-2	-254
Sundry other income	484	521
Sundry other expenses	-965	-193
Total	**-342,887**	**-11,189**

The annual impairment test resulted in the need to recognize impairment losses of EUR 329,753k with regard to goodwill of the Industrial cash-generating unit (CGU) as well as of EUR 5,456k with regard to trademarks within other intangible assets (see note 1.3).

Write-downs and impairment of property, plant and equipment of EUR 4,806k (prior year: EUR 643k) resulted mainly from the permanent shutdown of machinery. The losses on disposal of property, plant and equipment in the amount of EUR 1,059k (prior year: EUR 150k) results mainly from the scrapping of machinery.

Transaction costs of EUR 146k (prior year: EUR 10,346k) were incurred in connection with the acquisition of CeramTec Holding and its subsidiaries with effect from March 8, 2018 (see note 1.3).

Other sundry expenses include mainly costs related to a discontinued product line.

3.7 Financial result

The financial result breaks down as follows:

	2019 kEUR	2018 kEUR
Income from discounting of financial liabilities	1,380	1,463
Foreign currency gains	190	0
Other finance and interest income	565	163
Interest income and other finance income	**2,135**	**1,626**
Interest expense from shareholder loan	38,768	31,971
Interest expense from syndicated loan	31,612	30,882
Interest expense from bond	21,062	21,723
Expense from unwinding the discount on financial liabilities	4,287	4,944
Interest expense from derivatives	1,274	22,028
Interest expense from provision and use of revolving line of credit	693	660
Foreign currency losses	0	8,707
Other interest expenses	3,175	4,196
Interest capitalized	-422	-62
Interest expenses and other finance costs	**100,449**	**125,049**
Financial result	**-98,314**	**-123,423**

Other finance and interest income includes an exchange gain of EUR 363k from the sale of bonds in the nominal amount of EUR 5,000k, which were acquired by a group company in the prior year.

Other interest expenses include an amount of EUR 1,897k (prior year: EUR 1,487k), which is due to unwinding the discount on provisions.

3.8 Income tax

Since January 1, 2018, there has been a consolidated tax group for income tax purposes between CeramTec BondCo and its German subsidiaries.

CeramTec TopCo is not included in the German consolidated tax group for income tax purposes and, in the abridged financial year January 1 – July 31, 2018, CeramTec Holding was not within the consolidated tax group.

This means that German corporate income tax and trade tax is only levied at the level of the parent company, CeramTec BondCo.

CeramTec TopCo also has indirect shareholdings in foreign corporations.

The current income taxes of the CeramTec TopCo Group therefore include, in addition to German corporate income tax and trade tax, the tax expense of the foreign corporations, which was calculated based on taxable income according to local tax law and the tax rate applicable in each case.

Loss before income tax of EUR -322,781k (prior year: EUR -102,231k) is allocable to Germany and abroad as follows:

	2019 kEUR	2018 kEUR
Germany	-343,446	-110,661
Abroad	20,665	8,430
Total	**-322,781**	**-102,231**

Tax expense (prior year: tax income) of EUR -16,498k (prior year: EUR 15,095k) breaks down as follows:

	2019 kEUR	2018 kEUR
Current income tax expense	-34,434	-17,320
Deferred tax income	17,936	32,415
Tax expense (-) /tax income (+)	**-16,498**	**15,095**

Overall, the CeramTec TopCo Group's tax rate, based on the profit before tax and mainly driven by the German entities, is 28.7%, which will be used for the following reconciliation. The effective tax rate, i.e., tax expense in relation to profit before income tax, factors in both the current and the deferred tax expense and takes into account all influential factors, such as non-deductible operating expenses or a change in the assessment base.

	2019		2018	
	kEUR	%	kEUR	%
Profit (+) / loss (-) before income tax	**-322,781**		**-102,231**	
Expected tax income	92,597	28.7%	29,297	28.7%
Permanent differences	-3,228	-1.0%	-2,665	-2.6%
Non-tax deductible impairment of goodwill	-94,597	-29.3%	0	0.0%
Tax rate differences	1,499	0.5%	758	0.7%
Non-recognition of deferred tax assets on interest carryforwards	-8,370	-2.6%	-13,017	-12.7%
Tax expense (-)/ tax income (+) for previous years	-2,149	-0.7%	1,297	1.3%
Effects of changed income tax rates	-2,440	-0.8%	0	0.0%
Other adjustments	190	0.1%	-575	-0.6%
Tax expense (-) / tax income (+) and effective tax rate	**-16,498**	**-5.1%**	**15,095**	**14.8%**

The effects of permanent differences result mainly from trade tax add-backs in the amount of EUR 2,895k as well as other non-deductible operating expenses of EUR 247k.

Deferred taxes

Deferred income taxes were calculated using the expected tax rate of the relevant company. The deferred taxes are offset where there is an enforceable legal right to offset current taxes and the taxes are levied by the same tax authority.

In the consolidated statement of financial position, deferred taxes are disclosed as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Deferred tax assets	1,172	363
Deferred tax liabilities	298,417	318,200
Net amount of deferred tax liabilities	**297,245**	**317,837**

The deferred tax assets and liabilities stem from the following:

	December 31, 2019		December 31, 2018	
	Assets kEUR	Liabilities kEUR	Assets kEUR	Liabilities kEUR
Tax loss carryforwards	48	0	53	0
Property, plant and equipment	820	25,080	194	25,256
Goodwill and other intangible assets	1,941	300,319	3,526	317,598
Inventories, receivables and other assets	14,832	8,695	17,060	7,404
Non-current provisions	25,664	6,394	22,222	6,998
Current provisions and other liabilities	5,587	5,649	4,448	8,084
Total deferred taxes	**48,892**	**346,137**	**47,503**	**365,340**
Offsetting	-47,720	-47,720	-47,140	-47,140
Deferred taxes	**1,172**	**298,417**	**363**	**318,200**

The following table shows the development of the net amount of deferred tax liabilities:

	2019 kEUR	2018 kEUR
Net amount of deferred tax liabilities as of January 1	**317,837**	**1,933**
Deferred tax income shown in the income statement	-17,936	-32,415
Changes in deferred taxes recognized in other comprehensive income	-2,856	211
Changes arising from acquisitions and disposals	0	348,111
Other changes (e.g. changes arising from foreign currency translation)	200	-3
Net amount of deferred tax liabilities as of December 31	**297,245**	**317,837**

Other comprehensive income contains deferred tax income on the remeasurement of defined benefit plans of EUR 2,969k (prior year: deferred tax expense in the amount of EUR 116k), deferred tax expense from cashflow hedges in the amount of EUR 208k (prior year: EUR 0k) and deferred tax income on gain/loss arising on changes in the fair value of financial assets available for sale in the amount of EUR 95k (prior year: deferred tax expense in the amount of EUR 95k).

Unused losses and interest carryforwards

Unused losses and interest carryforwards break down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Interest carryforwards	83,551	51,153
on which no deferred tax assets are recognized	*83,551*	*51,153*
Foreign unused losses	551	606
on which no deferred tax assets are recognized	*357*	*393*
Total unused losses	941	970
on which no deferred tax assets are recognized	*747*	*757*

Deferred tax assets were recognized on unused tax losses of EUR 194k (December 31, 2018: EUR 213k).

Foreign unused losses, for which deferred tax assets have been capitalized, result from unused losses made by a group company in Spain of EUR 194k (December 31, 2018: EUR 213k). The tax loss carryforwards in Spain do not expire.

Temporary differences in connection with shares in subsidiaries in the amount of EUR 1,974k (prior year: EUR 2,073k) are not subject to deferred tax liabilities, because the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary differences will not reverse in the foreseeable future.

3.9 Additional information on the type of expenses

Cost of materials

In the financial year, cost of materials amounted to EUR 135,013k (prior year: EUR 114,557k). Cost of materials is mainly contained in cost of sales.

Personnel expenses

Personnel expenses break down as follows:

	2019 kEUR	2018 kEUR
Wages and salaries	162,660	129,383
Social security contributions	31,764	24,315
Pension expenses	6,581	6,986
Total	**201,005**	**160,684**

Personnel expenses are contained in cost of sales, selling, research and development, as well as general administrative costs.

