2019 ANNUAL REPORT

CeramTec
THE CERAMIC EXPERTS

KEY FIGURES

	2019	2018	2017
Total Revenue	**620.4** €	**600.2** €	**556.3** €
Revenue Medical Products	258.7 €	226.5 €	201.2 €
Revenue Industrial	361.7 €	373.7 €	355.2 €
EBITDA	**222.7** €	**183.4** €	**200.8** €
Management Adjusted EBITDA	244.3 €	226.3 €	206.7 €
Management Adjusted EBITDA margin (%)	39.4 %	37.7 %	37.2 %
Capital Expenditures (net)	43.6 €	33.3 €	27.5 €
Cash Conversion Ratio [1] (%)	82.2 %	85.3 %	86.7 %
Employees	3,525	3,589	3,537
Net Debt	**1,379.5** €	**1,468.6** €	**870.1** €
Leverage [2]	**5.6 x**	**6.5 x**	**4.2 x**

[1] Management Adjusted EBITDA minus Capital Expenditures (net), divided by Management Adjusted EBITDA

[2] Defined as Net Debt divided by Management Adjusted EBITDA

CeramTec is a leading global developer, manufacturer, and supplier of advanced ceramic products.

Our ceramic products are made from highly specialized materials and are characterized by their superior mechanical, electrical, thermal and biochemical properties.

Our operations are divided into two businesses: Medical Products and Industrial.

The Medical Products business focuses on BIOLOX® ceramic components for medical implants. Due to their biocompatibility, high wear resistance, manufacturing precision and quality, BIOLOX®-based implants have a positive effect on patients' lives and create real added value for healthcare systems.

The Industrial business develops and supplies a broad range of highly specialized, performance-critical components for a myriad of applications in the Automotive, Aeronautics/Defence, Machinery, Electronics, Medical equipment, Chemical and other industries.

Our success is based on market leadership in ceramic hip components and highly specialized industrial niches, our sustained technological edge underpinned by continuous advancements, long-standing customer relationships and our global commercial, operational and technical expertise.

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OWNERSHIP

BC Partners is a leading international private equity firm. Established in 1986, BC Partners has played an active role in developing the European buy-out market for over three decades. BC Partners executives operate as an integrated team through the firm's offices in Europe and North America, acquiring and developing businesses to create value in partnership with management. For more information, visit https://www.bcpartners.com

The Public Sector Pension Investment Board (PSP Investments) is one of Canada's largest pension investment managers. It manages a diversified global portfolio composed of investments in public financial markets, private equity, real estate, infrastructure, natural resources and private debt. Established in 1999, PSP Investments manages net contributions to the pension funds of the federal Public Service, the Canadian Forces, the Royal Canadian Mounted Police and the Reserve Force. Headquartered in Ottawa, PSP Investments has its principal business office in Montréal and offices in New York, London and Hong Kong. For more information, visit https://www.investpsp.com

The Ontario Teachers' Pension Plan (Ontario Teachers') is Canada's largest single-profession pension plan. It holds a diverse global portfolio of assets. Ontario Teachers' is an independent organization headquartered in Toronto. Its Asia-Pacific region office is located in Hong Kong and its Europe, Middle East & Africa region office is in London. The defined-benefit plan, which is fully funded, invests and administers the pensions of the province of Ontario's active and retired teachers. For more information, visit https://www.otpp.com

The Management Board*

Dr. Hadi Saleh
Chief Executive Officer

Richard Boulter
President Industrial

Eric Oellerer
Chief Financial Officer

The Supervisory Board**

Dr. Günter von Au
Chairman of the Supervisory Board

Roland Nosko (1)
District Manager of the Industrial Union for Mining, Chemicals and Energy (IG BCE), Nuremberg

Moritz Elfers
Principal at BC Partners in Hamburg

Jürgen Haas
Vice-Chairman of the CeramTec Works Council in Lauf and Chairman of the CeramTec Central Works Council

Gerd Hammerl
Vice Chairman IG BCE Bavaria

Thomas Heise
Global Sales Director Electronic Devices

Prof. Dr. Jürgen Huber
Honorary Professor at the TU Braunschweig and consultant

Dr. Michael Mertin (2)
Management Consultant

Axel Meyersiek
Partner at BC Partners in Hamburg

Falco Pichler
Managing Director at BC Partners in Hamburg

Alexander Schätz
Chairman of the CeramTec Works Council in Lauf

Monika Träger
Chairwoman of the Works Council at the CeramTec site in Marktredwitz

* Management Board of CeramTec BondCo GmbH
** Supervisory Board of CeramTec GmbH. Various members of the Supervisory Board hold further mandates in other Boards.

