2019 Full Year Results

Strong strategic progress and resilient performance in difficult market conditions

RHI Magnesita today announces its 2019 full year results for the year ended 31 December 2019 ("2019" or the “Year").

Financial results (€m unless stated otherwise)	**2019 Adjusted**[1]	2018 Adjusted at constant currency	Change
Revenue	**2,922**	3,126	*(6.5)%*
Adjusted EBITA	**408**	448	*(8.9)%*
Adjusted EBITA margin	**14.0%**	14.3%	*(30 bps)*
Adjusted EPS	**5.57**	5.31	*4.9%*
Net debt[2]	**650**	697	*(6.7)%*
Net debt to adjusted EBITDA[2]	**1.2x**	1.3x	*(0.1)x*

(€m unless stated otherwise)	**2019 Reported**	2018 Reported
Revenue	**2,922**	3,081
EBITA	**300**	427
Profit before tax	**200**	246
EPS	**2.82**	3.52

1 Adjusted figures are alternative performance measures “APM” excluding impairments, amortisation of acquisition intangibles and exceptional items to enable an understanding of the underlying performance of the business. Full details are shown in the APM section.
2 Following the introduction of IFRS 16 Leases, 2019 net debt includes the impact of IFRS 16 of €62 million. 2018 adjusted net debt figures are shown including the impact of IRFS 16 (€58 million) to facilitate comparison between reporting periods.

Summary

- Resilient performance in difficult markets
  - Steel Division revenue down 10.4% at constant currency reflecting weak end markets and customer destocking
  - Industrial Division revenue up 3.6% at constant currency with strong performance through the year
- Significant fall in raw material pricing, back to long-term average levels
- Robust margin performance
  - 14.0% adjusted EBITA margin despite lower contribution from raw materials in H2
- Solid cash flow generation
  - FY19 Operating free cash flow of €359 million
- Integration of RHI and Magnesita complete in 2019
  - Operating systems in place and single Group culture fully embedded
  - €90 million of synergies extracted
  - Well executed price rise programme
  - Sustained growth in target markets – revenue growth on a reported basis in China up 10.9%; India up 2.7%
  - Continued development of solutions model and digital offering
  - Established Production Optimisation Plan and Sales Strategies to drive next phase of margin improvement – on track to deliver EBITA benefit of €70-€80 million by 2022
- Strong balance sheet, supporting potential for further investment and M&A
  - Net debt reduced by 0.1x (1.2x net debt to EBITDA)
  - Strong liquidity position with cash and available facilities of €1.1 billion
- No final dividend for 2019, to preserve financial flexibility

Commenting on the results, Chief Executive Officer, Stefan Borgas said:

“In 2019, RHI Magnesita has further demonstrated strong progress in executing our strategy, resolving previously identified operational issues and implementing the initiatives that will underpin our long-term growth. We have delivered a resilient financial performance in the year, despite difficult market conditions and lower raw material prices, particularly in our Steel Division in the second half.

“Looking forwards, we will benefit from the steps we have taken to strengthen the business, particularly from the Production Optimisation Plan. However, the difficult market environment in the second half of 2019 has continued in the first quarter of 2020. Whilst COVID-19 has not had a material financial impact on the business to date, we have seen a recent slowdown in customer activity, particularly in our Steel Division, and the future demand environment is very uncertain. We have undertaken extensive scenario testing, factoring in a range of potential outcomes, which indicate that the Company has sufficient liquidity to withstand an extended period of uncertainty.

“Longer term we see clear opportunities to further progress our refractory margin, whilst also continuing to benefit financially and strategically from our backward integration. The business benefits from a strong financial position, with low leverage and significant liquidity, and is well positioned to take advantage of growth opportunities when markets improve.”

For further enquiries, please contact:

Investors: Guy Marks, Head of Investor Relations, RHI Magnesita, +44 7932 013 357
Media: Matthew Denham, Teneo, + 44 7825 735 596

Conference call

The Company is not hosting a physical presentation for analysts and investors due to restrictions relating to the COVID-19 virus. The presentation will be broadcast via webcast and conference call at 8.30am UK time. The webcast can be accessed using the following link: https://www.investis-live.com/rhimagnesita/5e6276eefe2c790a00a5472d/ldsf. A replay will be available on the same link shortly after event.

Conference call participant dial-in numbers are as follows:

UK: 020 3936 2999
All other locations: +44 20 3936 2999
Access code: 337196

The Company's 2019 Annual Report has been published and is available to view on the website at: https://ir.rhimagnesita.com/. In compliance with Listing Rule 9.6.1, a copy will also be submitted to the National Storage Mechanism and will shortly be available for inspection at http://www.morningstar.co.uk/uk/NSM.

This announcement also contains as appendices additional information for the purposes of compliance with DTR 6.3.5 (1) of the UK Disclosure and Transparency Rules. The information below is extracted, in full unedited text, from the Annual Report 2019. Page numbers and cross references in the extracted information refer to page numbers and cross-references in the Annual Report. This announcement should be read in conjunction with and is not a substitute for reading the full Annual Report 2019.

About RHI Magnesita

RHI Magnesita is the leading global supplier of high-grade refractory products, systems and solutions which are indispensable for industrial high-temperature processes exceeding 1,200°C in a wide range of industries, including steel, cement, non-ferrous metals and glass. With a vertically integrated value chain, from raw materials to refractory products and full performance-based solutions, RHI Magnesita serves customers in nearly all countries around the world. The Company has a high level of geographic diversification with more than 13,650 employees in 32 main production sites and more than 70 sales offices around the world. RHI Magnesita intends to leverage its global leadership in terms of revenue, scale, product portfolio and diversified geographic presence to target strategically those countries and regions benefitting from more dynamic economic growth prospects.

Its shares have a premium listing on the London Stock Exchange (symbol: RHIM) and are a constituent of the FTSE 250 index. For more information please visit: www.rhimagnesita.com

CEO's Review

Health and safety is paramount

We believe a safe workplace is a fundamental right of our employees, and it is the Group's responsibility to keep our staff, contractors and customers safe within our operations. While our lost time injury frequency (LTIF) rate reduced further this year, to 0.28, (down from 0.43 in 2018), we can never be complacent. Nothing less than zero accidents is acceptable. We are also focused on protecting our employees in all possible ways we can from the spread of COVID-19.