Employees

On average, the Group employed 3,589 people in the financial year prior year: 3,554). These break down as follows:

	2019 Headcount (average)	2018 Headcount (average)
Salaried employees	1,360	1,335
Wage earners	2,229	2,219
Total	**3,589**	**3,554**

Amortization and depreciation

Amortization and depreciation break down as follows:

	2019 kEUR	2018 kEUR
Amortization of intangible assets	65,235	88,077
Depreciation on property, plant and equipment	41,915	33,587
Impairment of goodwill and intangible assets	335,209	0
Impairment of property, plant and equipment	4,807	643
Total	**447,166**	**122,307**

4 Notes to the Consolidated Statement of Financial Position

4.1 Goodwill and intangible assets

Goodwill and intangible assets break down as follows:

	Goodwill	Other intangible assets				
		Trade-marks	Technol-ogy	Customer relation-ships	Other	**Total**
	kEUR	kEUR	kEUR	kEUR	kEUR	kEUR
Cost						
January 1, 2018	**0**	**0**	**0**	**0**	**0**	**0**
Additions from business combinations	1,341,554	58,971	335,953	761,580	35,320	2,533,378
Additions	0	0	0	0	1,859	1,859
Disposals	0	0	0	0	-10	-10
Exchange differences	-123	29	-176	220	-2	-52
December 31, 2018	**1,341,431**	**59,000**	**335,777**	**761,800**	**37,167**	**2,535,175**
Additions	0	0	0	0	3,027	3,027
Disposals	0	0	0	0	-33,524	-33,524
Reclassifications	0	0	0	0	56	56
Exchange differences	0	0	498	0	18	516
December 31, 2019	**1,341,431**	**59,000**	**336,275**	**761,800**	**6,744**	**2,505,250**
Amortization/ impairment						
January 1, 2018	**0**	**0**	**0**	**0**	**0**	**0**
Additions to amortization	0	-2	15,574	38,180	34,325	88,077
Disposals	0	0	0	0	-10	-10
Exchange differences	0	2	-8	7	2	3
December 31, 2018	**0**	**0**	**15,566**	**38,187**	**34,317**	**88,070**
Additions to amortization	0	0	18,189	45,823	1,223	65,235
Additions to impairments	329,753	5,456	0	0	0	335,209
Disposals	0	0	0	0	-33,524	-33,524
Exchange differences	0	0	39	1	9	49
December 31, 2019	**329,753**	**5,456**	**33,794**	**84,011**	**2,025**	**455,039**
Net carrying amounts						
December 31, 2019	**1,011,678**	**53,544**	**302,481**	**677,789**	**4,719**	**2,050,211**
December 31, 2018	**1,341,431**	**59,000**	**320,211**	**723,613**	**2,850**	**2,447,105**

Goodwill results from the acquisition of CeramTec Holding and its subsidiaries in the prior year (see note 1.3). Goodwill was allocated to the groups of cash-generating units (CGUs) Medical Products (EUR 874,613k) and Industrial (EUR 466,818k).

The CGU Medical Products includes the business activities designed to develop, manufacture and sell technical high-performance ceramics products used for medical technology, and the CGU Industrial includes the business activities designed to develop, manufacture and sell technical high-performance ceramics products used in the electronics and automotive industries, and for mechanical engineering.

For the cash-generating units, the annual impairment test was performed as of November 30, 2019. The recoverable amount was calculated based on the asset's value in use. Value in use is calculated by discounting the future cash flow surpluses. The measurement is therefore allocable to level 3 pursuant to IFRS 13. The projected future cash inflows are based on the approved financial budgets, which are undertaken by the CeramTec TopCo Group and, as a rule, have a three-year planning horizon. For this purpose, assumptions are made mainly about future selling prices, quantities and costs.

The financial budgets are prepared on the basis of historical experience, and reflect the management's expectations for the following years.

More recent and better knowledge on the benchmark companies of the peer group resulted in the consideration of different benchmark companies for the CGU Medical Products and the CGU Industrial.

The growth rate of the perpetuity was assumed to be 1.00% (prior year: 1.00%). The weighted capital cost rate for the CGU Medical Products is 9.21% (prior year: 11.75%) before tax and 6.89% (prior year: 8.70%) after tax. With regard to the CGU Industrial, the weighted capital cost rate before tax amounts to 13.69% (prior year: 11.33%) and 10.38% (prior year: 8.70%) after tax. Equity costs were calculated using a base interest rate of 0.17% (prior year: 1.25%) each and a market risk premium of 7.50% (prior year: 6.75%) each.

With regard to the CGU Industrial, there was need to recognize impairment losses totaling EUR 329,753k as the carrying amount exceeded the assets' value in use. The lower value in use in the amount of EUR 648,119k was mainly attributable to a more conservative revenue planning in consequence of a temporarily declined demand from the automotive and electronics industries given the slowdown in the macroeconomic development and a significant increase in the weighted average cost of capital. As of December 31, 2019, the carrying amount of goodwill attributable to the CGU Industrial after impairment amounts to EUR 137,065k. The planning assumes sales revenues of EUR 361,600k for 2020 and an average moderate annual increase in the detailed planning period.

With regard to the CGU Industrial, an increase by 0.25 percentage points in the weighted capital cost rate after tax would result in need to recognize additional impairment losses of EUR 17,700k; a decrease in the EBITDA margin by 0.5 percentage points would result in valuation allowances to be recognized in the amount of EUR 13,800k.

According to our assessment, reasonably possible changes in significant basic assumptions (weighted capital cost rate, EBITDA margin) underlying the determination of value in use would not result in an excess of the carrying amount of the CGU Medical Products over its value in use.

As of March 8, 2018, the trademarks CeramTec, BIOLOX, SPK and DAI Ceramics were identified. The carrying amount of the above trademarks was EUR 53,544k as of December 31, 2019 (December 31, 2018: EUR 59,000k). As the recognized trademarks do not represent a product-specific trademark and do not have identifiable useful lives, the useful life for the recognized trademarks was classified as indefinite. The trademarks were allocated to the cash-generating units Medical Products (EUR 33,200k) and Industrial (EUR 25,800k). The annual impairment text of the CGU Industrial's trademarks resulted in need to recognize impairment losses of EUR 5,456k.

Technology has a carrying amount of EUR 302,481k (December 31, 2018: EUR 320,211k) and primarily contains the basic technology underlying high-performance ceramics. This has an average weighted remaining useful life of 16.2 years (December 31, 2018: 17.2 years).

Customer relationships have a carrying amount of EUR 677,789k (December 31, 2018: EUR 723,613k) and primarily contain customer relationships from the Medical Products business. These have an average weighted remaining useful life of 15.1 years (December 31, 2018: 16.1 years).

Scheduled amortization of other intangible assets is recognized under cost of sales, selling costs, research and development costs and general administrative costs, while impairment losses are recognized under other income and expenses (-), net.

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4.2 Property, plant and equipment

Property, plant and equipment break down as follows:

	Land and buildings	Technical plant and machinery	Other equip-ment	Right-of-use assets	Assets under construc-tion	**Total**
	kEUR	kEUR	kEUR	kEUR	kEUR	kEUR
Cost						
January 1, 2018	**0**	**0**	**0**	**0**	**0**	**0**
Additions from business combinations	106,555	168,918	6,292	0	12,841	294,606
Additions	797	12,161	2,549	0	13,102	28,608
Disposals	-38	-471	-356	0	0	-866
Reclassifications	923	9,549	152	0	-10,624	0
Exchange differences	-407	637	37	0	99	367
December 31, 2018	**107,830**	**190,794**	**8,674**	**0**	**15,418**	**322,716**
Additions	1,145	17,837	2,778	1,762	18,847	42,368
Additions from initial recognition	0	0	0	4,852	0	4,852
Disposals	-313	-3,542	-692	0	-41	-4,588
Reclassifications	886	10,345	426	0	-11,714	-56
Exchange differences	367	1,148	73	27	52	1,668
December 31, 2019	**109,915**	**216,582**	**11,259**	**6,641**	**22,562**	**366,960**
Depreciation/impairment						
January 1, 2018	**0**	**0**	**0**	**0**	**0**	**0**
Additions to depreciation	5,760	25,106	2,721	0	0	33,587
Additions to impairment	0	643	0	0	0	643
Disposals	0	-246	-352	0	0	-599
Exchange differences	14	73	3	0	0	90
December 31, 2018	**5,774**	**25,576**	**2,372**	**0**	**0**	**33,722**
Additions to depreciation	7,425	28,721	3,233	2,536	0	41,915
Additions to impairment	0	4,756	51	0	0	4,807
Disposals	-90	-2,445	-659	0	0	-3,194
Exchange differences	22	268	28	5	0	324
December 31, 2019	**13,131**	**56,876**	**5,025**	**2,542**	**0**	**77,573**
Net carrying amounts						
December 31, 2019	**96,784**	**159,707**	**6,234**	**4,099**	**22,562**	**289,387**
December 31, 2018	**102,056**	**165,219**	**6,301**	**0**	**15,418**	**288,994**

Scheduled depreciation of property, plant and equipment is recognized under cost of sales, selling costs, research and development costs and general administrative costs, while impairment losses are reported as other income and expenses.

In the financial year, borrowing costs of EUR 422k (prior year: EUR 62k) were capitalized in property, plant and equipment applying an interest rate of 5.80% .

There were contractual commitments to acquire property, plant and equipment in the amount of EUR 21,161k as of the reporting date (December 31, 2018: EUR 28,611k).

Property, plant and equipment under IAS 17 (finance leases) contain rented buildings capitalized in previous years with a net carrying amount of EUR 1,208k (December 31, 2018: EUR 1,252k), and furniture and fixtures with a net carrying amount of EUR 3k (December 31, 2018: EUR 4k).

4.3 Other financial assets

The breakdown of other financial assets is shown in the following table:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Other non-current financial assets		
Separated termination rights	25,139	20,988
Insurance claims	45	49
Derivative financial instruments	0	26
Sundry financial assets	59	0
Total	**25,243**	**21,063**
Other current financial assets		
Receivables arising from amounts retained by a factor as a security	1,792	2,032
Derivative financial instruments	717	0
Sundry financial assets	565	365
Total	**3,074**	**2,397**

The CeramTec TopCo Group has a termination option for the issued bond. This termination option represents an embedded derivative, which is accounted for separately from the underlying transaction. Further explanations can be found in note 4.15.

Due to the default risk being classified as low, no impairment was recognized in relation to other financial assets in the reporting period.

4.4 Other assets

The breakdown of other assets is shown in the following table:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Other non-current assets		
Deferred finance costs for the revolving credit line	697	916
Sundry assets	410	400
Total	**1,107**	**1,316**
Other current assets		
Prepaid insurance	2,454	2,869
VAT receivables	2,383	2,710
Receivables from energy tax refunds	989	1,154
Deferred finance costs for the revolving credit line	219	219
Sundry assets	1,981	1,715
Total	**8,026**	**8,667**

Sundry current assets primarily contain prepayments, e.g. for trade fair costs.