(1) Deputy Chairman of the Supervisory Board
(2) Until 31. December 2019

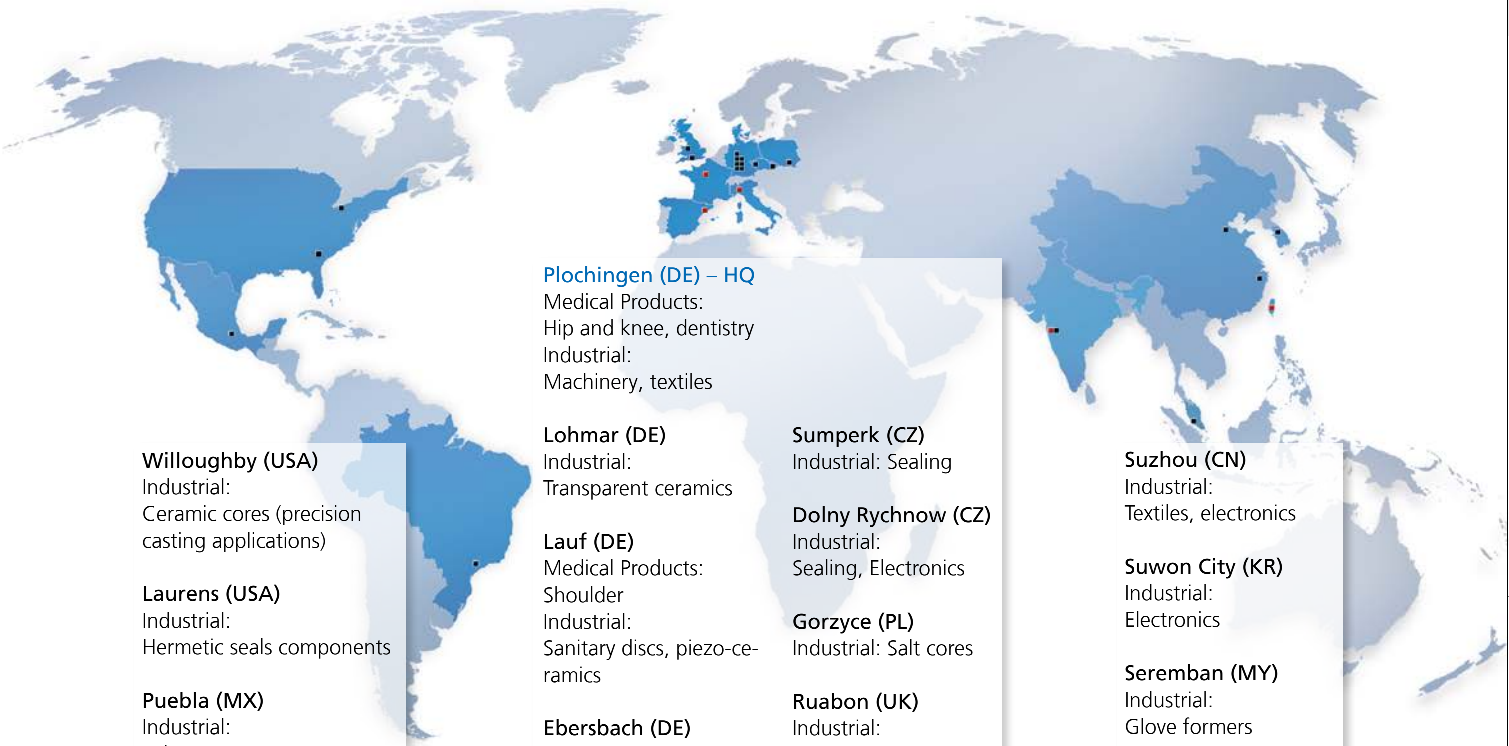
Growing Beyond Borders

CeramTec is one of the leading international technology providers with a global presence. We are expanding into emerging markets and Asia.

AMERICAS
USA, Brazil, Mexico

EUROPE
Germany, France, UK, Italy, Poland, Spain, Czech Republic

ASIA
China, Korea, Malaysia, India, Taiwan



Willoughby (USA)
Industrial:
Ceramic cores (precision casting applications)

Laurens (USA)
Industrial:
Hermetic seals components

Puebla (MX)
Industrial:
Salt cores

Nova Odessa (BR)
Industrial:
Salt cores

Plochingen (DE) – HQ
Medical Products:
Hip and knee, dentistry
Industrial:
Machinery, textiles

Lohmar (DE)
Industrial:
Transparent ceramics

Lauf (DE)
Medical Products:
Shoulder
Industrial:
Sanitary discs, piezo-ceramics

Ebersbach (DE)
Industrial:
Cutting materials and tools

Marktredwitz (DE)
Medical Products:
Hip and knee
Industrial:
Electronics, Chemical Products

Wilhermsdorf (DE)
Industrial: Salt cores

Wittlich (DE)
Industrial:
Faucet cartridges

Sumperk (CZ)
Industrial: Sealing

Dolny Rychnow (CZ)
Industrial:
Sealing, Electronics

Gorzyce (PL)
Industrial: Salt cores

Ruabon (UK)
Industrial:
Piezo-ceramics

Southhampton (UK)
Industrial:
Piezo-ceramics

Suzhou (CN)
Industrial:
Textiles, electronics

Suwon City (KR)
Industrial:
Electronics

Seremban (MY)
Industrial:
Glove formers

Patiala (IN)
Industrial:
Salt cores

- MANUFACTURING PLANTS
- SALES AND REPRESENTATIVE OFFICES

MANAGEMENT REPORT

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

As of 8 March 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. The transaction was announced in October 2017. On 22 February 2018, anti-trust authorities approved the takeover. As a result, CeramTec AcquiCo GmbH (in the following "CeramTec AcquiCo") acquired the shares in CeramTec Holding GmbH (in the following "CeramTec Holding"). CeramTec AcquiCo GmbH is a 100% subsidiary of CeramTec BondCo GmbH (in the following "CeramTec BondCo"), which is itself a 100% subsidiary of CeramTec TopCo. Based on the described acquisition CeramTec TopCo indirectly obtained control of the operating Advanced Ceramics Business as from the acquisition date 8 March 2018. CeramTec TopCo is the ultimate parent and prepares the interim condensed consolidated financial statements

The purpose of this Operational and Financial Review is to show the development of the financial results of the operating advanced ceramics business for the twelve-month period ended December 31, 2019 in comparison to the twelve months period ended December 31, 2018. The financial data as of and for the twelve months period ended December 31, 2019 have been derived from the interim condensed consolidated financial statements. The financial data for the twelve-month period ended December 31, 2018 were derived as a *pro forma* aggregation of two analysis periods for the two different ultimate parents, to enable a consistent view of the operating entities in the consolidated group: for the period 1 January 2018 to 28 February 2018 for the consolidated group of the former ultimate parent CeramTec Holding GmbH; for the period 1 March 2018 to 31 December 2018 for consolidated group of the current ultimate parent CeramTec TopCo. From a legal point of view the group consisted of the holding companies CeramTec TopCo, CeramTec BondCo and CeramTec AcquiCo without running an operating business in the period 1 January 2018 until acquisition date. Accordingly, prior-year figures in the interim condensed consolidated financial statements reflect operating business only for the period beginning with acquisition date.

The following discussion should be read in conjunction with the information contained in our interim condensed consolidated financial statements for the twelve-month period ended December 31, 2019 including the notes thereto. In the following, we discuss certain financial quantities on an adjusted basis, before giving effect to depreciation and amortization and certain extraordinary, non-recurring items

The figures in this review are presented in Euro. The amounts are in millions of Euros (EUR m). All amounts are rounded using standard commercial principles. In some cases, adding single values to the total values may therefore lead to differences. Due to rounding differences, figures in tables and cross-references may differ slightly from the actual figures (units of currency, percentages, etc.).

Business Overview

We are a leading global developer, manufacturer and supplier of high performance ceramics ("HPC") solutions for various end markets including medical, automotive, industrial, consumer and electronics. Our HPC solutions are made of advanced ceramics, which are highly specialized materials with superior biological/chemical, mechanical, thermal, electric, magnetic or optical properties compared to competing products made from metal or polymers/ plastics. We have been engaged in the HPC industry for over 100 years, with operational expertise and experience in creating innovative system solutions for longstanding customers at an industrial scale. We currently offer a wide range of HPC solutions including among others, hip joint prosthesis components, foils for actuators in engine valves for fuel injection systems, electronic substrates for chip resistors and electrical vehicles, high speed cutting tools and piezo components critical for many different sensors in for example medical equipment or the metering industry. The versatility of HPC products and resulting wide range of applications provides us with a highly diversified end market and customer base. Our operations can be divided into two businesses – Medical Products and Industrial.

Medical Products

Our Medical Products business focuses on developing and manufacturing ceramic components for hip joint prostheses, such as ball heads and cup inserts used in total hip replacement ("THR") procedures. In 2019, it generated 41.7% of our revenue.

Ceramic materials are replacing traditional materials for hip joint prosthetic components such as metal which can trigger negative physical reactions, for example due to allergic reactions resulting from metal sensitivity. Our HPC medical solutions are biologically inert and have high wear resistance and excellent friction behaviour, making them one of the few materials that are durable and stable enough to withstand the corrosive effects of bodily fluids. More than 18 million of our BIOLOX® ceramic components have been implanted in patients globally to date. We estimate that nearly one in two hip joint implant systems sold worldwide includes at least one ceramic component and we estimate our BIOLOX® products represent more than 95% of the ceramic components used for these hip joint implant systems. We believe that our BIOLOX® brand has come to symbolize high quality and innovation and is increasingly preferred by surgeons and other medical professionals. We believe that our HPC solutions will be increasingly used for various other joint replacements, such as knee, dental and shoulder implants in the future.