A resilient financial performance reflecting strength of business model

Despite challenging market conditions, RHI Magnesita delivered a resilient performance. During the year, the global economy grew at its slowest pace since the 2007/2008 global financial crisis, with rising trade barriers and increasing geopolitical tensions the main contributing factors. This had an inevitable impact on industrial and construction activity, and we saw a decline in demand in many of our end-markets.

Global steel production outside China declined by nearly 1.7% in 2019. This decline in demand was exacerbated by customers reducing volumes through the year and destocking their inventories of our products.

As a result, RHI Magnesita's revenues were 6.5% lower in 2019 at €2,922 million. This reduction is primarily attributable to lower refractory volumes from the Steel Division, as a result of inventory destocking at customers' sites amid a weak steel production market environment. Gross profit was €717 million, down from €756 million on a constant currency basis in 2018 mostly due to lower raw material prices, weaker end-markets, exiting the Iranian market and lower fixed cost absorption. Gross margin, however, increased by 30bps to 24.5%, supported by the implementation of the Price Management Programme introduced in April 2019, which further contributed to EBITA, and a €15 million benefit from the turnaround of the previously identified operational issues in 3 of the 4 plants. While lower raw material prices in the year reduced the profit contribution from backward integration, this aspect of our business model continued to be financially beneficial as well as strategically important.

Integration delivers €20 million of further synergies

Benefiting from the synergies in 2019, and additional efficiency improvements, the Group continued to grow its refractory margin in the year, rising 60bps to 9.0%. This contributed to a broadly stable overall EBITA margin, down 30bps at constant currency to 14.0%. The Group continued its successful integration of the merger throughout 2019, delivering a further €20 million of synergies.

This takes the total to €90 million since the merger in 2017, 29% ahead of our original target of €70 million. The additional synergies anticipated in 2020 were to be primarily derived from procurement savings, however given the broader macroeconomic backdrop, lower activity levels and raw materials prices, we no longer expect to see any further synergies in 2020.

Solid cash flow generation

Operating free cash flow of €359 million in 2019 (2018: €438 million) was a resilient performance, lower than 2018 primarily due to the weaker and working capital cash consumption. The Group also focused on further extending its debt maturity profile and increasing its liquidity. Our net debt to EBITDA ratio reduced slightly to 1.2x (2018: 1.3x including the impact of IFRS 16 leases). The Group has significant liquidity of €1.1 billion, comprising cash and undrawn committed facilities.

Steel business performance partly offset by Industrial Division

On a divisional basis, our Steel business, which represents approximately 70% of the Group's revenue, saw revenue decline by 10.4% from the prior year at constant currency as a result of the lower customer demand. This was partly offset by our Industrial Division, which has continued to perform well, up by 3.6% on a constant currency basis, driven by a particularly strong year in the Cement segment.

A focused strategy

As outlined in the Capital Markets Day in November 2019, our strategy is built around three key pillars: increasing competitiveness through cost reduction, enhancing our business model and driving market leadership and growth in new markets. Delivering our strategy relies on our greatest asset: our people, who are the true value creators of the company.

Executing cost reduction

The Company has reviewed its capacity and global footprint to ensure production matches regional demand and efficiency is maximised. As a result, management has taken the decision to consolidate some of the Group's plants via its Production Optimisation Plan, which will deliver run rate cost savings of €40 million by 2022.

Expanding the business model

In sales, we are focused on expanding our solutions business, complemented by digital solutions, as we move towards a value-based pricing model. These initiatives, combined with the Price Management Programme, are expected to generate an additional €40-€60 million of EBITA by 2022.

Growth in new markets

New markets remain a key strategic focus for us, as we look to expand in higher growth countries where we currently have modest market shares such as India, China and Turkey. Our sales teams in China have created a 'local for local' approach and built new relationships in this region, creating strong foundations for the business. The team has now started to develop and deliver high-tech solutions designed for Chinese customers specifically. In the first half of 2019, our China team won a major solutions contract worth €20 million with Guangxi ShengLong, which represents the Group's first such contract in the Chinese high-quality steel market. A second major solutions contract was secured in January 2020.

As part of the strategic expansion in India to increase capacity and improve customer services, we bought Intermetal Engineers Pvt., a metallurgical equipment manufacturer in May 2019 for €1.3 million, and separately acquired a refractory brick plant in September 2019 from Manishri Refractories & Ceramics Pvt. Ltd. for €5.5 million.

Acquisitions remain part of long-term growth plans

In addition to the two transactions in India outlined above, the Group acquired Missouri Refractories Co. Inc. (Morco) in January 2020 for $10 million, the first production asset for RHI Magnesita in the Mid-south of the United States.

As previously disclosed, the potential acquisition of Kumas Manyezit Sanayi AS. is currently under review by the competition authorities in Turkey and we hope to have an update on the process later in Q2.

More broadly the Group continues to monitor a select number of other acquisition opportunities as part of its long-term growth plans.

Investment in R&D continues to drive innovation

Innovative technologies including digitalisation continue to be at the heart of our business and enable us to better meet customer demands. Throughout 2019, particular areas of focus have been: recycling of refractory products, CO_2 and energy reduction, coating technologies, new production techniques and automation and digitalisation. Investment in R&D totalled €64 million in 2019, representing 2.2% of Group revenue.

It is through our innovation expertise that we will continue to strengthen the products and solutions of our business. We create and customise refractory products that suit the unique needs of our customers, and we offer over 100 value adding services, including our 4.0 digital offering.

Capital allocation policy and shareholder returns

The Board's capital allocation policy remains to support the long-term Group strategy, providing flexibility for both organic and inorganic investment opportunities and delivering attractive shareholder returns over the mid-term. These opportunities will be considered against a framework of strategic fit, risk profile, rates of return, synergy potential and balance sheet strength. Dividends and share buybacks, when appropriate, are an integral part of the Company's capital allocation policy and approach to shareholder returns.