4.5 Inventories

Inventories break down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Raw materials	38,267	32,042
Work in progress	29,233	32,144
Finished goods	25,209	27,670
Merchandise	2,971	3,097
Other inventories	1,413	1,544
Total	**97,093**	**96,497**

Other inventories include packaging materials and spare parts for machinery.

At the reporting date, the write-down of inventories amounts to EUR 14,636k (December 31, 2018: EUR 12,605k). The expense resulting from the increase in the write-down by EUR 2,031k is reported under cost of sales.

4.6 Trade receivables

As of the reporting date, trade receivables were recognized to the amount of EUR 52,740k (December 31, 2018: EUR 57,880k) after taking into account valuation allowances of EUR 760k (December 31, 2018: EUR 530k).

As part of the factoring agreement concluded in 2017, receivables of EUR 14,422k were sold as of the balance sheet date (December 31, 2018: EUR 14,146k). Under the terms of the agreement, EUR 1,792k was retained by the factor as of the balance sheet date as a security (December 31, 2018: EUR 2,032k), and is recognized in other current financial assets (see note 4.3).

The value and maturity structure of trade receivables before impairment losses breaks down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Carrying amount before impairment losses	**53,500**	**58,410**
thereof not yet due on the reporting date	41,248	43,613
thereof past due on the reporting date	12,252	14,797
past due up to 30 days	10,001	11,255
past due up to 60 days	896	2,019
past due up to 90 days	181	506
past due more than 90 days	1,174	1,017

The age structure of the impairment losses as of the reporting date breaks down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
not yet due	0	0
past due up to 30 days	22	22
past due up to 60 days	55	57
past due up to 90 days	47	47
past due more than 90 days	636	404
Total	**760**	**530**

The age structure of receivables past due which are not impaired breaks down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
past due up to 30 days	9,969	11,224
past due up to 60 days	817	1,941
past due up to 90 days	112	442
past due more than 90 days	247	461
Total	**11,145**	**14,068**

Loss allowances are based on information about a customer developed internally or obtained from external sources, and an estimate of the likelihood of default. The loss allowances mainly include specific loss allowances for receivables due from customers who have entered into bankruptcy proceedings or who are facing severe financial difficulties.

Default risks in the majority of trade receivables (usually between 75% and 80%) of CeramTec GmbH, Plochingen/Germany, the largest company that engages in operating activities, are covered by using credit insurance. After taking credit insurance into account, the maximum default risk on trade receivables of CeramTec TopCo Group comes to around 48% of the carrying amount as of the balance sheet date (December 31, 2018: 51%).

Based on the CeramTec TopCo Group's historical credit loss experience and customer structure, the Group is expected to sustain a small loss in the event of default, taking into account future-oriented macroeconomic information and existing insurance that protects the Group against loss on receivables. The resulting impairment loss on trade receivables is of minor importance.

There was no indication as of the reporting date that the debtors of receivables that were not impaired and not past due would not meet their payment obligations. On average, the Group has recognized loss allowances of around 50% in relation to all receivables past due more than 60 days.

The following table shows the development of loss allowances on trade receivables during the past reporting period. Additional general risks of non-payment are considered remote.

Loss allowances	2019 kEUR	2018 kEUR
As of January 1	**530**	**0**
Addition	591	63
Utilization	-291	-4
Reversal	-75	-2
Foreign currency translation	5	12
Change recognized in profit or loss	760	69
Change to the consolidated group	0	461
As of December 31	**760**	**530**

4.7 Cash and cash equivalents

The "Cash and cash equivalents" line item contains bank balances of EUR 64,373k (December 31, 2018: EUR 21,049k) and cash in hand of EUR 7k (December 31, 2018: EUR 9k).

4.8 Equity

Subscribed capital

The fully paid in capital stock of the parent company CeramTec TopCo amounts to EUR 25k (December 31, 2018: EUR 25k).

Capital reserve

Effective as of March 8, 2018, CTEC Acquisition S.á.r.l., Luxembourg, acting in its capacity as the sole shareholder of CeramTec TopCo, increased CeramTec TopCo's capital reserve by EUR 500,417k.

Effective as of December 31, 2019, a nominal amount of EUR 247,929k of the existing shareholder loan and the interest payable in the amount of EUR 32,025k were contributed to the capital reserve.

The capital reserve is freely available and not subject to any earmarking.

Retained earnings and net profit/loss for the period

The "Retained earnings and net profit/loss for the period" line item contains the current profits/losses incurred by the CeramTec TopCo Group and those incurred in the prior year. This also includes the change in the revaluation reserve for pension obligations (after taxes) in the amount of EUR -7,417k (December 31, 2018: EUR 337k).

Accumulated other comprehensive income

Accumulated other comprehensive income relates to foreign currency translation adjustments and the reserve for financial assets available for sale, including deferred tax effects.

4.9 Provisions for pension obligations

Within the CeramTec TopCo Group, there are defined benefit and defined contribution plans in place granting eligible employees benefits in the event of retirement, occupational disability or death – in the latter case to employees' surviving dependents. These benefits are based, as a rule, on the length of service and level of remuneration or contributions of the eligible employees taking into account conditions in terms of tax, labor and welfare law in the respective country.

In Germany, there are various direct commitments that depend on the remuneration and length of service and are subject to a cap. These commitments do not contain any rights to inflation-related pension adjustments. These defined benefit plans were closed for employees that joined after January 1, 2002. There is also a defined benefit plan in place with direct commitments for a fixed pension amount which depends on the employee's length of service. This plan was also closed for employees that joined after January 1, 2002. For the management of the German CeramTec TopCo group companies, there are direct commitments in place comprising benefits that depend on the remuneration and length of service and are subject to a cap as well as benefits that are calculated based on the performance of the Company. The eligible employees are also entitled to deferred compensation which is subsidized by the relevant group company depending on the achievement of personal targets by employees.

Furthermore, since the end of 2014, the Company has committed itself to directly providing benefits as compensation to all employees who have been enrolled into Hoechster Pensionskasse, which was subject to the realignment of pension funds, that might be to their disadvantage. The obligation is measured annually by an actuarial expert.

The pension plan in the UK is a funded defined benefit plan. The plan is administered by an external sponsoring institution managed by employer and employee representatives. The representatives are legally obligated to represent the interests of the entitled employees and are responsible for the investment decisions and managing the assets. The pension plan is closed. The plan grants the entitled employees annual pension payments, the amount of which depends on the length of service and the last salary earned. Pension payments are also made in the event of death. The obligation is measured annually by an actuarial expert.

The provisions for pension obligations break down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Germany	109,504	96,430
UK	3,698	3,559
Other	231	211
Total	**113,433**	**100,200**

The following table shows the extent of the obligation and the amount of plan assets as well as the provisions and other assets disclosed in the consolidated statement of financial position as of December 31, 2019.

Change in benefit obligations	German plans kEUR	Foreign plans kEUR	Total kEUR
Benefit obligations at the beginning of the financial year	**96,430**	**10,826**	**107,256**
Service cost	3,497	23	3,520
Interest expense	1,809	301	2,110
Remeasurements	10,121	1,229	11,350
from the change in demographic assumptions	*0*	*-108*	*-108*
from the change in financial assumptions	*9,734*	*1,337*	*11,071*
Experience adjustments	*387*	*0*	*387*
Foreign currency translation	0	666	666
Benefits paid	-2,353	-343	-2,696
Benefit obligations at the end of the year	**109,504**	**12,702**	**122,206**
Change in plan assets			
Market value of plan assets at the beginning of the financial year	**0**	**7,056**	**7,056**
Interest income from plan assets	0	203	203
Expense for managing the plans	0	-93	-93
Employer contributions	0	527	527
Remeasurements	0	964	964
from the change in financial assumptions	*0*	*964*	*964*
Foreign currency translation	0	457	457
Benefits paid	0	-341	-341
Market value of plan assets at the end of the year	**0**	**8,773**	**8,773**
Net obligation amount / provisions for benefits	**109,504**	**3,929**	**113,433**

The change in financial assumptions primarily results from a declined interest rate.

The following table shows the extent of the obligation and the amount of plan assets as well as the provisions disclosed in the consolidated statement of financial position for the comparable period as of December 31, 2018.

Change in benefit obligations	German plans kEUR	Foreign plans kEUR	Total kEUR
Benefit obligations at the beginning of the financial year	**0**	**0**	**0**
Addition due to changes to the consolidated group	94,892	11,626	106,518
Service cost	2,506	139	2,645
Interest expense	1,322	276	1,598
Remeasurements	-339	-510	-849
from the change in demographic assumptions	*1,353*	*-78*	*1,275*
from the change in financial assumptions	*-3,369*	*-436*	*-3,805*
Experience adjustments	*1,677*	*4*	*1,681*
Foreign currency translation	0	-248	-248
Benefits paid	-1,951	-457	-2,408
Benefit obligations at the end of the year	**96,430**	**10,826**	**107,256**
Change in plan assets			
Market value of plan assets at the beginning of the financial year	**0**	**0**	**0**
Addition due to changes to the consolidated group	0	7,644	7,644
Interest income from plan assets	0	185	185
Expense for managing the plans	0	-125	-125
Employer contributions	0	327	327
Remeasurements	0	-394	-394
from the change in financial assumptions	*0*	*-394*	*-394*
Foreign currency translation	0	-166	-166
Benefits paid	0	-415	-415
Market value of plan assets at the end of the year	**0**	**7,056**	**7,056**
Net obligation amount / provisions for benefits	**96,430**	**3,770**	**100,200**

The calculation of the pension obligations was based on the following assumptions as of December 31, 2019:

	Germany	Abroad
Interest rate (in %)	0.90	2.00
Wage and salary trends (in %)	3.00	N/A
Pension trend (in %)	1.50	3.00 - 3.20
Life expectancy	2018 G Guideline Tables	Mortality Tables

The calculation of the pension obligations was based on the following assumptions as of December 31, 2018:

	Germany	Abroad
Interest rate (in %)	1.90	2.80
Wage and salary trends (in %)	3.50	N/A
Pension trend (in %)	2.00	3.00 - 3.40
Life expectancy	2018 G Guideline Tables	Mortality Tables

The average term of the benefit obligations amounts to 22.2 years in Germany (prior year: 21.3 years) and 16.0 years abroad (prior year: 16.0 years).