Industrial

Our Industrial business develops, manufactures and supplies a broad range of highly specialized, performance critical HPC solutions for customers spanning a wide range of industries including automotive, defence, electronics, industrial machinery and medical equipment. In 2019, 58.3% of our revenue was generated by our Industrial business.

Our dedicated teams of scientists and engineers collaborate closely with customers to develop tailor-made solutions and production processes to fulfil distinct functionality and performance requirements. We believe that we are one of the few advanced ceramics manufacturers with a full range of HPC materials and manufacturing processes with a global reach. Our HPC solutions are often used in performance-critical components. For example our piezo components are widely used in highly specialized sensors for medical equipment and in numerous metering devices and our material and process know-how allows us to develop tailor-made solutions to the specific requirements of our customers. Our cutting tools have a longer life and faster cutting speeds compared to non-HPC cutting tools, allowing our customers to save costs and reduce downtime. In automotive engineering, HPC products, including our piezo ceramic components, play a vital role in increasing safety, improving cost-effectiveness and enhancing comfort in vehicles for combustion as well electric vehicles. Our ceramic substrates are used for a variety of purposes in the electronics and telecommunications sector, including measurement and control technology and entertainment electronics. We believe that the specialized, mission-critical nature of our solutions, our long-standing customer relationships and our highly diversified portfolio of solutions and customer base, reduces the exposure of our Industrial business to any single industry or product.

Key Factors Affecting Results of Operations and Financial Condition

Hip Replacement Market Growth and Ceramic Hip Implant Components Penetration

Our total revenues and operating profit are significantly influenced by the development of the market for hip replacements in general and the penetration rate for ceramic hip implants. The ceramic components we manufacture include ball heads, cup inserts and option heads (used for revisions). To date, more than 18 million of our BIOLOX® ceramics components have been implanted in patients globally. In 2019, we sold 2 million BIOLOX® hip implant components.

The total size of the ball heads, inserts and option heads market addressed by CeramTec was approximately €745 million in 2016 (including metal and polyethylene). The total addressable market is expected to grow with the number of total hip replacement procedures, a key driver of demand for ceramic ball heads and inserts. Further, ceramic as a material is increasingly used in revisions and partial hip replacement. In developed markets such as Europe and the

United States, growth in the artificial hip joint market is primarily driven by an aging population as well as by an increase in obesity rates. Both age and obesity are significant contributors to hip joint problems. Additionally, there are indications that the younger population, those who are less than 65 years old, are electing to have primary hip replacements earlier in life so that they can maintain and enjoy an active lifestyle. Such younger patients are taking advantage of improvements in technology considered to lead to better wearability and increased life spans of hip implant prostheses.

Similarly, growth in artificial hip joints in emerging markets also stems from an aging population and, in some countries, increased obesity. However, in developing countries there are additional drivers for growth, such as the proliferation of osteoarthritis and osteonecrosis (reduced blood flow to bones), improved availability of medical care and prosthetic procedures coupled with increased household incomes and broader access to funded healthcare.

Our Position as Supplier of Choice for Ceramic Hip Implant Components

We have a strong market position in ceramic components for hip replacements. We estimate nearly one in two hip joint implant systems sold worldwide include at least one ceramic component and we estimate that our BIOLOX® products represent more than 95% of the ceramic components for these hip joint implant systems.

The top orthopaedic implant OEMs, together have a market share of more than 60% in the worldwide market for hip joint implant systems with growing demand from China. We maintain good and long-standing customer relationships to each of these OEMs as well as numerous other OEMs worldwide.

General Macroeconomic and Other Developments in our Key Geographical Target Markets

Our sales to our customers are mostly concentrated in Europe and specifically in Germany. However, although our customers are concentrated in Europe, many of them, especially medical and automotive customers, are export-oriented, global companies. Consequently, we view our business as globally diversified. We believe that our business is more exposed to North America, Asia and other regions than indicated by the split of revenues by geography. We estimate that the underlying demand outside Europe drives approximately 40% of our revenue.

While our Medical Products are not particularly affected by macroeconomic developments in our geographic markets, revenue in our Industrial business is influenced by economic growth in our target markets, particularly in Europe.

Demand Cycles in Various End Markets Supplied by our Industrial Business

In addition to the overall GDP growth rate influencing the results of operations of our Industrial business, each of our industrial markets is also influenced by separate and distinct factors and has a different economic cycle. In particular, the automotive, electronics, textile and other industrial end markets we serve are cyclical and subject to technological changes. Demand for our products is also significantly affected by the business success of our OEM customers as well as end users who purchase products from those OEM customers. For example, overall economic conditions can affect new car sales, impacting our automotive customers and thereby also influencing demand for our ceramic components in automobiles and engines.

By revenue, the automotive market is the largest single end market for our Industrial business, followed by the electronics market, textile, construction and various other industrial niche markets. 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 revenue. For example, effects of government regulation and subsidies on new car sales have materially affected the automobile sector in the past, specifically in Germany and other European countries. In addition, we have in the past been affected by political and fiscal decisions, for example by decisions of the Chinese government that had an impact on the textile industry in China.

Development of New Products, Materials and Processing Technologies

As a manufacturer of HPC products we believe that our continued emphasis on research and development is key to our future profitability and our reputation as a technology leader in HPC. To ensure the sustainability of our business, we continuously research and develop materials as well as manufacturing and coating processes for new products in established and in new markets. Our product development is mainly focused on delivering customer-driven innovations and next generation solutions. We invest in the development of new materials and processes, new medical solutions and selected product innovations in different industrial end markets. We believe that such growth investments are crucial to continued success in our target markets.

We have a strong, centralized R&D infrastructure. In 2019, our R&D expenses were €23.3 million, equal to 3.8% of revenue. Our innovations play a fundamental role in our ability to maintain and grow our global market share in the different markets in which we operate. Revenue from products that were either newly developed and introduced, materially modified existing products or products modified for sale to a new customer within five years before the relevant period represented approximately 25% to 30% of our total revenue in the last five years. We expect that modification, innovation and new product design will continue to be a key driver of our success.

Expansion through Acquisitions and Growth Investment

We have in the past year engaged in M&A activity to strategically grow our business. In April 2017, we acquired the UK electro-ceramics business from Morgan Advanced Materials plc, which produces integrated piezo components. In addition to growth through strategic acquisitions, we continue to invest in our infrastructure and machinery in order to maintain, improve and expand our production capabilities.

Cost Effectiveness through Simplification of Industrial Business and Business Excellence Initiatives

In order to improve our earnings and cash flows, we implement measures to increase organizational cost effectiveness and drive productivity across all businesses. In our Industrial business, we executed a comprehensive reorganization, where we combined various independent reporting units into larger, more streamlined commercial units and consolidated our operations in Europe.

We operate our company on a lean management, flat hierarchy philosophy and have not substantially increased the size of our administrative team for many years despite our growth in revenue. We have a centrally coordinated, structured program in place, that focuses primarily on our European operations and that aims to continuously improve our product quality, productivity and manufacturing processes' efficiency, as well as to improve the cost effectiveness of research and development, sales, and administrative functions. In addition, we have implemented commercial excellence initiatives to improve customer focus, cross selling and commercial delivery, through implementation of a structured opportunity management process, including the implementation of customer relationship management and the education of our sales force.