Despite the Group's strong financial position, the uncertainty relating to COVID-19 means that alongside the efficiency measures we are taking to preserve cash, the Board has decided not to recommend the payment of a final dividend for 2019. This decision will be reviewed later in the year once the outlook becomes clearer. The Board believes that this is an appropriate and prudent measure to take as it seeks to preserve RHI Magnesita's strong liquidity, cashflow and financial position through these uncertain times.

COVID-19 impact

The global impact of the COVID-19 virus is a fast moving and uncertain situation. Our primary focus is the health and safety of our employees around the world. We have continued to operate our production capabilities and supply chain, enabling us to deliver for customers as normal. In China our plants have remained open through the crisis, with employees safe. Across the rest of the world, plants are also open and are operating with strict restrictions such as pre-work temperature checks and no travel between plants. All corporate offices are closed with employees working from home. Whilst we have seen no material financial effects on our business to date, the impact of COVID-19 on demand from our customers is very uncertain. We are engaging customers closely to understand their current production rates, stock levels and short-term requirements.

RHIM notes the FCA's request to UK listed companies to delay the announcement of preliminary financial accounts during the current period of unprecedented events caused by COVID-19. The Board of RHIM has considered the FCA's request, however on balance believes that it is better to announce the Group's 2019 full year results on the 1 April 2020 as originally planned. In arriving at this decision, the Board has considered that the publication will provide clarity on the Company's 2019 financial position and that the Company will be publishing audited and not preliminary results.

Outlook

In 2019, RHI Magnesita has further demonstrated strong progress in executing the Group strategy, resolving previously identified operational issues and implementing the initiatives that will underpin the Group's long-term growth. The Group has delivered a resilient financial performance in the year, despite difficult market conditions and lower raw material prices, particularly in its Steel Division in the second half.

Looking forwards, the Group will benefit from the steps it has taken to strengthen the business, particularly from the Production Optimisation Plan. However, the difficult market environment in the second half of 2019 has continued in the first quarter. Whilst COVID-19 has not had a material financial impact on the business to date, the Group has seen a recent slowdown in customer activity particularly in its Steel Division, and the future demand environment is very uncertain. The Company has undertaken extensive scenario testing, factoring in a range of potential outcomes, which indicate that the Company has sufficient liquidity to withstand an extended period of uncertainty.

Longer term the Group see clear opportunities to further progress the Group refractory margin, whilst also continuing to benefit financially and strategically from its backward integration. The business benefits from a strong financial position, with low leverage and significant liquidity, and is well positioned to take advantage of growth opportunities when markets improve.

Financial review

The Company uses a number of alternative performance measures ("APMs") in addition to those reported in accordance with IFRS, which reflects the way in which Management assesses the underlying performance of the business. The Group's results are presented on an "adjusted" basis, using APMs which are not defined or specified under the requirements of IFRS, but are derived from the IFRS financial statements. The APMs are used to improve the comparability of information between reporting periods and to address investors' requirements for clarity and transparency of the Group's underlying financial performance. The APMs are also used internally in the management of our business performance, budgeting and forecasting. Reconciliation of certain metrics to the reported financials is presented in the section titled APMs.

All references to comparative 2018 numbers in this review are at constant currency, unless stated otherwise. Figures presented at constant currency represent 2018 translated to average 2019 exchange rates.

Revenue

2019 revenue amounted to €2,922 million, 6.5% lower than 2018 (2018: €3,126 million). This reduction is primarily attributable to lower refractory volumes from the Steel Division, as a result of inventory destocking at customers' sites amid a weak steel production market environment. Global steel production ex-China declined 1.7% in 2019 with production weakening as the Year progressed. Additionally, the exit from the Iranian market and the implementation of the Price Management Programme contributed to further volume losses. In the Industrial Division, the Group continues to benefit from the positive momentum seen in 2018, with improved performance in all three segments (Cement & Lime, Non-ferrous metals, and Process Industries). This performance in the Industrial Division was underpinned by the positive dynamics in customer industries despite the weak raw material pricing environment.

The Group's Steel Division revenue amounted to €2,018 million, (2018: €2,253 million) down 10.4% from the previous year. The Industrial Division benefited from positive global GDP growth of 2.9% and was able to drive organic growth, increasing revenue to €904 million in 2019 (2018: €873 million), up 3.6% from the previous year.

From their elevated prices in 2017 and 2018, raw material prices have fallen in 2019 particularly in the fourth quarter. Accumulated overcapacity in supply and inventory coupled with a sluggish market environment, have had a significant impact on raw material prices. These lower levels are expected to continue in the short-term. Despite the current lower prices, the Group's high level of raw material backward integration continues to deliver benefits to RHI Magnesita, in terms of additional margin contribution, customer supply security and enabling unique product solutions for the market.

Gross profit

Gross profit declined 5.2% to €717 million in 2019 (2018: €756 million), as a result of decreasing raw material prices, lower deliveries to Steel customers amid weaker end markets, which has consequently led to lower fixed cost absorption. This was partially offset by the successful implementation of the Price Management Programme and the turnaround of operational issues identified in H2 2018 in certain plants of €15 million. This represented a gross margin of 24.5%, 30 bps higher than in the previous year. On a divisional level, gross profit from steel applications reached €467 million, with 23.1% gross margin in 2019 (2018: 24.2%). Gross profit for the Industrial Division was €250 million, representing a gross margin of 27.7% in the Year (2018: 24.2%).

SG&A

Total selling, general and administrative expenses, before R&D related expenses, stood at €309 million (2018: €316 million), representing 10.6% of revenue in 2019 (2018: 10.3%). The delivery of the remaining synergies targeted for the Year contributed to the lower spend in 2019.

Adjusted EBITA

Adjusted EBITA for the Year was €408 million, 8.9% lower than 2018 (€448 million) and adjusted EBITA margin was 14.0%, 30 bps lower than 2018. This was primarily driven by the deteriorating volume environment in the steel market, raw material price reduction and lower fixed cost absorption, which was partially offset by the successful implementation of the Price Management Programme launched in H1 2019, a €15 million benefit from the turnaround of the operational issues in 2018 alongside delivery of an additional €20 million in synergies in 2019.