The employer contributions and benefit payments expected to be paid into the plans during the next financial year amount to EUR 476k (prior year: EUR 450k) and EUR 2,694k (prior year: EUR 2,748k) respectively.

The risk from changes in actuarial assumptions underlying the measurement of the defined pension plans is borne by the relevant group company. The sensitivity analyses presented in the table below were performed based on reasonably possible changes in the respective assumptions as of the reporting date. The change in key actuarial assumptions would have the following effects (in kEUR) on the present value of pension obligations:

	Change	Effect December 31, 2019
Discount rate	- 0.50 percentage points	14,082
	+ 0.50 percentage points	-12,032
Wage and salary trends	- 0.50 percentage points	-433
	+ 0.50 percentage points	452
Pension trend	- 0.50 percentage points	-13,581
	+ 0.50 percentage points	15,059
Life expectancy	+ 1 year	5,448

The change in key actuarial assumptions would have the following impact (in kEUR) on the present value of pension obligations for the prior year:

	Change	Effect December 31, 2018
Discount rate	- 0.50 percentage points	11,784
	+ 0.50 percentage points	-10,115
Wage and salary trends	- 0.50 percentage points	-550
	+ 0.50 percentage points	398
Pension trend	- 0.50 percentage points	-10,576
	+ 0.50 percentage points	11,697
Life expectancy	+ 1 year	4,608

There are no plan assets for German plans. The plan assets of the foreign plans break down into the following assets:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Securities/shares	4,260	3,046
Equity funds and other funds	2,085	0
Fixed-interest securities	1,584	3,610
Real estate	843	400
	8,773	**7,056**

The fair values of the securities and shares were determined based on prices quoted on active markets, while the fair values of real estate are not based on prices quoted on active markets. The real estate contained in plan assets relates to non-owner-occupied property in the UK. The investment horizon for plan assets takes into account the expected payout profile.

From January 1, 2002 to December 31, 2014, all new hires at CeramTec GmbH, CeramTec Service and Emil Müller GmbH joined the pension fund Dynamit Nobel VVaG. Furthermore, some active and former employees of CeramTec GmbH and Emil Müller GmbH are members of the pension fund Pensionskasse der Mitarbeiter der Hoechst-Gruppe VVaG. These pension funds are multi-employer plans which are generally defined benefit plans. The two pension funds are subject to regulatory supervision. In the event that the funds are unable to settle their obligations, the employer is legally liable for the vested benefits (secondary liability). This obligation remains in place even if the CeramTec TopCo Group were to terminate its participation in the plans. However, terminating its participation would generally not directly result in having to make supplementary payments. In the consolidated financial statements, these pension plans are classified as defined contribution plans in accordance with IAS 19.34. As several employers are responsible for these pension funds, contributions made by the CeramTec TopCo Group can under certain circumstances be used to finance another entity's employee benefits.

Dynamit Nobel VVaG is funded for commitments made before December 1, 2007 with income-based contributions by the entitled employees as well as variable employer contributions. The employers' contribution must, together with the member contributions and return on plan assets from the pension fund, sufficiently fund the agreed benefit payments according to actuarial principles. Once pension payments have begun, the pension fund assumes the statutory pension adjustments provided it has the sufficient means to do so. In the last few years, the pension adjustments could not be assumed by the pension fund and had to be funded by the employers. For commitments given as from December 1, 2007, the employees and employer made a fixed, income-based contribution. There is no obligation on the part of the employer to adjust current pension benefits. Surpluses are used to increase the pension benefits. Although the existing obligations are at present fully covered by assets in accordance with German accounting standards for pension funds, the additional capital requirements have not been satisfied. There is a plan approved by regulatory authorities in place to remedy the contravention of requirements. Negative budget variances, for example due to the pension fund earning an insufficient return on assets, may result in the CeramTec TopCo Group having to make additional payments. The proportion of members whose membership is based on an existing or former work contract with CeramTec GmbH, CeramTec Service or Emil Müller GmbH in the total number of pension fund members amounts to around 26% for active employees, around 11% for non-contributory employees and around 4% for pensioners.

The pension fund Pensionskasse der Mitarbeiter der Hoechst-Gruppe VVaG is funded with income-based contributions by entitled employees as well as variable employer contributions. The employers' contribution must, together with the employees' member contributions and pension fund surpluses, sufficiently fund the agreed benefit payments according to actuarial principles. Once pension payments have begun, the pension fund assumes the statutory pension adjustments provided it has the sufficient means to do so. The proportion of members whose membership is based on an existing or former work contract with the CeramTec TopCo Group in the total number of members for active employees, non-contributory employees and pensioners ranges between around 0.1% and 0.15% in each case.

As of December 1, 2014, company pension schemes underwent some realignment, and all employees whose membership was based on an existing contract with the pension fund Dynamit Nobel VVaG were enrolled into Hoechster Pensionskasse VVaG. Since January 1, 2015, contributions have not been paid anymore to the pension fund Dynamit Nobel VVaG, and the employees have become extraordinary members. All new hires become members of Hoechster Pensionskasse VVaG. The employees and employer make a fixed, income-based contribution to Hoechster Pensionskasse VVaG. There is no obligation on the part of the employer to adjust current pension benefits. Surpluses are used to increase the pension benefits. CeramTec GmbH has committed itself to directly providing benefits as compensation for the realignment which involved enrolling the employees into another pension fund, which may be to their disadvantage.

The contributions made to the pension funds amounted to EUR 2,558k in the financial year (prior year: EUR 2,139k). The expenses are recorded in cost of sales, selling costs, research and development costs as well as general administrative costs. Planned contributions of EUR 2,451k are expected to be made in 2020 (prior year: EUR 2,646k).

The expenses for additional defined contribution plans consisting of the employer's share of contributions to the German state pension insurance scheme amounted to EUR 11,754k (prior year: EUR 8,905k).

4.10 Provisions

The development of provisions in the financial year was as follows:

	Balance as of December 31, 2018 kEUR	Additions kEUR	Utilization kEUR	Reversal kEUR	Unwinding of the discount kEUR	Exchange difference kEUR	Balance as of December 31, 2019 kEUR
Provisions for employee bonuses	12,972	11,553	10,917	1,615	0	105	12,098
Provisions for warranties	3,027	1,317	54	1,121	0	1	3,170
Provisions for environmental risks	299	2	33	1	0	5	272
Provisions for long-service awards	889	330	296	0	0	0	923
Provision for solvency requirements	3,990	0	1,156	0	0	0	2,834
Provisions for litigation risks	1,575	211	216	495	0	2	1,077
Provisions for taxes	6,347	4,365	6,346	0	0	58	4,424
Sundry provisions	2,287	1,320	264	490	1	44	2,898
	31,386	**19,098**	**19,282**	**3,722**	**1**	**215**	**27,696**

Provisions for environmental risks relate to the elimination of residual pollution, renovation measures and water conservation practices. Estimations and, where possible, external expert opinions are used to measure the amount of the provisions.

A provision was recognized for the solvency plan for the pension fund Dynamit Nobel VVaG which has been approved by the German Federal Financial Supervisory Authority (Bafin).

The provision for taxes includes anticipated income tax payments for past assessment periods.

Sundry provisions primarily comprise provisions for severance pay, legal and consulting fees as well as provisions for other contingent liabilities.

The maturities of the provisions were as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Current provisions	22,190	26,503
Non-current provisions	5,506	4,883
Total	**27,696**	**31,386**

The cash outflow of provisions is expected to be 80% within one year and 20% in a period between more than one year and 15 years.

4.11 Financial liabilities to affiliates

Financial liabilities to affiliates comprise a loan payable to CTEC Acquisition S.à.r.l., Luxembourg, in the amount of EUR 311,503k (December 31, 2018: EUR 552,688k).

	December 31, 2019 kEUR	December 31, 2018 kEUR
Non-current financial liabilities		
Loan payable	256,270	523,798
Accrued interest	0	28,890
	256,270	**552,688**
Current financial liabilities		
Loan payable	19,599	0
Accrued interest	35,634	0
	55,233	**0**
Total	**311,503**	**552,688**

Effective as of December 31, 2019, a nominal amount of EUR 247,929k of the existing shareholder loan and the interest payable in the amount of EUR 32,025k were contributed to the capital reserve.

The amount reported as current (EUR 55,233k) was paid to the shareholder in January 2020.