Price Development

In terms of pricing in our core medical products market, we benefit from our unrivalled clinical and quality track record, our close relationship with our customers and our status as innovation leader. This also leads to limited appetite of healthcare professionals to switch from proven solutions such as our products to different solutions.

We are also among the innovation leaders in many of the industrial niche markets that we target. Our main HPC competitors either target different markets or have a different geographical focus. Additionally, we are the sole supplier of certain specialized products in certain niche areas. However, specifically in the automotive and electronics markets, our customers regularly require annual cost improvements.

Seasonality

Our business is moderately affected by seasonal volatility in order volumes. We register a slight slowdown of new orders in the summer months and in December, related mainly to procurement and supply chain management of our customers, mainly Medical OEMs. The fluctuations in revenue we experience over the course of a year are similar from year to year and are moderately low. Our revenue is usually strongest in the first quarter of a year and lowest in the fourth quarter.

Results of Operations

The following table sets forth amounts from our income statement along with the percentage change for the twelve month period ended December 31, 2019 compared to the twelve-month period ended December 31, 2018. All figures are unaudited in EUR million, as reported.

	Twelve Months Ended December 31,		
	2019	**2018**	**Change**
	(in € million)	*(in € million)*	*(%)*
Revenue	620.4	600.2	3.4
Cost of sales	356.2	392.6	-9.3
Gross profit	**264.1**	**207.6**	**27.2**
Selling costs	95.2	95.0	0.3
Research and development costs	23.3	22.5	3.5
General administrative costs	27.1	31.8	-14.6
Other income and expenses (-), net	-342.9	-11.3	>1k
Operating income	**-224.5**	**47.0**	**N/A**
Interest income and other finance income	2.1	1.6	31.1
Interest expenses and other finance costs	100.4	135.0	-25.6
Financial result	**-98.3**	**-133.3**	**-26.3**
Profit/(Loss) before income tax	**-322.8**	**-86.3**	**273.9**
Income tax expense	-16.5	10.3	N/A
Net profit/(loss) for the period	**-339.3**	**-76.0**	**346.5**

Our management considers the results of operations on the adjusted basis, before giving effect to depreciation and amortization as well as certain extraordinary, non-recurring items, to be an important indicator of business performance. Managementadjusted EBITDA, its main components and its reconciliation to Operating Income as reported is shown in the following table.

	Twelve Months Ended December 31,		
	2019	**2018**	**Change**
	(in € million)	*(in € million)*	*(%)*
Revenue	620.4	600.2	3.4
Cost of sales*	293.5	284.4	3.2
Gross profit*	**326.8**	**315.8**	**3.5**
Selling costs*	43.2	48.6	-11.2
Research and development costs*	20.1	20.5	-1.9
General administrative costs*	18.5	20.4	-9.2
Other income and expenses (-), net*	-0.6	0.1	N/A
Management Adjusted EBITDA	**244.3**	**226.3**	**8.0**
- Exceptional items	21.6	42.9	-49.6
EBITDA	**222.7**	**183.4**	**21.4**
- Amortization, Depreciation and Impairment charges on non-current assets	442.4	135.5	226.5
Operating Income	**-224.5**	**47.0**	**N/A**

* Excluding depreciation, amortization and exceptional items

The following table provides a breakdown of our exceptional items for the twelve months ended December 31, 2019, compared to the twelve months ended December 31, 2018.

	Twelve Months Ended December 31,	
	2019	**2018**
	(in € million)	*(in € million)*
Restructuring costs	7.6	3.6
Other non-recurring	7.3	7.9
Foreign exchange conversion effects	0.7	0.0
Additional contribution related to pensions	0.0	2.1
Acquisition costs	0.3	0.2
Transaction related costs	0.4	12.6
PPA on Inventories	0.0	16.5
Start-up losses	0.9	0.0
Discontinued operations	4.4	0.0
Total Exceptional Items	**21.6**	**42.9**

Restructuring costs in 2018 and 2019 mainly comprise costs related to our productivity initiatives undertaken in our Medical Products and Industrial businesses, as well as additional costs for Management change esp. related to the new organizational Industrial set up.

Other non-recurring mainly comprise of consulting and litigation expenses.

Foreign exchange conversion effects reflect certain impacts related to currency conversions that are accounted for in our Operating income.

Additional contribution related to pensions represent the expenses relating to the pension plan at Pensionskasse Dynamit Nobel VVaG, which was closed at the end of 2014 but with a continuing contractual obligation to cover potential underfunding. On July 20, 2016, the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht) approved the solvency plan dated June 24, 2016 in favour of Pensionskasse Dynamit Nobel VVaG. The provision was based on the planned payments until 2021. Additional contribution for 2019 is based on annual projection by German Federal Financial Supervisory Authority.

Acquisition costs in 2018 and 2019 represent acquisition related consulting and to a smaller part related to the acquisition of the UK electro-ceramics business from Morgan Advanced Materials plc, which was completed in April 2017.

Transaction related costs comprise certain impacts due to the CeramTec AcquiCo acquisition with effectiveness 8 March 2018.

PPA on inventories comprises of step-ups at transactions, in finished goods and work in progress inventories calculated based on customary asset valuation methodology.

Start-up losses reflect the ramp up cost of our knee and dental business in Medical.

Discontinued operations mainly comprise the exit / discontinuation of some product groups in our Industrial business.

Revenue

The following table provides a breakdown of our revenue for the twelve months ended December 31, 2019, compared to the twelve months ended December 31, 2018.

	Twelve Months Ended December 31,		
	2019	**2018**	**Change**
	(in € million)	*(in € million)*	*(%)*
Medical Products	**258.7**	**226.5**	**14.2**
Industrial	**361.7**	**373.7**	**-3.2**
Total Revenue	**620.4**	**600.2**	**3.4**

Total revenue for the twelve months ended December 31, 2019 was €620.4 million, an increase of €20.2 million or 3.4%, as compared to €600.2 million for the twelve months ended December 31, 2018.

Revenue in our Medical Products business was €258.7 million for the twelve months ended December 31, 2019, an increase of €32.3 million or 14.2%, as compared to €226.5 million for the twelve months ended December 31, 2018. This increase was mainly due to a volume increase in ball-heads and inserts, partly offset by limited price reductions.

Revenue in our Industrial business was €361.7 million for the twelve months ended December 31, 2019, a decrease of €12.0 million or 3.2%, as compared to €373.7 million for the twelve months ended December 31, 2018. This decrease was mainly due to overall softer demand in the major markets such as Electronics and Automotive as well as the discontinuation of some product groups. The increase in CT North America is mainly due to cyclical demand for the EOC catalyst carriers.

The following table provides a breakdown of our revenue for the twelve months ended December 31, 2019, compared to the twelve months ended December 31, 2018 by region. The split is mainly unchanged between the periods.

	Twelve Months Ended December 31,		
	2019	**2018**	**Change**
	(in € million)	*(in € million)*	*(%)*
Europe (excluding Germany)	270.3	259.9	4.0
Germany	141.9	152.6	-7.0
North America	91.8	79.7	15.2
Asia	100.4	89.5	12.2
Other regions	16.0	18.5	-13.5
Total Revenue	**620.4**	**600.2**	**3.4**

Cost of Sales and Gross Profit

The following table shows a break-down of our cost of sales for the twelve-month periods ended December 31, 2018 and 2019. All figures are unaudited in EUR million as reported.