Earnings per share: *Reconciliation between 2019 reported and adjusted figures*

(€m unless stated otherwise)	2019 reported	Items excluded from adjusted performance	2019 adjusted
EBITA	300	108	408
Amortisation	(26)	26	-
Net financial expenses	(75)	14	(62)
Share of profit in joint ventures	1	10	11
Profit before tax	200		358
Income tax	(51)	(23)	(74)
Profit after tax	149		284
Profit attributable to shareholders	139		274
Average number of shares outstanding (m)	49.2		49.2
Earnings per share (€)	2.82		5.57

Net finance costs

Net finance costs in 2019 amounted to €75 million (2018: €163 million), which represented a 54% decrease from the previous year. This significant decrease is largely due to the Group's efforts aimed at reducing interest expenses on borrowings, reducing the translation effects on non-euro denominated debt and derivatives, moving to a euro-based debt portfolio to further reduce funding costs, increasing its exposure to floating interest rates and repaying higher interest legacy debt.

As a result of these initiatives, interest expenses on borrowings for 2019 amounted to €28 million (2018: €49 million), mainly attributable to refinancing on legacy high interest-bearing debt. Interest income recorded €9 million, broadly flat with the previous year (2018: €10 million).

Foreign exchange and derivative variances amounted to €17 million in the Year (2018: €81 million), all of which referred to derivative losses related to the Group's previous hedging policy. In August 2019, the Group has restructured its hedging policy and will no longer be exposed to these derivative variances and also minimised the foreign exchange translation effects on the P&L.

Other net financial expenses recorded €39 million (2018: €43 million), which primarily refer to non-cash adjustments related to the provision for the unfavourable contract required to satisfy the EU remedies, pension and non-controlling interest related expenses.

Items excluded from the adjusted performance

In order to accurately assess the performance of the business, the group excludes certain non-recurring items from its adjusted figures. These adjustments comprise:

- €108 million recorded in "Other income and expenses" predominantly related to the restructuring costs associated with the closure and downsizing of two plants in Europe, as part of the Production Optimisation Plan with severance costs of €18 million and impairments of €52 million, additional severances of €19 million for corporate reorganisation costs and the impairment of the Norway plant in Porsgrunn of €14 million. Total restructuring and write-down expenses associated with these initiatives amounted to €112 million.
- €14 million related to non-cash other net financial expenses. These include €9 million non-cash present value adjustment of the provision for the unfavourable contract required to satisfy the EU remedies and €4 million of foreign exchange movements on the Group's certain non-Euro denominated debt, as detailed in the "Net Financial Expenses" section. These intercompany loans have been restructured in July 2019 and there will no future foreign exchange movements.
- €10 million write-down of a joint venture loan related to the restructuring of Sinterco (European dolomite mine)
- An adjustment to effective tax rate excluding one-time charges such as the restructuring and impairment expenses to reflect the underlying effective tax rate.

Taxation

The Company's effective tax rate for the Year was 25.5% (2018: 23.9%). The increase year-on-year is mainly due to one-off tax charges related to the closure of production facilities. These costs resulted in non-deductions across tax regions for RHI Magnesita. Excluding these one-time charges, as set out above, the effective tax rate for the Year would have amounted to 20.6%.

RHI Magnesita's tax rate is sensitive to changes in the geographical distribution of worldwide profit and losses and tax regulations in each region. Other key factors affecting the sustainability of the Group's effective tax rate are set out in note 45 to the financial statements, which provides additional information on the Group's tax rate.

Profit after tax and earnings per share

On a reported basis, the Company recorded a net profit of €149 million and earnings per share ("EPS") of €2.82 per share in 2019 (2018: €187 million profit and €3.52 per share respectively).

Adjusted earnings per share for 2019 were €5.57 (2018: €5.31), which is stated after excluding items detailed above and amortisation of intangible assets (€26 million).

Cash flow

Operating free cash flow amounted to €359 million in 2019 (2018: €438 million), down primarily due to the weaker operational performance and working capital cash consumption.

Total free cash flow, which includes the one-off cash disbursements from the Magnesita minority acquisition, share buyback expenses and restructuring costs related to the merger totalled €105 million.

The table below details the underlying operating and free cash flow generation of the business

	€m
Adjusted EBITA	408
Working capital	(23)
Changes in other assets/liabilities	(17)
Capex	(156)
Depreciation	146
Operating free cash flow	359
Cash tax	(68)
Net interest expense	(42)
Restructuring and transaction costs	(6)
Magnesita minority acquisition	(45)
Dividends paid	(76)
Share buyback	(19)
Free cash flow	105

Note: Operating free cash flow is presented to reflect the net cash inflow from operating activities before certain items such as restructuring costs. Full details are shown in the APM section.

Capital expenditure

Capital expenditure for 2019 stood at €156 million (2018: €123 million), which comprised €110 million of maintenance capex and €46 million of project expenditure. As announced at the Capital Markets Day in November 2019, additional project expenditure is expected to continue until 2022 to support the Company's strategy for the Production Optimisation Plan, Sales Strategies, R&D and other small, fast payback projects. In 2020, project expenditure is expected to be around €65 million, of which €55 million will go towards the Production Optimisation Plan and Sales Strategies initiatives and €10 million to support other small, fast payback projects. Maintenance capex is expected to be around €85 million in 2020 and €95 million for subsequent years.

Working capital

Working capital at 31 December 2019 was €523 million (2018: €511 million), up slightly due to the higher cash consumption in accounts payable of €145 million in 2019, as fewer purchases of raw material were made during the Year. This was offset by a material improvement in inventory levels, which have reduced year-over-year, leading to cash generation of €111 million. This was mainly driven by the Group's efforts to reduce stock in our warehouses, improve efficiency of raw material and finished goods inventory by adjusting production to current demand levels. Accounts receivable also improved in 2019 when compared to the previous year with €11 million of positive cash impact due to ongoing improvement of client terms, material reduction of outstanding receivables, and to an extent, lower revenues. Total cash flow consumption from working capital in 2019 amounted to €23 million.