4.12 Financial liabilities to third parties

The financial liabilities to third parties are broken down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Non-current financial liabilities		
Liabilities to banks	999,334	1,045,858
Liabilities from the bond	415,740	411,990
Derivative financial instruments	15,179	12,748
Lease liabilities	3,071	1,248
Total	**1,433,324**	**1,471,844**
Current financial liabilities		
Liabilities from the bond	7,993	7,895
Derivative financial instruments	5,743	5,012
Discounts and bonuses	4,139	2,961
Lease liabilities	2,355	8
Liabilities to banks	2,672	3,103
Sundry current financial liabilities	2,504	3,248
Total	**25,406**	**22,227**

Liabilities to banks consist of a tranche in EUR nominally amounting to EUR 894,000k and two tranches in USD amounting to EUR 133,167k. These loans have variable interest rates and mature on March 8, 2025. Transaction costs of EUR 26,803k associated with the loan are spread over the term of the loan using the effective interest method.

On May 31, 2019 and August 29, 2019, voluntary repayments were made in relation to the syndicated loan of EUR 44,000k (prior year: EUR 32,000k) to the EUR tranche and EUR 9,872k (prior year: EUR 13,253k) to two USD tranches.

The bond has a fixed interest rate and a nominal volume of EUR 406,000k (December 31, 2018: nominal volume of EUR 406,000k). In the financial year, the bonds with a nominal amount of EUR 5,000k which were acquired from a group company in the prior year were resold. This bond matures on December 15, 2025. The CeramTec TopCo Group has a termination option for this bond, which is recognized as a separate financial asset (note 4.3). Associated transaction costs of EUR 13,570k are spread over the term of the bond using the effective interest method. Further information on the loans, the bond and derivatives can be found in note 4.15.

Lease liabilities are composed of right-of-use assets capitalized in accordance with IFRS 16 (see note 4.14) in the amount of EUR 4,216k and finance leases recognized in previous years in accordance with IAS 17 in the amount of EUR 1,210k.

4.13 Other liabilities

Other liabilities break down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Other current liabilities		
Wages and salaries including taxes	12,208	8,113
Real estate transfer tax	1,023	1,279
Contractual liabilities under contracts with customers	907	135
Sundry current liabilities	2,599	1,990
Total	**16,737**	**11,517**

Sundry current liabilities are mainly attributable to liabilities to employees, liabilities from social security contributions, liabilities to pension funds as well as deferred income.

4.14 Accounting for leases (IFRS 16)

In accordance with IFRS 16 the lessee is required to recognize a right-of-use asset (or "RoU asset") and a corresponding lease liability for all leases. At the commencement date, the amount of the RoU asset corresponds to the amount of the lease liability. In the subsequent periods, the RoU asset is (apart from some exceptions) measured at its cost less any accumulated depreciation and impairment losses and adjusted for any remeasurement of the lease liability.

The right-of-use assets can be related to the asset category of property, plant and equipment as follows:

	Land and buildings	Technical plant and machinery	Other equip-ment	**Total**
	kEUR	kEUR	kEUR	kEUR
Cost				
December 31, 2018	**0**	**0**	**0**	**0**
Initial adoption of IFRS 16 as of January 1, 2019	2,434	172	2,246	4,852
Additions	138	29	1,595	1,762
Exchange differences	25	1	1	27
December 31, 2019	**2,597**	**202**	**3,842**	**6,641**
Depreciation/impairment				
December 31, 2018	**0**	**0**	**0**	**0**
Additions to depreciation	686	185	1,665	2,536
Exchange differences	4	0	1	5
December 31, 2019	**690**	**185**	**1,666**	**2,542**
Net carrying amounts				
December 31, 2019	**1,907**	**17**	**2,175**	**4,099**
December 31, 2018	**0**	**0**	**0**	**0**

At the commencement date, the lease liability is measured at the present value of the lease payments that are paid over the lease term. Subsequently, the carrying amount of the lease liability is adjusted for interest using the discount rate and reduced in the amount of the lease payments made. Modifications to the lease payments result in a remeasurement of the lease liability.

The following table shows the undiscounted cash flows for the lease liabilities existing as of the reporting date:

		December 31, 2019					
	Carrying amount kEUR	2020 kEUR	2021 kEUR	2022 kEUR	2023 kEUR	2024 kEUR	>2024 kEUR
Lease liabilities (IFRS 16)	4,216	1,759	1,132	559	411	291	411

The change from the operating lease liability stated as of December 31, 2018 to lease liabilities pursuant to IFRS 16, which have been accounted for on January 1, 2019 for the first time, mainly results from a differing incremental borrowing rate of the lessor, from extended lease agreements as well as current leases and leases of low-value assets recorded as expense on a straight-line basis.

The effect of IFRS 16 on the consolidated statement of comprehensive income is as follows:

	2019 kEUR	2018 kEUR
Depreciation of right-of-use assets	2,536	0
Interest expense associated with unwinding of discount on lease liabilities	243	0
Total	**2,779**	**0**

In the financial year, expenses related to current leases, leases of low-value assets as well as software leases are included in cost of sales at the amount of EUR 553k, in selling costs at the amount of EUR 299k and in general administrative costs at the amount of EUR 48k.

4.15 Financial instruments

The following table shows the carrying amounts and fair values of the financial assets and financial liabilities reported in the consolidated financial statements, sorted by class and measurement category in accordance with IFRS 9.

	Measurement category of IFRS 9[1]	December 31, 2019 Carrying amount kEUR	Fair value kEUR
Financial assets			
Trade receivables	AC	52,740	52,740
Separated termination rights	FVtPL	25,139	25,139
Cash and cash equivalents	AC	64,380	64,380
Forward exchange transactions	FVtPL	717	717
Other financial assets	AC	2,461	2,461
Total		**145,437**	**145,437**
Financial liabilities			
Liabilities to banks	AC	1,002,006	1,027,167
Liabilities to affiliates	AC	311,503	314,158
Bond liabilities	AC	423,733	448,597
Trade payables	AC	30,277	30,277
Separated interest rate floors	FVtPL	15,272	15,272
Interest rate cap	FVtPL	5,650	5,650
Lease liabilities	AC	5,425	5,425
Other financial liabilities	AC	6,644	6,644
Total		**1,800,510**	**1,853,190**

[1] AC: measured at amortized cost using the effective interest method; FVtOCI: measured at fair value through other comprehensive income; FVtPL: measured at fair value through profit or loss

	December 31, 2018		
	Measurement category of IFRS 9[1]	Carrying amount kEUR	Fair value kEUR
Financial assets			
Cash and cash equivalents	AC	21,058	21,058
Trade receivables	AC	57,880	57,880
Other financial assets	AC	2,446	2,446
Interest rate cap	FVtPL	26	26
Separated termination rights	FVtPL	20,988	20,988
Total		**102,398**	**102,398**
Financial liabilities			
Bond liabilities [2]	AC	419,884	410,748
Liabilities to banks	AC	1,048,961	1,077,822
Trade payables	AC	34,907	34,907
Finance lease liabilities	AC	1,256	1,256
Other financial liabilities	AC	6,209	6,209
Liabilities to affiliates[3]	AC	552,688	557.926
Separated interest rate floors	FVtPL	12,205	12,205
Interest rate cap	FVtPL	5,556	5,556
Total		**2,081,666**	**2,106,629**

[1] AC: measured at amortized cost using the effective interest method; FVtOCI: measured at fair value through other comprehensive income; FVtPL: measured at fair value through profit or loss
[2] The fair value was adjusted taking into account the associated derivative
[3] The fair value was adjusted taking into account the method used in the current year

If the fair value is not available in the form of a market price, it is calculated based on different valuation parameters. Depending on the availability of observable parameters and the significance of these parameters when calculating the fair value, the fair value is allocated to level 1, 2 or 3 of the fair value hierarchy. The allocation is based on the following factors:

- **Level 1:** Level 1 inputs are quoted (unadjusted) prices in markets for identical assets or liabilities that the entity can access at the measurement date
- **Level 2:** Level 2 inputs are inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly
- **Level 3:** Level 3 inputs are unobservable measurement parameters for the asset or liability.

The following table shows the fair value hierarchy for derivative financial instruments that are recognized at fair value in the consolidated financial statements:

	December 31, 2019		
	Level 1 kEUR	Level 2 kEUR	Level 3 kEUR
Financial assets			
Separated termination rights	0	25,139	0
Forward exchange transactions	0	717	0
Financial liabilities			
Separated interest rate floors	0	15,272	0
Interest rate cap	0	5,650	0

	December 31, 2018		
	Level 1 kEUR	Level 2 kEUR	Level 3 kEUR
Financial assets			
Separated termination rights	0	20,988	0
Interest rate cap	0	26	0
Financial liabilities			
Separated interest rate floors	0	12,205	0
Interest rate cap	0	5,556	0

The following table shows the fair value hierarchy for the financial instruments that are not recognized at fair value in the consolidated financial statements; however, their fair value is provided in the notes to the financial statements. The Group does not disclose the fair values of financial instruments when their carrying amounts are a reasonable approximation of the fair values, such as current trade receivables and payables.

	December 31, 2019		
	Level 1	Level 2	Level 3
	kEUR	kEUR	kEUR
Financial liabilities			
Bond liabilities	0	448,597	0
Liabilities to banks	0	1,027,167	0
Liabilities to affiliates	0	0	314,158
Lease liabilities	0	5,425	0

	December 31, 2018		
	Level 1	Level 2	Level 3
	kEUR	kEUR	kEUR
Financial liabilities			
Bond liabilities[1]	0	410,748	0
Liabilities to banks	0	1,077,822	0
Liabilities to affiliates	0	0	557,926
Finance lease liabilities	0	1,256	0

[1] In the previous year's financial statements, the bond liabilities were reported under level 1

The fair value of the bond corresponds to the nominal value multiplied by the market value as of the reporting date, plus the separated termination right. Accordingly, the fair value measurement is allocated to level 1 in the fair value hierarchy.