	Twelve Months Ended December 31,			
	2019		**2018**	
	(in € million)	*(% of sales)*	*(in € million)*	*(% of sales)*
Material and packaging costs	116.3	18.7	118.7	19.8
Personnel expenses	130.9	21.1	125.3	20.9
Amortization and Depreciation	55.9	9.0	88.0	14.7
Other cost of sales	53.2	8.6	60.6	10.1
Total cost of sales	**356.2**	**57.4**	**392.6**	**65.4**

Cost of sales was €356.2 million (57.4% of revenue) for the twelve months ended December 31, 2019, a decrease of €36.4 million or 9.3%, as compared to €392.6 million (65.4% of revenue) for the twelve months ended December 30, 2018, the decrease being driven mostly by amortization and depreciation. Excluding amortization and depreciation and non-recurring items such as additional contribution to pension fund, consulting costs and severance payments, our adjusted cost of sales increased by 3.2% from €284.4 million or 47.4% of revenue for the twelve months ended December 31, 2018 to €293.5 million or 47.3% of revenue for the twelve months ended December 31, 2019.

Gross profit was €264.1 million for the twelve months ended December 31, 2019, an increase of €56.5 million or 27.2%, as compared to €207.6 million for the twelve months ended December 31, 2018. Our Adjusted gross profit margin increased to 52.7% for the twelve months ended December 31, 2019, from 52.6% for the twelve months ended December 31, 2018, mainly due to higher sales, productivity improvements and economies of scale partly offset by factor cost increase.

Selling Costs

Selling costs were €95.2 million (15.4% of revenue) for the twelve months ended December 31, 2019, an increase of €0.2 million or 0.3%, as compared to €95.0 million (15.8% of revenue) for the twelve months ended December 31, 2018. Excluding amortization and depreciation and non-recurring items such as non-recurring litigation costs, additional contribution to pension fund, consulting costs and severance payments, our adjusted selling costs decreased to €43.2 million or 7.0% of revenue for the twelve months ended December 31, 2019 from €48.6 million or 8.1% of revenue for the twelve months ended December 31, 2018.

Research and Development Costs

Research and development costs were €23.3 million (3.8% of revenue) for the twelve months ended December 31, 2019, an increase of €0.8 million or 3.5%, as compared to €22.5 million (3.8% of revenue) for the twelve months ended December 31, 2018. Excluding amortization and depreciation and non-recurring items such as additional contribution to pension fund and severance payments, our Adjusted research and development costs decreased to €20.1 million or 3.2% of revenue for the twelve months ended December 31, 2019 from €20.5 million or 3.4% of revenue for the twelve months ended December 31, 2018. We continue to invest in the development of new medical products, customer driven innovation in Industrial and to support selected strategic projects.

General Administrative Costs

General administrative costs were €27.1 million (4.4% of revenue) for the twelve months ended December 31, 2019, a decrease of €4.6 million or 14.6%, as compared to €31.8 million (5.3% of revenue) for the twelve months ended December 31, 2018. This decrease was mainly due to not repeating transaction related expenses and strict cost discipline. Excluding amortization and depreciation and non-recurring items such as acquisition consulting and severance payments, our Adjusted general administrative costs decreased to €18.5 million or 3.0% of revenue for the twelve months ended December 31, 2019 from €20.4 million or 3.4% of revenue for the twelve months ended December 31, 2018 driven by cost discipline and new organizational set up.

Other Income and Expenses

Other expense was €342.9 million for the twelve months ended December 31, 2019, an increase of €331.6 million compared to other expenses of €11.3 million for the twelve months ended December 31, 2018, includes impairment expenses in 2019 while 2018 was driven by transaction related expenses. Excluding non-recurring items such as impairment expenses, transaction related expenses and foreign exchange effects, our Adjusted other expenses, net, were €0.6 million for the twelve months ended December 31, 2019, a deviation of €0.7 million as compared with Adjusted other income, net of €0.1 million for the twelve months ended December 31, 2018.

Interest Income and Other Finance Income

Interest income and other finance income was €2.1 million for the twelve months ended December 31, 2019, an increase of €0.5 million or 31.1%, as compared to €1.6 million for the twelve months ended December 31, 2018. This increase was mainly due to the sale of bonds with a nominal value of €5.0 million in December 2019 resulting in a gain of €0.4 million.

Interest Expenses and Other Finance Costs

Interest expenses and other finance costs were €100.4 million for the twelve months ended December 31, 2019, a decrease of €34.5 million or 25.6%, as compared to €135.0 million for the twelve months ended December 31, 2018. This decrease was mainly due to lower interest expenses and losses on derivative valuations. The financial expenses of €100.4 million include €60.5 million of interest expenses from syndicated loan, revolving credit line and bond, €31.6 million of interest expenses from a shareholder loan, €4.3 million of expenses from the effective interest rate method, €1.3 million losses on derivative valuations and €2.7 million of other interest expenses.

Income Tax Expenses

Income tax expenses were €16.5 million for the twelve months ended December 31, 2019 compared to benefits of €10.3 million for the twelve months ended December 31, 2018. This increase was mainly due to higher current tax expenses resulting from the German Tax Group combined with lower deferred tax income from the PPA depreciation and higher deferred tax expenses from the valuation of derivatives.

Net Profit / Loss

As a result of the developments described above, net loss for the period was €339.3 million for the twelve months ended December 31, 2019, an increase of €263.3 million compared to a net loss of €76.0 million for the twelve months ended December 31, 2018.

Financial Condition, Liquidity and Capital Resources

As of December 31, 2019, the gross financial debt, the cash balance as well as the undrawn Revolving Credit Facility were as follows (all figures are unaudited in EUR million as reported):

	As of December 31, 2019
	(in € million)
Gross debt (without accrued transaction costs)	**1,443.8**
thereof Bond	406.0
thereof Term loans	1,027.2
thereof Mark-to-market measured currency swaps	-
thereof Accrued interest	10.7
Cash	64.4
Net debt	**1,379.5**
Undrawn Revolving Credit Facility	75.0

The management adjusted EBITDA for the last twelve months ended December 31, 2019 was €244.3 million leading to the net debt leverage ratio of 5.6x, compared to the management adjusted EBITDA for the last twelve months ended December 31, 2018 of €226.3 million and the net debt leverage ratio of 6.5x, respectively. The business has continually reduced the net debt leverage ratio over the past quarters.

In 2019 a voluntary repayment was made of the term loan in Q2 in the amount of €28 million to the Facility B1 and USD 6 million to the Facility B2 and a further voluntary repayment in Q3 in the amount of €16 million to the Facility B1 and USD 5 million. In the fourth quarter the company received cash of €5.2m from the resale of bonds with a nominal value of €5 million at value 103,25.

Cash Flow Statement

The following table shows the cash flow statement for the twelve month period ended December 31, 2019. All figures are unaudited in EURm as reported.