In terms of working capital intensity, measured as a percentage of last three months annualised revenue, the Group recorded 18.3% at year-end, 290bps higher than 2018. This was primarily driven by lower revenue recognised in the last three months of the Year amid weaker market demand. On a half-on-half basis, working capital, both in absolute terms and as a percentage of revenue has improved. Cash flow generation from working capital in H2 2019 amounted to €95 million (H1 2019: €-118 million) and working capital intensity improved 270bps against intensity recorded in H1 2019.

Working capital financing, used to provide low cost liquidity to the Group, was at €290 million at the end of the Year (2018: €316 million). This comprised €223 million of accounts receivable financing (factoring) and €67 million of accounts payable financing (forfeiting). Going forward the Group expects its working capital financing level to stay below €320 million.

Improving working capital performance will continue to be a focus area in 2020. In H2 2019, the Group rolled out its Tactical Network Optimisation modelling tool to optimise raw material and refractory plant loading for best value. In addition, and to support decision making and enhance demand planning with global customers and suppliers, the Group is implementing an Integrated Business Planning system in H1 2020. This will enable the Company to move towards its target of 15-18% working capital intensity in the medium term.

Net debt

Net debt at the end of the Year amounted to €650 million, comprising total debt of €1,055 million, cash and cash equivalents of €467 million and IFRS 16 leases of €62 million. This compared to net debt of €697 million in 2018, which includes the pro forma impact from IRFS 16 leases (2018: €58 million). Net debt to EBITDA stood at 1.2x, 0.1x lower than the previous year (2018: 1.3x). despite the remaining cash outflows related to the payout to Magnesita's minority shareholders (€45 million). This low leverage profile has allowed the Company to improve liquidity and extend the maturity profile of its instruments. Total liquidity is now at €1,067 million, as the Group increased its undrawn facilities from U$400 million to €600 million and more than 60% of the Group's maturities are due on or after 2023.

Amortisation schedule (€m as at 31 December 2019)

Funds immediately available:	
Cash + Undrawn RCF[1]	1,067
Debt maturity:	
2020	72
2021	45
2022	127
2023	401
2024	110
2025[2]	600
2026	300

1) Revolving credit facility increased to €600 million in Jan 2020 with maturity in 2025 and an option of a two-year extension
2) Undrawn RCF maturity

Synergy delivery

The Group has continued its successful integration during 2019, achieving incremental synergies of €20 million, bringing the annualised total to €90 million. The additional €20 million of synergies achieved in 2019 had an associated restructuring cash cost of €6 million, taking the total cash cost since merger to €84 million. As set out above, there will be no further synergies in 2020.

Key Initiatives

RHI Magnesita announced its plans for the next round of savings and investment opportunities at a Capital Markets Day in November 2019. Two key initiatives were presented and are expected to bring an additional €70-80 million of EBITA benefit by 2022.

- The Production Optimisation Plan, targeting the Company's global production footprint, increasing plant specialisation, improving raw material integration and implementing state of the art technologies is expected to bring €40 million of EBITA benefit by 2022.
- Sales Strategies will be focused on expanding the Company's presence in growth markets, improving the solutions offering and investing in digitalisation, are expected to generate an added €30-40 million in EBITA benefit.

Total cost to achieve the aforementioned EBITA benefit from these two initiatives will amount to €220 million by 2022, of which €165 million will consist of additional capex and €55 million will relate to restructuring costs. The Company also anticipates approximately €70 million of non-cash impairments to be recorded as a result of the plant closures in Europe, of which €52 million was recorded in 2019.

Returns to shareholders

Despite the Group's strong financial position, the uncertainty relating to COVID-19 means that alongside the efficiency measures we are taking to preserve cash, the Board has decided not to recommend the payment of a final dividend for 2019. This decision will be reviewed later in the year once the outlook becomes clearer. The Board believes that this is an appropriate and prudent measure to take as it seeks to preserve RHI Magnesita's strong liquidity, cashflow and financial position through these uncertain times.

Operational review

Steel Division

Steel	2019	2018	Change
Revenue (€m)	2,018	2,253	(10.4%)
Gross margin	23.1%	24.2%	(110bps)

In 2019, steel demand was impacted by ongoing geopolitical issues and trade tensions which together contributed to global uncertainty. This was particularly felt in the automotive and manufacturing sectors, which are key drivers of the steel industry. In addition to weaker demand, Steel Division revenues were also impacted by customer de-stocking that has taken place throughout the year.

Steel Division revenues of €2,018 million in 2019 were 10.4% lower than last year on a constant currency basis (2018: €2,253 million in 2018 at constant currency). On a reported basis, Steel Division revenue was down by 8.8% (2018: €2,213 million).

The successful implementation of the Price Management Programme, introduced in April 2019, made an important contribution to profitability in the year, which has helped offset the weaker demand environment. The programme raised refractory prices across the product portfolio enabling the Company to further accelerate investment in technology, environmental solutions and production infrastructure to better serve its customers. Steel volumes were, however, impacted partly as a result of consequential market share loss. 2019 revenues were also reduced RHI Magnesita's exit from the Iranian market in November 2018.

Gross profit for the division was €467 million, down from €545 million in 2018 on constant currency basis. The Division achieved a gross margin of 23.1% in 2019, down by 110 bps from the previous year.

Europe

The Group’s Steel Division faced strong headwinds in Europe throughout 2019. Revenue reported for the region was €513 million, down 17.6% from €622 million in 2018 on a constant currency basis. Revenue was negatively impacted by significantly reduced demand levels from steel producers, as demand declined at rates not seen since the global financial crisis. Lower demand was combined with higher iron ore prices, as well as a 70% rise in the price of emission-trading certificates since mid-2018, plus the escalating trade tensions.

Steel production in Germany and Italy, Europe’s largest steel producers, declined by 6.5% and 5.2% respectively. Overall, EU28 steel production output declined by 4.9%. Regional revenues were also affected by intensified price competition and reduced stock levels in customers’ plants.

During 2018, customers increased their inventory levels in response to raw material prices increasing, following a raw material shortage (especially in dolomite), and as a result of trade tariff discussions. This led to customer destocking of inventory throughout 2019, contributing to softer sales compared to the previous year.

This trend has continued into Q1 2020, with potential further weakness as growth slows with weakening economic fundamentals.