Liabilities to banks are subject to interest based on the interest rates observable on the market, such as EURIBOR or LIBOR, on the basis of which the fair value is calculated. Accordingly, these are allocated to level 2 of the fair value hierarchy.

The fair values of the separated derivatives are measured using the Black-Scholes/Hull-White valuation model, which considers both the observable yield curves and the fluctuation intensity (volatility) of the currencies concerned. All key input parameters were directly or indirectly derived from observable market data. The fair value measurement is therefore allocated to level 2 in the fair value hierarchy.

The fair value of the interest rate cap is measured using the Black-Scholes/Hull-White valuation model, which considers both the observable yield curves and the fluctuation intensity (volatility) of the currencies concerned. All key input parameters were directly or indirectly derived from observable market data. The fair value measurement is therefore allocated to level 2 in the fair value hierarchy.

The fair value of all other financial instruments is calculated using a discounted cash flow method as well as by taking into account measurement parameters that are observable for the assets and liabilities, either directly or indirectly, at the market. Accordingly, these financial instruments were allocated to level 2 in the fair value hierarchy.

For assets and liabilities that are recognized at fair value on a recurring basis, the CeramTec TopCo Group assesses whether a transfer between the levels of the fair value hierarchy took place as of the end of each reporting period (based on the lowest level that is significant to fair value measurement as a whole). There were no transfers between level 1 and 2 during the reporting period.

Net gains and losses as well as total interest income and expenses

The following table presents the net gains and losses from financial assets and liabilities in accordance with IFRS 9:

	December 31, 2019			
	Change in fair value	Currency translation	Impairment loss	Total
	kEUR	kEUR	kEUR	kEUR
Financial assets				
Trade receivables	0	-504	-516	-1,020
Cash and cash equivalents	0	-163	0	-163
Separated termination rights - FVtPL	4,151	0	0	4,151
	4,151	-667	-516	2,967
Financial liabilities				
Interest rate floors - FVtPL	-5,425	0	0	-5,425
Financial liabilities at amortized cost	0	0	0	0
Financial liabilities to affiliates	0	0	0	0
	-5,425	0	0	-5,425
Total	**-1,274**	**-667**	**-516**	**-2,458**

	December 31, 2018			
	Change in fair value	Currency translation	Impairment loss	Total
	kEUR	kEUR	kEUR	kEUR
Financial assets				
Trade receivables	0	-344	-61	-405
Cash and cash equivalents	0	281	0	281
Separated termination rights - FVtPL	-13,032	0	0	-13,032
	-13,032	-63	-61	-13,156
Financial liabilities				
Interest rate floors – FVtPL[1]	-8,996	0	0	-8,996
Financial liabilities at amortized cost	0	-6,689	0	-6,689
Financial liabilities to affiliates	0	-2,018	0	-2,018
	-8,996	-8,707	0	-17,703
Total	**-22,028**	**-8,770**	**-61**	**-30,859**

1 Amount was adjusted according to the presentation in the current year

Net gains from the changes in the fair value of embedded derivatives are primarily due to changes in market interest rates.

The following table shows the total interest income and expenses from financial assets and liabilities that are measured at amortized cost using the effective interest method.

	2019	2018
Total interest expense	96,277	90,209
Total interest income	1,582	1,626

No finance fees, which are not part of the effective interest method, were recognized in profit or loss during the reporting period (prior year: EUR 1,938k).

Derivative financial instruments

The following table shows the fair value and nominal value of derivative financial instruments as of December 31, 2019:

	December 31, 2019 Nominal value kEUR	December 31, 2019 Fair value kEUR
Derivatives with a positive fair value		
Separated termination rights	406,000	25,139
Forward exchange transactions	20,075	717
Derivatives with a negative fair value		
Separated interest rate floors	894,000	-15,272
Interest rate cap	1,013,763	-5,650
Total	**2,333,838**	**4,934**

	December 31, 2018 Nominal value kEUR	December 31, 2018 Fair value kEUR
Derivatives with a positive fair value		
Separated termination rights	401,000	20,988
Derivatives with a negative fair value		
Separated interest rate floors	938,000	-12,205
Interest rate cap	1,010,507	-5,530
Total	**2,349,507**	**3,253**

Embedded derivatives

As described in note 4.12, the CeramTec TopCo Group took out a syndicated loan with one EUR and two USD tranches with a syndicate of banks in March 2018. These loans include embedded interest rate floors, which oblige the CeramTec TopCo Group to pay a minimum interest rate that exceeds the variable interest rate. Furthermore, the bond issued in December 2017 contains various agreements that entitle the CeramTec TopCo Group to prematurely repay the bond. Both the interest rate floors and termination rights were separated from the host contract in accordance with the provisions of IFRS 9 and subsequently recognized as stand-alone derivatives at fair value through profit or loss.

5 Notes to the Consolidated Statement of Cash Flows

In the consolidated statement of cash flows, cash flow from operating activities is determined using the indirect method, while cash flow from investing and financing activities is determined using the direct method. The cash and cash equivalents presented in the statement of cash flows correspond to the item of the statement of financial position and comprise cash in hand, bank balances and cash investments with an original term of up to three months. The bank balances are not subject to drawing restrictions.

On May 31, 2019 and August 29, 2019, voluntary repayments were made in relation to the syndicated loan of EUR 44,000k (prior year: EUR 32,000k) to the EUR tranche and EUR 9,872k (prior year: EUR 13,253k) to two USD tranches.

In the prior year, the cash flow from investing activities included the purchase price payment (excluding cash) of EUR 2,478,949k for the acquisition of the shares in the former parent company of the Group, CeramTec Holding, effective as of March 8, 2018. Cash of EUR 11,881k was taken over.

Other non-cash income and expenses primarily contain changes in the fair value of financial instruments and accrued interest.

During the financial year, the Group made cash payments for investments in property, plant and equipment in the amount of EUR 4,523k which have already been added to property, plant and equipment in the previous period. At the same time, additions to property, plant and equipment in the financial year amounted to EUR 6,712k that will affect cash only during the following accounting period.

In the financial year, liabilities arising from financing activities developed as follows:

	Liabilities to banks	Liabilities from the bond	Liabilities from share-holder loan	Derivative financial instruments	Lease liabilities	Total
	kEUR	kEUR	kEUR	kEUR	kEUR	kEUR
Balance as of December 31, 2018	1,048,961	419,884	552,688	17,760	1,256	2,040,550
Change in cash flow from financing activities						
Cash receipts	0	5,163	0	0	0	5,163
Cash payments	-53,872	0	0	0	-2,676	-56,548
Interest payments	-30,833	-21,315	0	-2,417	0	-54,565
	-84,705	**-16,152**	**0**	**-2,417**	**-2,676**	**-105,950**
Interest expenses	36,592	19,682	38,769	0	243	95,285
Currency translation effect	1,158	0	0	-76	-10	1,072
Fair value changes	0	0	0	5,680	1,765	7,445
Additions from first-time IFRS 16 accounting	0	0	0	0	4,848	4,848
Conversion into equity	0	0	-279,954	0	0	-279,954
Other changes	0	319	0	-25	0	294
	37,750	**20,001**	**-241,185**	**5,579**	**6,846**	**-171,009**
Balance as of December 31, 2019	**1,002,006**	**423,733**	**311,503**	**20,922**	**5,426**	**1,763,590**

In the prior year, liabilities arising from financing activities developed as follows:

	Liabilities to banks	Liabilities from the bond	Liabilities from share-holder loan	Derivative financial instruments	Lliabilities from finance leases	Total
	kEUR	kEUR	kEUR	kEUR	kEUR	kEUR
Balance as of January 1, 2018	0	420,811	0	0	0	420,811
Change in cash flow from financing activities						
Cash receipts	1,039,480	392,430	523,798	0	0	1,955,708
Cash payments	0	-4,814	0	0	0	-4,814
Interest payments	-30,321	-14,269	-3,080	0	0	-47,670
	1,009,159	**373,347**	**520,718**	**0**	**0**	**1,903,224**
Interest expenses	39,961	20,259	31,970	199	76	92,466
Currency translation effect	1,334	0	0	0	-12	1,322
Fair value changes	0	0	0	18,571	0	18,571
Addition due to business acquisition	0	0	0	0	1,299	1,299
Derecognition Other current financial assets	0	-406,000	0	0	0	-406,000
Other changes	-1,493	11,468	0	-1,010	-107	8,859
	39,802	**-374,273**	**31,970**	**17,760**	**1,256**	**-283,485**
Balance as of December 31, 2018	**1,048,960**	**419,885**	**552,689**	**17,760**	**1,256**	**2,040,550**

Interest expenses relating to liabilities from the bond include income of EUR 1,380k associated with discounting of financial liabilities that arose because the effective interest method was applied.

6 Other Notes

6.1 Management of financial risks

The CeramTec TopCo Group is exposed to credit risks and various market risks. Credit risks are mainly due to receivables from customers. Market risks are primarily attributable to the risk of changes in variable interest rates and exchange rate risks. Furthermore, the CeramTec TopCo Group is exposed to liquidity risks, which mainly result from the EUR and USD loans taken out in EUR as well as the bond also issued in EUR.