	Twelve Months Ended December 31,	
	2019	**2018**
	(in € million)	*(in € million)*
Net profit / net loss (-) for the period	-339.3	-76.0
Income tax expense / benefit (-)	16.5	-10.3
Interest result	97.0	103.1
Amortisation, depreciation and impairment charges of non-current assets	447.2	136.4
Gain (-) / loss on disposal of property, plant and equipment and intangible assets	1.1	0.1
Decrease (-) in provisions (excluding deferred taxes)	-0.8	-0.4
Income tax payment (-)	-36.0	-31.4
Other non-cash income (-) / expenses, net	-1.6	31.1
Increase (-) / decrease in inventories	-0.6	-5.0
Increase (-) / decrease in trade receivables	5.1	-5.8
Increase (-) / decrease in other receivables and (financial) assets	0.6	31.1
Increase / decrease (-) in trade payables	-6.8	-43.1
Increase / decrease (-) in other (financial) liabilities	7.7	1.5
Cash flow from operating activities	**190.1**	**131.2**
Cash received from disposals of property, plant and equipment	0.4	0.6
Cash paid (-) for investments in property, plant and equipment	-38.4	-30.3
Cash paid (-) for investments in intangible assets	-3.0	-1.9
Cash paid (-) for the acquisition of entities	0.0	-2,478.9
Cash flow from investing activities	**-41.1**	**-2,510.6**
Cash received from contribution to capital reserve	0.0	500.6
Cash received from issuance of bond	0.0	392.5
Cash received / paid (-) for the repurchase/purchase of bond	5.2	-4.8
Cash received from syndicated loan	0.0	1,084.7
Cash paid (-) for amortization of syndicated loan	-53.9	-55.2
Interest paid (-)	-54.6	-52.8
Cash received from shareholder loan	0.0	520.7
Cash paid for capitalized leases (right-of-use assets)	-2.7	0.0
Cash flow from financing activities	**-106.0**	**2,385.7**
Increase in cash and cash equivalents	43.1	6.3
Net foreign exchange difference	0.3	0.0
Cash and cash equivalents at the beginning of the period	21.1	14.8
Cash and cash equivalents at the end of the period	**64.4**	**21.1**

Cash flows from operating activities increased from €131.2 million for the twelve months ended December 31, 2018 to €190.1 million for the twelve months ended December 31, 2019, principally due to an increase in our reported EBITDA, good working capital management and not repeating one-time transaction expenses.

Cash flows used in investing activities for property, plant and equipment and intangible assets increased from €31.6 million for the twelve months ended December 31, 2018 to €41.0 million for the twelve months ended December 31, 2019. The higher investment spending in the twelve months ended December 31, 2019 was mainly driven by growth projects reflecting the market conditions especially on the medical side. Investing activities in the period ending 31st of December 2018 include cash paid in connection with the acquisition by BC Partners of €2,479 million comprising of €1,603 million purchase price to the seller, €877 million repayment of debt, €11.0 million the first-time recognition of the drafted PPA and - €11.9 million finalization of purchase price allocation.

Cash flows used in financing activities

Cash flows used in financing activities decreased from an inflow of €2,510.6 million for the twelve months ended December 31, 2018 to an outflow of €41.1 million for the twelve months ended December 31, 2019. This is mainly due to the new financing structure comprising inflows from loans, bond and contribution to capital reserve in 2018 while 2019 is affected by a voluntary repayment of the term loan in Q2 2019 in the amount of €28 million to the Facility B1 and USD 6 million to the Facility B2 and a further voluntary repayment in Q3 2019 in the amount of €16 million to the Facility B1 and USD 5 million to the Facility B2, partly offset by cash received of €5.2m from the resale of bonds with a nominal value of €5 million at value 103,25.

Capital Expenditures

The following table provides an overview of our capital expenditures for the twelve months ended December 31, 2018 and 2019.

	Twelve Months Ended December 31,	
	2019	**2018**
	(in € million)	*(in € million)*
Additions to intangible assets	3.0	1.9
Additions to property, plant and equipment	40.6	31.4
Capital expenditures (gross)	**43.6**	**33.3**
Government grants	-	-
Capital expenditures (net)	**43.6**	**33.3**
Additions from business acquisitions	-	-

In general, our capital investment is split evenly between maintenance and growth projects. The increased investment spending in the year ended December 31, 2019 was mainly driven by phasing of growth projects, which reflected the market conditions in 2019. Cash outflow for the twelve months ended December 31, 2019 for intangible assets amounts to €3.0 million and for tangible assets amounts to €38.4 million.

Employees

By the end of the financial year the CeramTec Group employed 3,525 people, a decrease of 1.8% from the previous year.

	Headcount December 31, 2019	2018
Total Employees	**3,525**	**3,589**
Thereof by region		
Europe (excluding Germany)	639	650
Germany	2,065	2,116
North- and South America	325	346
Asia	496	477
Thereof by function		
Manufacturing	2,785	2,813
Sales	300	329
Research and development	186	191
Administration	254	256

In addition, 144 apprentices were employed by CeramTec group as of December 31, 2019.

Contractual Obligations

The following table summarizes our payments due by period from our contractual obligations as of December 31, 2019.

Payments due by period *(in € million)*	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**After 2024**
Trade payables	30.3	30.3	-	-	-	-	-
Liabilities to banks	1,002.0	29.1	28.4	28.4	28.3	28.4	1,034.8
Bond liabilities	423.7	21.3	21.3	21.3	21.3	21.3	434.4
Liabilities to affiliates	311.5	56.8-	-	-	-	-	485.0
Finance lease liabilities	5.4	1.9	1.2	0.6	0.5	0.4	1.3
Other financial liabilities	6.6	6.6	-	-	-	-	-
Total	**1,779.6**	**146.0**	**50.9**	**50.4**	**50.2**	**50.1**	**1,955.5**

Lease Commitments

The date of the first-time adoption of IFRS 16 "Accounting for Leases" was 1 January 2019. According to IFRS 16, the right-of-use assets are initially measured at cost and subsequently measured at cost less accumulated depreciation and impairment losses, adjusted for any remeasurement of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at that date. Subsequently, the lease liability is adjusted for interest and lease payments, as well as the impact of lease modifications, amongst others.

The net carrying amount of the right-of-use assets breaks down as follows:

Right-of-use assets *(in € million)*	**2019**
First-time adoption of IFRS 16 as at 1 January 2019	4.8
Additions cost	1.8
Cost	**6.6**
Additions depreciation	2.5
Depreciation	**2.5**
Net carrying amount	**4.1**

The corresponding lease liabilities to the right-of-use assets amount to €4.2 million.

The expenses from the right-of-use assets and the lease liabilities according to IFRS 16 are €2.5 million depreciation and €0.3 million interest expenses.

In the fiscal year payments for capitalized leases were made with an amount of €2.7 million.

Finance lease capitalized in prior years according to IAS 17 is included in the balance sheet as at 31 December 2019 with an amount €1.2 million net carrying value in property, plant and equipment and with €1.2 million in the lease liabilities.

Pension Commitments

We provide our employees with various defined benefit and defined contribution pension plans in relation to retirement, invalidity and death benefits. The promised benefits differ from country to country depending on the legal, tax and economic conditions. Furthermore, the existing plans are subject to the respective local requirements as well as the financing and the plan assets of pension plans. The following table shows the pension obligations and market value of the plan assets of the defined benefit plans at the beginning and at the end of the financial year 2019.