North America

Revenue was €518 million in 2019 down by 7.5% on a constant currency basis, from €560 million in 2018. The implementation of value-based price management, a customer solution-oriented approach and an adaptable portfolio of products resulted in the Group improving pricing and delivering higher revenue per tonne. However, this only partially offset the impact of materially lower volumes.

Lower sales volumes were the result of ongoing challenges in the Company’s end-markets, with increased political uncertainty throughout 2019 and the impact of recently imposed trade tariffs.

Tariffs on Chinese goods entering the United States persisted throughout 2019. However, the Group benefited from the tariffs limiting the participation of low value refractory competition entering the market. Revenue was negatively impacted by the decline in the prices of magnesite which put subsequent pressure on refractory prices. Results were affected negatively by the closure of several steel plants in the second half of 2019, which struggled to retain competitiveness as steel prices declined.

Looking ahead, the Company will implement higher value service contracts with its customers, driving higher revenue per tonne in 2020. Volume recovery continues to be an emphasis, with local production to serve local customers, and the Company expects to benefit from the ability to convert opportunities quickly into regular volumes.

Challenging steel conditions are anticipated in 2020, attributed to weakened economic growth and also uncertainty over trade negotiations. Steel producers will continue to focus on cost mitigation with plant idling expected.

South America

Revenue was €361 million in 2019, down by 0.9% on a constant currency basis compared to €364 million in 2018. Revenue was negatively impacted by lower levels of steel production in the region throughout 2019, with production levels 8.4% lower than the prior year, primarily led by a 9.0% fall in Brazil and by a 10.0% fall in Argentina.

However, profitability for the Group was largely maintained despite the decline in demand for refractories, thanks to an improved product mix and better technical results in performance contracts.

This demonstrates the Group's success in improving its resilience through its strategy of solutions-based contracts and following the successful implementation of the Price Management Programme with some key clients.

In 2019, market conditions remained challenging, particularly in Brazil and Argentina. There have been some signs of an improving economic environment in 2020, particularly in Brazil. However, this is likely to be undermined by the potential impact of the COVID-19.

CIS-MEA

Revenues were €230 million, down by 19.3% on a constant currency basis compared to €286 million in 2018. This is mostly related to ceasing business in Iran with the last shipments being sent in Q1 of 2019, fulfilling orders that had been made during 2018. The impact of the exiting the Iranian market in 2019 was €35 million of revenue, of which €30 million were from the Steel Division.

Performance was reflective of the overall steel market in these regions, where there was limited growth and significant volatility. Conflict in Ukraine has particularly impacted output across the market, and there is uncertainty around when this may recover.

Following the currency crisis in Turkey, construction slowed in the country as a result of the government's decision to slow capital projects, impacting steel demand.

In 2020, the Company will look to strengthen its overall market position. In the CIS, in particular the Company is intending to grow certain product segments and will continue to add value through the solutions business model.

APAC

Outside of India and China, which are discussed in more detail below, revenue was down by 5.5% on a constant currency basis to €128 million from €135 million in 2018. Regional revenues followed negative trends in steel production in South Korea and Thailand, which according to World Steel Association decreased output by 1.4% and 34.6% respectively. However, this was partially offset by strong performance in Japan and Taiwan, both of which outperformed the market.

Industrial Division

Industrial	2019	2018	Change
Revenue (€m)	904	873	3.6%
Gross margin %	27.7	24.2	350bps

The Industrial Division has continued to perform very strongly with 2019 revenues of €904 million up 3.6% and gross profits of €250 million. The gross margin improved again to 27.7%, up by 350bps compared with 2018.

Cement/Lime

Cement/Lime segment revenue was €344 million in 2019, up by 6.4% from €324 million in 2018 on a constant currency basis, constituting a record year.

This performance, which also included an improved margin, was driven by selective price increases, improved product portfolio choices and market share gains specifically across China, MEA and CIS.

In 2019, global cement demand grew 1% ex-China. While China continues to be the world's largest cement producer, it is removing cement capacity due to overcapacity and environmental considerations leading to a global cement market contraction of c. 3-4%. India is the highest growth market at 4%. Other regions showed a stable, but locally volatile picture, such as in the Middle East and South America.

Europe demand has been slightly weaker in 2019, given customer destocking, following the inventory build-up that took place at customer sites during 2018 as a result of tightening magnesite and dolomite raw material availability during 2018.

Initial forecasts for the global cement and lime markets were for a stable market in 2020 with growth of c.1-2% excluding China. However, the impact of COVID-19 is likely to impact this.

Process industries

Other process industries comprise the glass, EEC and mineral segments. Revenue in this segment amounted to €339 million, 2.0% higher than in 2018 (2018: €330 million on a constant currency basis).

The glass industry has continued to grow in 2019, supported by the recent trend in consumer demand towards recyclable glass packaging and away from single use plastic packaging.

Europe, Africa and Americas all benefited from increased demand, and Eastern Europe and CIS regions performed well, thanks to an increase in projects, whilst activities slowed in the Middle East and Africa and Asia Pacific. China and India have started to begin transitioning to higher performance materials for better glass quality and longer furnace life times.

The float glass sector maintained momentum throughout 2019, predominantly through the repairs business. For the investments business, the key driver of growth was the construction industry; through both regional expansions and from increased demand for eco-friendly buildings which conserve heat through multiple glass sheet windows, and through coating with better heat absorption.

In the EEC sector, volumes were flat, whilst revenue and profitability increased in 2019, as customer take up for services increased. In particular, the sector experienced increased demand from customers in construction services, refractory engineering and supervision services. The strong performance was mostly thanks to several large projects in the first half, followed by significant maintenance demand in the second half.

China, India and North America all benefited from higher demand for project orders. Greenfield projects in Europe and the Middle East slowed due to lower demand.

2019 saw strong demand in the pelletising industry, coke oven business and in energy generation, whereas development of other applications was flat year-on-year, due to fewer investment projects (greenfield and capital projects).

Throughout 2020, the Company expects a more challenging environment due to macroeconomic uncertainties. However, 2019 proved that the streamlined business is working well and will continue to be effective throughout 2020 in growing the glass business and expanding service solutions for our customers.