The CeramTec TopCo Group operates on the basis of an appropriate framework to manage financial risks, which is an integral part of ongoing business operations and ongoing financing activities. Taking these risk management objectives into consideration, risks are identified, assessed and managed on an ongoing basis. In some cases, the CeramTec TopCo Group enters into derivative financial instruments to hedge certain financial risks. By contrast, it is not permitted to enter into derivative financial instruments for speculative purposes.

Market risks

Market risk is the risk that the fair value of future cash flows from financial instruments will fluctuate as a result of changes in market prices. Market risk particularly comprises risks arising from exchange rate and interest rate fluctuations and other price risks, such as share price risks and commodity price risks.

Foreign currency risk

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. In connection with the loans in USD, the CeramTec TopCo Group is exposed in particular to foreign currency risks arising from changes in the USD/EUR exchange rate.

The following sensitivity analysis in terms of the foreign currency risk was prepared based on the assumption that the portion of financial instruments in foreign currency will remain constant. The table shows the effects on net profit/loss for the period and group equity taking into account a hypothetical change of +/- 10% to the closing rate and forward rate as of the reporting date for the CeramTec TopCo group companies' main foreign currency items.

	December 31, 2019						
	Change in the spot rate %	USD	GBP	CZK	PLN	CNY	**Total**
Effect on net profit/ loss before tax in kEUR	+10%	9,878	-54	59	-96	-677	**9,110**
	-10%	-12,073	66	-72	117	828	**-11,134**

Forward exchange transactions have been concluded for a period until 2020 to cover the monthly demand of local national currencies of two subsidiaries:

	December 31, 2019	
	Total kEUR	Remaining term of up to 1 year kEUR
Nominal value	20,075	20,075
Fair value	717	717
Average exchange rate		
GBP / EUR	0,8583	
USD / GBP	1,3185	
CZK / EUR	25,7398	

Interest rate risk

Interest rate risk is the risk that the fair value of fixed-interest rate financial instruments or the future cash flows of variable-interest rate financial instruments will fluctuate because of changes in market interest rates.

The variable-interest rate loans in USD and EUR expose the CeramTec TopCo Group in particular to a cash flow risk arising from the change in the EURIBOR and LIBOR interest rates. By comparison, changes in variable interest rates relating to the fixed-interest rate bond may lead to a change in fair value. However, this risk does not impact the net profit/loss for the period or group equity, as the bond is carried at amortized cost and changes in fair value are not recognized.

CeramTec TopCo group companies entered into agreements governing interest rate caps in the amount of EUR 873,000k linked to 3-month EURIBOR respectively USD 120,000k linked to 3-month LIBOR. Effective as of May 31, 2019, the USD cap was reduced to USD 120,000k, analogous to the loan repayments made, to avoid potential over-collateralization. The interest rate caps limit the maximum variable interest rates to 0.75% respectively 2.75%.

The following table shows the effects on the financial result assuming a hypothetical change of +/- 100 basis points to the variable USD and EUR interest rates.

	December 31, 2019			
	Increase/ decrease in basis points	Effect on loan interest rates	Effect on derivatives	Total effect on interest expense
		kEUR	kEUR	kEUR
EURO	+100	9,039	-20,390	-11,351
	-100	-9,039	44,635	35,595
US Dollar	+100	1,346	-616	730
	-100	-1,346	40	-1,307

If the interest rate increases, the increase in the loan interest rate will be overcompensated mainly due to lower valuation of the negative derivative from the interest rate floor.

Collateral

CeramTec AcquiCo, CeramTec BidCo LLC (in the following "US BidCo") and CeramTec GmbH are borrowers of the syndicated loan. In connection with the syndicated loan, certain assets of CeramTec BondCo, CeramTec AcquiCo, CeramTec Holding, CeramTec Group, CeramTec GmbH, US BidCo, CeramTec Acquisition LLC and CeramTec North America LLC (in the following "CeramTec NA") were provided as collateral. In the USA, (i) the shares in US BidCo, CeramTec Acqusition LLC and in CeramTec NA, (ii) all additional assets of US BidCo, CeramTec Acquisition LLC and CeramTec NA (including receivables, intellectual property and bank accounts) and (iii) CeramTec GmbH's intellectual property registered in the USA, were provided as collateral. In Germany, (i) the shares in CeramTec AcquiCo, CeramTec Holding, CeramTec Group and CeramTec GmbH, (ii) receivables of CeramTec BondCo (intercompany receivables only), CeramTec AcquiCo (intercompany receivables and receivables relating to acquisition agreements only), CeramTec Holding (insurance, intercompany and hedging receivables), CeramTec Group (insurance, intercompany and hedging receivables) and CeramTec GmbH (insurance, intercompany, hedging and trade receivables), (iii) bank accounts of CeramTec BondCo, CeramTec AcquiCo, CeramTec Holding, CeramTec Group and CeramTec GmbH and (iv) the intellectual property of CeramTec GmbH, were provided as collateral for the syndicated loan, or encumbered.

Financial assets covered by this collateral in accordance with IFRS 9 (see note 4.15) are stated on the balance sheet as of December 31, 2019 at an amount of EUR 93,627k (December 31, 2018: EUR 52,715k).

Risk from compliance with financial covenants

Compliance with financial covenants was agreed to in connection with obtaining the syndicated loan. Accordingly, the CeramTec TopCo Group must comply with a covenant provided that the revolving credit line of EUR 75,000k is utilized to an extent as specified in the loan agreement. As the amount drawn down in the financial year remained below the threshold specified, the Company was not required to review compliance with this financial covenant. In addition, an analysis must be undertaken by the end of the financial year to determine whether the volume of the collateral used to secure the syndicated loan does not fall below a certain threshold. If so, additional collateral would have to be provided. At the end of the current financial year, the collateral value did not fall below the threshold. The management expects that the Company will continue to comply with the financial covenants in the following financial year.

Liquidity risk

Liquidity risk is the risk that the CeramTec TopCo group companies will not be able to fulfill their financial obligations when they fall due. The objective of the management of the CeramTec TopCo Group is to minimize the liquidity risk as far as possible by ensuring sufficient financing and credit lines from banks. In light of this, the CeramTec TopCo group companies had an undrawn and confirmed credit line of EUR 75,000k as of the reporting date. Furthermore, the CeramTec group companies had cash and cash equivalents of EUR 64,380k.

The table below shows the contractually agreed undiscounted cash flows for the financial liabilities and derivative financial instruments existing as of the reporting date. The following cash flows were taken into account:

- Undiscounted, contractually agreed interest and principal payments from the loans in USD and EUR, including payments that are attributable to the separated interest rate floor. Cash flows in USD were translated into EUR based on the USD/EUR forward rate applicable as of the reporting date. Premature, voluntary special payments or repayments have not been taken into account.
- Undiscounted, contractually agreed interest and principal payments for the bond. Premature, voluntary special payments or repayments have not been taken into account.
- Undiscounted, contractually agreed payments for the interest rate cap.

	December 31, 2019						
	Carrying amount kEUR	2020 kEUR	2021 kEUR	2022 kEUR	2023 kEUR	2024 kEUR	>2024 kEUR
Trade payables	30,277	30,277	0	0	0	0	0
Liabilities to banks	1,002,007	29,073	28,423	28,406	28,329	28,352	1,034,760
Bond liabilities	423,734	21,315	21,315	21,315	21,315	21,315	434,420
Liabilities to affiliates	311,503	56,799	0	0	0	0	484,989
Lease liabilities	5,425	1,883	1,197	648	516	397	1,301
Other financial liabilities	6,644	6,644	0	0	0	0	0
Derivatives with a negative fair value							
Interest rate cap	5,650	2,460	2,460	1,230	0	0	0

	December 31, 2018						
	Carrying amount kEUR	2019 kEUR	2020 kEUR	2021 kEUR	2022 kEUR	2023 kEUR	>2023 kEUR
Trade payables	34,907	34,907	0	0	0	0	0
Liabilities to banks	1,048,961	37,361	33,810	33,553	33,370	33,633	1,101,905
Bond liabilities	419,885	21,315	21,315	21,315	21,315	21,315	458,499
Liabilities to affiliates	552,688	0	0	0	0	0	1,125,273
Finance lease liabilities	1,256	61	57	61	65	70	946
Other financial liabilities	6,209	6,209	0	0	0	0	0
Derivatives with a negative fair value							
Interest rate cap	5,556	1,587	1,587	1,587	795	0	0

Default risk

Credit risk is the risk that a counterparty will not meet its obligations under financial instruments, leading to a financial loss on the part of the creditor. At the CeramTec TopCo Group, the credit risk is primarily associated with trade receivables, cash and cash equivalents and other receivables.

Trade receivables exist in respect of numerous customers in various sectors and regions. Default risks related to customer receivables are locally monitored, assessed and limited by using credit insurance. After taking credit insurance into account, the maximum default risk on trade receivables amounts to 48% of the carrying amount.

Cash and cash equivalents mainly comprise bank balances and cash in hand. In connection with the investment of cash and cash equivalents, the CeramTec TopCo group companies are exposed to losses from credit risks if counterparties do not meet their obligations. The resulting risk position is managed by diversifying the counterparties. For example, cash is only invested at banks with excellent credit ratings. There is no cash past due or impaired as of the reporting date. The maximum default risk for cash and cash equivalents corresponds to the carrying amount.

The CeramTec TopCo Group considers this default risk to be immaterial as of the reporting date.

The termination option separated from the bond and recognized as other financial asset is not exposed to any credit risk as of the reporting date, because the positive market value is based solely on a potential premature repayment of the bond and an associated more favorable opportunity to refinance for the CeramTec TopCo Group, without giving rise to any actual cash receivable from the banks.