	Year Ended December 31, 2019		
	German plans	**Foreign plans**	**Total**
	(in € million)	*(in € million)*	*(in € million)*
Benefit obligations at the beginning of the year	**96.4**	**10.8**	**107.3**
Service costs	3.5	0.0	3.5
Interest expenses	1.8	0.3	2.1
Remeasurements	10.1	1.2	11.4
Foreign currency translation	0.0	0.7	0.7
Benefits paid	-2.4	-0.3	-2.7
Benefit obligations at the end of the year	**109.5**	**12.7**	**122.2**
Market value of plan assets at the beginning of the financial year	**0.0**	**7.0**	**7.0**
Interest income from plan assets	0.0	0.2	0.2
Expense for managing the plans	0.0	-0.1	-0.1
Employer contributions	0.0	0.5	0.5
Remeasurements	0.0	1.0	1.0
Foreign currency translation	0.0	0.5	0.5
Benefits paid	0.0	-0.3	-0.3
Market value of the plan assets at the end of the year	**0.0**	**8.8**	**8.8**
Net obligation amount for pension benefits	**109.5**	**3.9**	**113.4**

The actuarial increase is primarily due to changes in demographic assumptions (mortality tables). The expected contributions to the defined benefit plans by the employer through December 31, 2019 amount to €0.5 million.

Contingencies

Group Companies are exposed to a limited number of litigation proceedings linked to the normal business activities mainly related to issues under commercial, product liability and environmental law. To the extent that quantifiable obligations are expected to arise from these processes, the Group Companies establish appropriate provisions on the balance sheet. There are no ongoing proceedings that are expected to impact materially the Group's net assets, financial position and/or results of operations.

Critical Accounting Policies and Significant Accounting Estimates

Please refer to notes to our consolidated financial statements for a detailed description of the accounting policies and accounting estimates applied.

Recent Developments

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 the Covide-19 virus situation 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.

Unaudited Adjusted Financial Information

The following table shows unaudited leverage information for CeramTec AcquiCo GmbH, consistent with the rules set-out in the Facilities Agreement dated December 14, 2017 and the CTC BondCo Prospectus.

	As of December 31, 2019
	(in € million)
Net third party senior secured indebtedness	962,8
Net third party indebtedness	1,368.8
Interest expenses	53.4
Consolidated Pro-Forma EBITDA	253.9
Ratio of net third party senior secured indebtedness to Consolidated Pro Forma EBITDA	3.8x
Ratio of net third party indebtedness to Consolidated Pro Forma EBITDA	5.4x
Ratio of Consolidated Pro Forma EBITDA to interest expense	4.7x

Net third party senior secured indebtedness is defined as third party senior secured indebtedness minus cash and cash equivalents, reflecting the amounts outstanding under the Term Loan Facility (Euro equivalent).

Net third party indebtedness is defined as third party indebtedness minus cash and cash equivalents reflecting the amounts outstanding under the Term Loan Facility and the principal amount of the Notes.

Interest expense is defined as interest expense for the period from January 1, 2019 to December 31, 2019 and consists of interest on the Term Loan Facility and the Notes as well as the commitment fees on our undrawn Revolving Credit Facility.

Consolidated Pro-Forma EBITDA is calculated as set out in the Facilities Agreement and is higher than the Management Adjusted EBITDA presented elsewhere in this document by €9.6 million, this amount consisting of certain net pension and other post-employment benefit costs of €6.5 million, certain restructuring charges of €0.7m, certain non-cash charges and write-downs of €2.3 million and other costs related mainly to management fees in the amount of €0.2 million.

FINANCIAL REPORT

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**

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
43.101	**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
43.465	**25**	**500.417**	**-96.096**	**0**	**236**	**1.031**	**405.613**
43.465	**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
43.830	**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; where-as 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 inter-est 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 Assets kEUR	December 31, 2019 Liabilities kEUR	December 31, 2018 Assets kEUR	December 31, 2018 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 kEUR	Technical plant and machinery kEUR	Other equipment kEUR	**Total** 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

	Measurement category of IFRS 9[1]	December 31, 2018 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	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	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.

	Change in the spot rate %	December 31, 2019 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/her 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

SUSTAINABILITY

CeramTec's Management Policy

The Mission of the Ceramic Experts

The CeramTec Group aims to achieve profitable, global growth while conserving energy and protecting natural resources. Our objective is to strengthen and advance CeramTec's international leadership position. As a customer-oriented problem solver, we therefore focus on application consulting and on the development of innovative, competitive, and sustainable processes for realizing products consistent with specifications.

We have established a framework with reliable, risk-minimizing technical and organizational processes and creating an atmosphere of trust that fairly balances the interests of customers, business partners, employees and shareholders, as well as stakeholders such as the local communities and society in general. We conduct business according to a set of clearly defined management principles, which we review on an annual basis. The executive board of the CeramTec Group is committed to promoting compliance with these policies, to providing the resources that are required for implementation, and to conducting an annual review. For this, it will give an annual account (status analysis) regarding compliance with these management policies and will review the efficacy of the management systems once a year. As part of this process, special focus will be placed on considering specially-approved requirements and binding obligations of our customers, of society/the public, of the government agencies, of external interested parties, and of legislative bodies, as well as on constantly improving our management system and minimizing risks in our processes.

Products – We strive to manufacture and market our high-quality products in the most cost-effective, sustainable, safe and eco-friendly way while conserving resources, taking into account the lifecycle of our products.

Interested parties – All of our efforts center around satisfying the requirements of all of our interested parties.

Responsibility – When it comes to our products, operations and services, we act with a strong commitment to safety, health, the environment, and profitability. We comply with all applicable standards, laws, regulations, in-house rules and designated ethical principles as well as other obligations with regard to the context of the organization. Fair and ethical business practices apply both with respect to our employees and our business partners – from procurement and manufacturing through to delivery to our customers, all while considering the effects on society.

Quality – We plan, develop, implement, monitor and continuously improve all of our processes. We give reasonable consideration to the opportunities/risks of these processes. This applies to quality, work safety, health, environmental protection and energy management.

Values – Our thinking, actions and behavior are based on mutual convictions of what is good and what is important. These are reflected in our corporate values Teamwork, Open & positive mindset, Passion, Learn and grow, Customer focus, Accountability and Integrity. They serve as guiding principles on how we do our jobs, how we act and work together.

Goals – We set goals for ourselves for profitability, quality, safety, health and environmental protection based on these management policies while considering our strategic context and the most important requirements for our relevant, interested parties. We are also committed to long-term reductions in energy consumption and increasing our energy efficiency through continuous process improvement (CPI). We make information and resources available to meet these targets and constantly measure our level of success using key metrics to foster the growth of our business.

Employees – Having capable and responsible employees is important to us. We train our employees in ongoing courses focused on quality, work safety, health, environmental protection, codes of conduct and energy efficiency. We recognize successful performance of our employees and encourage them to excel. Every employee is responsible for doing his or her part to meet our quality, work safety, health, environmental protection and resource conservation targets.

Sustainability – For CeramTec, sustainability is a holistic concept for the future. In accordance with our corporate social responsibility policy and our code of conduct, we assume responsibility for our thoughts and our actions in economical, ecological and social dimensions. We follow guidelines and regulations that apply to all employees worldwide to ensure sustainability in all of our business operations.