Non-ferrous metals

The non-ferrous metals segment grew by 1.5%, from €218 million in 2018 on a constant currency basis to €221 million in 2019.

The business performed well in the first half, however the second half experienced lower order intake than expected, in line with the broader global slowdown triggered by trade barriers and macroeconomic concerns.

At the beginning of 2019 the LME listed metals, including copper and zinc, showed price increases, whereas all other listed base metals and precious metals were at comparably low levels. RHI Magnesita's main LME listed metal end-market is copper, and elevated prices in 2019 meant that RHI Magnesita saw an uptick in the repair business. Similar to 2018, the business was predominantly driven by repairs and maintenance work, rather than new greenfield projects. Looking forward, there are several new smelters in an advanced planning stage in Indonesia, where an ore export ban has driven demand for new domestic facilities. Further demand for refractories used in copper and cobalt production (and other battery metals) throughout the year, with the increase in electric vehicles.

The platinum-group metals "PGM" sector, notably palladium and platinum, which are both used in automotive catalytic converters, performed well during the year as the company provided large repairs for long-term customers, mainly in South Africa. Aluminium continues to be a commoditised business in terms of refractory supply to the primary aluminium sector. However, in 2019, the Company completed its largest ever aluminium project in China, for an original equipment manufacturer "OEM".

Looking ahead, with many new global trade barriers in place and the slowdown in the automotive and steel industry, there may be an overall stagnation in refractory demand for the non-ferrous sector. However, this should be compensated for by demand from new capacity in the environmental industries, as well as for e-mobility related applications.

Additional demand from customers for solutions has strengthened the performance of the business throughout 2019, as well as demand for digital offerings. This trend is expected to continue throughout 2020.

New Markets

China

China revenues were up by 9.7% in 2019 on a constant currency basis compared to the previous year. The region recorded revenue of €184 million, up from €168 million in 2018.

As part of its strategy to penetrate new markets, the Company has focused on increasing market share in China. In particular, the Cement/Lime segment delivered a strong performance in China over the course of the year and now has around 10% market share. The new dolomite hub in Chizhou had its first full year in operation and this will enable China to increase its backward integration and cost-efficient production. The Company celebrated the success of winning its first ever solutions contract in China, with GuangXi ShengLong in the first half of 2019. This was followed by a second large solutions contract in China in January 2020.

However, there has been an overall slowdown in Chinese steel demand, as demand is linked to fixed asset investment growth, which has been declining since mid-2019. Furthermore, Chinese steel demand has been affected by the weaker automotive sector. The higher quality and specialist steel segment in China fared more positively however, being less affected by the underlying demand volatility. The Chinese economy has had a material impact from the effect of COVID-19.

Whilst there is likely to be actions from the government to stabilise the economy, the performance overall for 2020 is uncertain.

India

India continues to be one of the key growth markets for the Company and has been delivering steady growth in revenue and margin, as well as gains in market share over the years.

In 2019, revenue in India was flat on a constant currency basis, at €252 million, up from €251 million in 2018.

The demand and consumption of the Indian steel industry has continued to grow, with production increasing by 1.8% compared to 2018. However, from the second quarter of 2019 onwards, the domestic steel industry witnessed sluggish demand on the back of slow GDP growth and a slowdown in the automobile and construction sectors, following the liquidity crisis. The slowdown continued until the end of the year, creating demand and margin pressure for the Company.

Against this backdrop, Steel Division revenue for India was broadly flat in 2019, at €206 million versus €208 million achieved in the prior year on a constant currency basis. Despite the economic backdrop, the Indian operations maintained their effective deployment of internal cost control, inventory management, receivable recovery and synergy measures, which helped the Company navigate these more difficult market conditions.

Throughout the year, the Group continued to drive operational efficiencies and synergies in its Indian operations. The Group was able to achieve substantial integration of its production, supply chain and sales network, which will deliver significant value to our customers and other stakeholders. As part of the strategic expansion in India to increase capacity and improve customer services, the Company bought Intermetal Engineers Pvt., a metallurgical equipment manufacturer in May 2019 for €1.3 million, and separately acquired a refractory brick plant in September 2019 from Manishri Refractories & Ceramics Pvt. Ltd. for €5.5 million.

With Government interventions such as lower interest rates, corporate tax cuts and various reforms including large planned infrastructure spend, steel consumption growth in India is forecast at 5% CAGR for the next 3 years. However, in the short term, this may be undermined further by broader economic slowdown.

Alternative performance measures ("APMs")

APMs used by the Group are reviewed below to provide a definition from each non-IFRS APM to its IFRS equivalent, and to explain the purpose and usefulness of each APM.

In general, APMs are presented externally to meet investors' requirements for further clarity and transparency of the Group's underlying financial performance. The APMs are also used internally in the management of our business performance, budgeting and forecasting.

APMs are non-IFRS measures. As a result, APMs allow investors and other readers to review different kinds of revenue, profits and costs and should not be used in isolation. Commentary within the Year-End Results, including the Financial Review, as well as the Consolidated Financial Statements and the accompanying notes, should be referred to in order to fully appreciate all the factors that affect our business. We strongly encourage readers not to rely on any single financial measure, but to carefully review our reporting in its entirety.

Adjusted pro-forma results at a constant currency
Adjusted and Adjusted results at constant currency The H1 2018 Adjusted results are, where appropriate, adjusted to reflect the purchase price allocation ("PPA") related to the acquisition of Magnesita and other adjustments. This measure provides an estimation of the historical financial performance of the current Group structure. H1 2018 figures presented at constant currency represent H1 2018 reported figures translated at average H1 2019 exchange rates.

EBITA

EBIT, as presented in Consolidated Statement of Profit and Loss, excluding amortisation and impairments.

EBITDA
EBIT, as presented in Consolidated Statement of Profit and Loss, excluding depreciation, amortisation and impairments.

Adjusted EBITDA and EBITA
To provide further transparency and clarity to the ongoing, underlying financial performance of the Group, adjusted EBITDA and EBITA are used. Both measures exclude other income and expenses as presented in Consolidated Statement of Profit and Loss.