Trade receivables

A loss allowance of EUR 760k was recognized for lifetime expected credit losses on trade receivables (in accordance with the simplified approach set out in IFRS 9). The net receivables portfolio amounts to EUR 52,740k after deducting this loss allowance from the gross receivables portfolio of EUR 53,500k. The gross receivables portfolio of receivables that are more than 30 days past due amounts to EUR 2,250k. The net receivables portfolio amounts to EUR 1,490k (level 3) after deducting the loss allowance of EUR 760k.

The loss allowance the Group is required to recognize is not determined based on external credit ratings. The expected credit losses are estimated by reference to factors that are specific to a debtor and information about the debtor's financial position. In addition, past default experience of the debtor is also taken into account in the assessment. It is allocated to level 3 of IFRS 9.

Non-payment risks are not expected to be associated with all other financial assets, including separated termination rights or the amount retained by a factor as a security for any bad debts that may arise.

Capital management

The objective of capital management in the consolidated group is securing liquidity to make investments that increase the value of the organization. Therefore, the focus is on optimizing cash flows from operating activities as well as repaying liabilities on schedule. Equity recognized on the balance sheet amounts to EUR 338,468k (December 31, 2018: EUR 405,613k). Liabilities of kEUR 2,256,793k (December 31, 2018: EUR 2,542,969k) were recognized as of the reporting date. The equity ratio stands at 13.0% (prior year: 13.8%).

6.2 Contingent liabilities

The entities within the consolidated group are involved as parties in a number of lawsuits. These proceedings are linked to ordinary business activities and mainly relate to commercial, product liability and environmental processes. The group companies form provisions for such obligations if a liability is probable to arise and the amount of the potential claim can be sufficiently estimated. Where the possibility of an outflow in settlement is not unlikely, such obligations are disclosed in the notes to the financial statements.

6.3 Related party disclosures

Key management personnel

Key management personnel are those persons having direct or indirect authority and responsibility for the planning, management and monitoring of the activities of the CeramTec TopCo Group. In the financial year, the key management personnel of CeramTec TopCo Group consisted of the following persons:

Dr. Hadi Saleh
Chief Executive Officer

Richard Boulter
President Industrial

Eric Oellerer
Chief Financial Officer

Dr. Hadi Saleh is the sole general manager of CeramTec TopCo GmbH.

The members of management received total remuneration (fixed and variable amounts) in the form of short-term employee benefits amounting to EUR 2,409k in the financial year (prior year: EUR 6,303k). The payments for post-employment benefits amount to EUR 373k (prior year: EUR 146k). This amount comprises the service cost for pension obligations and contributions to defined contribution plans. In the financial year, there were no benefits granted to former general managers in the event of premature termination of management activities (prior year: EUR 180k). Additionally, there are pension obligations to general managers in the amount of EUR 1,405k (prior year: EUR 584k) as well as EUR 4,076k (prior year: EUR 3,533k) to former managers.

As part of a participation program, selected employees of the CeramTec TopCo Group were offered the option to directly acquire shares in CeramTec Management Beteiligungs GmbH & Co. KG and CeramTec Co-Investment GmbH & Co. KG. On the balance sheet date, selected employees continue to hold a total of less than 10% of the shares in CeramTec TopCo GmbH indirectly. These shares were acquired at the shares' fair value at the grant date. The management participation program aims at serving as an incentive instrument, motivating the management in view of growth and long-term business success of the CeramTec Group. For this purpose, the agreements define exit events (disposal, stock market flotation), on occurrence of which the entitled management will participate in any growth in value of the CeramTec Group in the same relation as the investors. In this case, depending on the respective exit event, the management has the right or the duty to sell their own shares. In the case that the employment contract of an employee who holds shares in the Company is terminated prior to the occurrence of an exit event, this employee is obliged to offer his shares in CeramTec Management Beteiligungs GmbH & Co. KG for purchase to the Lead B.C. Investor or to a third party determined by the Lead B.C. Investor. The amount of the purchase price for the management's interest varies between the fair market value of the shares and the contribution made, depending on reason and time of withdrawal. In accordance with IFRS 2, the granting of shares from the Participation and Shareholders' Agreements is treated as settled by equity instruments. As, under the purchase, the managers pay the fair value of the shares, the fair value of the allocated shares, when compensated by equity instruments, is zero. For this reason – provided that the assessment in respect of the occurrence of a payment obligation does not change – an expense does not need to be disclosed at any time (neither in the case of an exit nor upon withdrawal of a manager).

Information about the remuneration of the management of CT TopCo according to Section 314 (1) No. 6 HGB is not provided.

CeramTec GmbH has a supervisory board in accordance with the articles of incorporation.

The total remuneration of the supervisory board in the financial year 2019 amounted to EUR 162k (prior year: EUR 139k).

Transactions with related parties

Entities and natural persons are deemed to be related parties when they exercise control over the reporting company or over its subsidiaries or when they have a significant influence on the reporting company's financial and business policy. A loan of EUR 311,503k (December 31, 2018: EUR 552,688k), including interest, with a fixed interest rate of 7.3% p.a. has been obtained from CeramTec TopCo's controlling shareholder, CTEC Acquisition S.à.r.l., Luxembourg. Interest expenses of EUR 38,768k were incurred in the financial year 2019. Unpaid interest is generally added annually to the Company's loan balance on December 31, for the first time probably on December 31, 2020.

In the financial year, costs were incurred for CTEC Invest S.à r.l., Luxembourg, the parent company of the shareholder, CTEC Acquisition S.à.r.l., Luxembourg. This gave rise to an account receivable from affiliates of EUR 20k as of December 31, 2019.

6.4 Auditor's fees

The total auditor's fees for the CeramTec TopCo Group, recognized in profit or loss in the consolidated statement of comprehensive income, break down as follows:

	December 31, 2019 kEUR	December 31, 2018 kEUR
Auditing services	425	626
Other affirmation services	0	54
Other services	12	50
	437	**730**

6.5 Events after the reporting period

In January 2020, an amount of EUR 56,799k of the shareholder loan was paid to the shareholder, CTEC Acquisition S.à.r.l., Luxembourg, consisting of a nominal amount of EUR 19,599k and interest payable which has been accrued until the date of payment of EUR 37,200k.

The economic impact of coronavirus is currently difficult to assess. We currently assume that the earnings situation (EBITDA) in 2020 will be significantly negatively affected. Based on the measures introduced for operational and strategic realignment, we do not expect any need for write-downs in 2020 based on current information. With regard to the financial position in 2020, cash flow from operating activities is likely to be significantly below the previous year's level, but should remain clearly positive.

At the end of March 2020, the existing revolving credit line with an amount of EUR 67,000k was drawn down for an initial period of 6 months to secure liquidity, which is currently still largely available for future payments. Furthermore, an additional credit line of EUR 8,000k is available, which can be drawn on daily if required.

7 Reconciliation to CeramTec BondCo GmbH

If the consolidated statement of comprehensive income of CeramTec BondCo had been prepared instead of the consolidated statement of comprehensive income of CeramTec TopCo, which is presented in these financial statements, this would have resulted in the following adjustments for the financial year:

- Lower general administrative expenses of EUR 16k (prior year: EUR 362k)
- Lower sundry other expenses of EUR 7k (prior year: EUR 2k)

The total comprehensive income of CeramTec BondCo would therefore have been EUR 23k higher compared to the total comprehensive income recognized in these financial statements (prior year: EUR 364k).

If the consolidated statement of financial position of CeramTec BondCo had been prepared instead of the consolidated statement of financial position of CeramTec TopCo, which is presented in these financial statements, this would have resulted in the following adjustments as of December 31, 2019:

- Higher receivables from affiliates of EUR 261k (December 31, 2018: EUR 187k)
- Lower liquid funds of EUR 10k (December 31, 2018: EUR 9k)
- Lower capital reserve of EUR 25k (December 31, 2018: EUR 25k)
- Lower financial liabilities to third parties of EUR 114k (December 31, 2018: EUR 164k).
- This would have resulted in a EUR 365k higher level of group equity for CeramTec BondCo compared to the group equity recognized in these financial statements (December 31, 2018: EUR 342k).

There would have been no impact on the consolidated statement of cash flows if the consolidated statement of cash flows of CeramTec BondCo had been prepared instead of the consolidated statement of cash flows presented in these financial statements.

Plochingen, April 9, 2020

CeramTec TopCo GmbH

The Management

Dr. Hadi Saleh

The following auditor's report (Bestätigungsvermerk) has been issued in accordance with § 322 German Commercial Code (Handelsgesetzbuch) in German language on the German version of the consolidated statements of CeramTec TopCo GmbH, Plochingen, as of and for the financial year from January 1 to December 31, 2019.

INDEPENDENT AUDITOR'S REPORT

To CeramTec TopCo GmbH, Plochingen

Audit Opinions

We have audited the consolidated financial statements of CeramTec TopCo GmbH, Plochingen, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at December 31, 2019, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from January 1 to December 31, 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of CeramTec TopCo GmbH for the financial year from January 1 to December 31, 2019.

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

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at December 31, 2019, and of its financial performance for the financial year from January 1 to December 31, 2019, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

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

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

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

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

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

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

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

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

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Stuttgart, April 14, 2020

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

(sgd. Marcus Nickel) Wirtschaftsprüfer (German Public Auditor)	(sgd. ppa. Jürgen Steidel) Wirtschaftsprüfer (German Public Auditor)