Corporate Social Responsibility
Our Sustainability Policy

Principles of Sustainable Corporate Responsibility
Sustainability is embedded in our corporate culture and is integral to the worldwide CeramTec Group. Our CSR Policy supports our aim to achieve profitable, global growth, conserving energy and protecting natural resources, while acting in an ethical way with integrity, as outlined in our Management Policy. Sustainable development means taking responsibility for the impact our thoughts and actions have in the financial, environmental and social dimensions that affect our natural resources, our employees, our customers, society, financial markets, business partners and neighboring communities.

Financial Responsibility: For Sustainable Business Development
We aim to achieve sustained, profitable growth for continued successful business development characterized by responsible business practices and integrity.

Environmental Responsibility: For Sustainable Environmental Development

CeramTec is committed to making the world a greener place by keeping our ecological footprint as small as possible. We understand that ecological sustainability is a key component of our corporate social responsibility and strive to keep our own impact on the environment to a minimum by conducting environmentally-friendly, professional and safe operations. This includes conserving scarce resources such as raw materials, energy and water as well as avoiding and reducing CO_2 emissions and waste.

Our fair, ethical and environmentally-friendly approach incorporates everything from the management of our company, the manufacturing of our products to the procurement of resources and even our investments in buildings and facilities.

Social Responsibility: For Sustainable Social Development

We are dedicated to improving society by operating our business in a responsible manner and always acting with integrity in all areas: as an employer, business partner and "good neighbor" and key member of the local community at all of our company's sites. For CeramTec, taking responsibility for the people we have direct relationships with is a matter of principle. We are aware that our actions affect more than just the people we deal with directly – we also have a broader impact on society in general. This is why we strive to be a responsible and prudent business partner who follows sound ethical and moral principles, acts in accordance with the law and lives up to high standards for social responsibility by applying specific rules and guidelines.

Corporate Governance: Acting with Integrity

CeramTec's Executive Board and Supervisory Board consistently implement the principles of responsible corporate governance. These primarily comprise a compliance management system, an internal control system, and risk management. All are managed, monitored and reviewed in regular audits.

Sustainable Materials: For Quality of Life and Profitability

Developing products made from advanced ceramics reflects our sense of responsibility when it comes to the future. We create sustainable solutions that are used worldwide in countless industries and fields of application. They improve quality of life, increase efficiency, enhance productivity, save energy and protect the environment – while supporting our customers in reaching their own sustainability targets.

Put Responsibility into Practice

We consistently implement our basic principles of sustainable, responsible business management. Our efforts clearly pay off by conserving energy and protecting the environment and our natural resources. This is reflected in our social commitment for people in the community and our employees, in our training programs, equal opportunities, development and growth and health and safety.

The primary goal of our DIN ISO 14001-certified environmental management system is to promote environmental protection and prevent environmental pollution in line with financial, social and political requirements. Our energy management system, which is certified according to DIN ISO EN 50001, takes every aspect of the company into account – from processes, methods and materials to products, buildings and facilities – to increase energy efficiency and sustainably reduce energy consumption.
Our achievements are clearly visible in our key performance indicators. And we will continue to strengthen this commitment in the future.

Key Figures	Unit	2016	2017	2018	2019
Workforce					
Total workforce [6]	Persons	3,184	3,537	3,589	3,525
of which male [6]	Persons	1,982	2,165	2,230	2,221
of which female [6]	Persons	1,202	1,372	1,359	1,304
Apprenticeship rate [3]	%	7.02%	7.10%	7.18 %	6.00%
Health and Safety					
Staff away sick	%	3.37%	3.75%	4.22%	4.23%
Continuous improvement system suggestions [1]	Total number	7,540 [7]	3,363 [7]	3,349 [7]	3,293 [7]
Lost time accidents (LTAs)	Total number	5	18	16	14
LTA frequency rate	LTAs*200,000/total hours worked	0.17	0.59	0.43	0.41
LTA severity rate	Lost days*200,000/total hours worked	4.34	5.53	5.88	7.76
Environment and Energy					
Energy consumption [2] [4]	MWh	261,949	292,381	301,131	295,917
Energy consumption/€1m turnover [5]	MWh/€1m	531	526	502	477
Water consumption [2] [2.1]	m³	270,394	267,262	294,623	279,408
Water consumption/€1m turnover [5]	m³/€1m	548	480	491	450
Waste [2] [2.2]	Tons	4,588	5,071	4,840	5,199
Waste/€1m turnover [5]	Tons/€1m	9,3	9,1	8,1	8,4
CO_2 emissions [2] [2.3] [4]	Tons	93,522	101,465	106,567	104,356
CO_2 emissions/€1m turnover [5]	Tons/€1m	190	182	178	168
Governance					
Incidents bribery and corruption	Total Number	0	0	0	0

(1) Headcount including apprentices but excluding inactive employees
(2) Step-up also including the acquisition of UK electro-chemical business
(3) Apprentice model only used in Germany
(4) CIP = Continuous improvement; System is applied at German, Chinese and Czech sites
(5) Declining due to a system change
(6) Energy consumption at all production sites, excluding sales offices and agencies
(7) Including gas, electricity. Does not include fuel for car fleets and emergency power supply
(8) Based on turnover of €493 million in 2016, €556 million in 2017 €600 million in 2018 and €620 million in 2019
(9) Total water consumption at all production sites
(10) Hazardous and non-hazardous waste
(11) From energy consumption at production sites, excluding travel emissions

Corporate Governance

Governance, Risk & Compliance

With its governance, risk and compliance structure (GRC), the CeramTec Group coordinates the broad range of corporate governance, enterprise risk management (ERM) and regulatory compliance requirements. For this purpose, the Governance, Risk & Compliance service centre was established in 2016. The GRC service centre is responsible for assisting the Executive Board in fulfilling its organisational obligations regarding compliance, risk management and internal control. Responsibilities and interfaces have been defined for compliance, risk management and the internal control system, which should thus prevent redundancies. In addition, a comprehensive and complete profile of the risk situation and mitigation should be guaranteed. Operationally, the GRC service centre closely collaborates with the Finance, HR, Controlling and Legal departments.

Compliance

The Management Board of CeramTec Holding GmbH and its staff are committed to conducting business in accordance with the highest ethical standards and all applicable laws, rules and regulations. This Code of Conduct embodies this commitment. It is underpinned by the Compliance Management System (CMS), which systematically creates the prerequisites within the CeramTec Group to ensure that violations of compliance requirements can be avoided or significantly impeded, as well as identified and dealt with.

Risk management

The risk management of the CeramTec Group comprises all activities and arrangements made to identify, assess, manage, and monitor risk. A risk is defined as the danger that events or actions might prevent CeramTec from achieving its business objectives or from successfully implementing its strategies. For all identified risks, the probability of occurrence and possible impact on achieving objectives are continually identified, assessed, appropriate action initiated and followed-up on.

Internal control system

The internal control system consists of technological and organizational arrangements and controls that have been systematically designed to ensure compliance with guidelines and to prevent loss or damage that may be caused by the company's employees or by third parties. Controls can be performed both process-dependent or independently of the process. CeramTec's internal control system (ICS) represents the arrangements and controls ensuring the effectiveness and economic efficiency of business operations, as well as regularity and reliability of internal and external accounting, and compliance with statutory regulations relevant to the company.

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CeramTec
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