Adjusted earnings per share ("Adjusted EPS")
Adjusted EPS is used to assess the Company's operational performance per ordinary share outstanding. It is calculated using adjusted EBITA (as described above) and removes the impact of certain foreign exchange effects, amortisation, one-off restructuring expenses and impairments, other non-cash financial income and expenses, that are not directly related to operational performance. Effective tax rate for adjusted EPS is calculated by applying the effective tax rate normalised for restructuring expenses and impairments.

Operating cash flow and free cash flow
Alternative measures for cash flow are presented to reflect net cash inflow from operating activities before certain items. Free cash flow is considered relevant to reflect the cash performance of business operations after meeting the usual obligations of financing and tax. It is therefore measured before all other remaining cash flows, being those related to acquisitions and disposals, other equity-related and debt-related funding movements, and foreign exchange impacts on financing and investing activities.

Working capital
Working capital and intensity provides a measure how efficient the Company is in managing operating cash conversion cycles. Working capital is the sum of manageable working capital, composed of inventories, trade receivables and trade payables and other receivables and payables. Working capital intensity is measured as a percentage of last three months annualised revenue.

Net debt
We present an alternative measure to bring together the various funding sources that are included in the Consolidated Balance Sheet and the accompanying notes. Net debt is a measure defined in the Group's principal financing arrangements and reflects the net indebtedness of the Group and includes all cash, cash equivalents and marketable securities; and any debt or debt-like items.

Consolidated Financial Statements 2019

Consolidated Statement of Financial Position

as of 31.12.2019

in € million	Notes	31.12.2019	31.12.2018
ASSETS			
Non-current assets			
Goodwill	(11)	117.5	117.4
Other intangible assets	(12)	319.0	334.4
Property, plant and equipment	(13)	1,106.8	1,094.8
Investments in joint ventures and associates	(14)	19.5	21.8
Other non-current financial assets	(15)	15.4	18.0
Other non-current assets	(16)	39.5	34.3
Deferred tax assets	(17)	181.9	171.1
		1,799.6	1,791.8
Current assets			
Inventories	(18)	602.7	717.8
Trade and other current receivables	(19)	432.7	481.2
Income tax receivables	(20)	17.3	18.4
Other current financial assets	(21)	0.1	38.6
Cash and cash equivalents	(22)	467.2	491.2
		1,520.0	1,747.2
		3,319.6	3,539.0

in € million	Notes	31.12.2019	31.12.2018
EQUITY AND LIABILITIES			
Equity			
Share capital	(23)	49.5	48.3
Group reserves	(24)	774.4	752.2
Equity attributable to shareholders of RHI Magnesita N.V.		823.9	800.5
Non-controlling interests	(25)	20.8	84.8
		844.7	885.3
Non-current liabilities			
Borrowings	(26)	983.5	844.8
Other non-current financial liabilities	(27)	105.1	49.5
Deferred tax liabilities	(17)	54.0	78.4
Provisions for pensions	(28)	328.1	304.3
Other personnel provisions	(29)	75.8	78.5
Other non-current provisions	(30)	98.5	109.2
Other non-current liabilities	(31)	7.3	10.3
		1,652.3	1,475.0
Current liabilities			
Borrowings	(26)	71.5	321.6
Other current financial liabilities	(27)	31.9	15.0
Trade payables and other current liabilities	(32)	614.0	756.9
Income tax liabilities	(33)	35.4	32.2
Current provisions	(34)	69.8	53.0
		822.6	1,178.7
		3,319.6	3,539.0

Consolidated Statement of Profit or Loss

from 01.01.2019 to 31.12.2019

in € million	Notes	2019	2018
Revenue	(35)	2,922.3	3,081.4
Cost of sales	(36)	(2,205.1)	(2,344.5)
Gross profit		717.2	736.9
Selling and marketing expenses	(37)	(126.2)	(128.9)
General and administrative expenses	(38)	(209.2)	(208.4)
Restructuring and write-down expenses	(39)	(112.1)	(22.3)
Other income	(40)	34.9	43.9
Other expenses	(41)	(31.3)	(22.6)
EBIT		273.3	398.6
Interest income	(42)	9.1	9.7
Interest expenses on borrowings		(28.4)	(48.5)
Net expense on foreign exchange effects and related derivatives	(43)	(17.2)	(81.3)
Other net financial expenses	(44)	(38.7)	(42.6)
Net finance costs		(75.2)	(162.7)
Share of profit of joint ventures and associates	(14)	1.5	10.1
Profit before income tax		199.6	246.0
Income tax	(45)	(50.8)	(58.9)
Profit after income tax		148.8	187.1
attributable to shareholders of RHI Magnesita N.V.		139.0	158.1
attributable to non-controlling interests	(25)	9.8	29.0

in €			
Earnings per share - basic	(52)	2.82	3.52
Earnings per share - diluted		2.81	3.52

Consolidated Statement of Comprehensive Income

from 01.01.2019 to 31.12.2019

in € million	Notes	2019	2018
Profit after income tax		148.8	187.1
Currency translation differences			
Unrealised results from currency translation	(7)	(7.6)	(20.3)
Deferred taxes thereon	(45)	3.9	0.9
Current taxes thereon		2.4	0.0
Unrealised results from net investment hedge	(56)	(2.9)	0.0
Deferred taxes thereon	(56)	0.5	0.0
Current taxes thereon	(56)	0.2	0.0
Reclassification to profit or loss	(41)	3.7	0.0
Cash flow hedges			
Unrealised fair value changes	(55)	(7.4)	(6.8)
Deferred taxes thereon	(45)	1.9	1.8
Reclassification to profit or loss	(55)	(0.7)	0.0
Share of other comprehensive income of joint ventures and associates	(14)	0.0	0.1
Items that will be reclassified subsequently to profit or loss, if necessary		(6.0)	(24.3)
Remeasurement of defined benefit plans			
Remeasurement of defined benefit plans	(28)	(37.1)	(11.5)
Deferred taxes thereon	(45)	9.1	3.0
Share of other comprehensive income of joint ventures and associates	(14)	(0.1)	0.0
Items that will not be reclassified to profit or loss		(28.1)	(8.5)
Other comprehensive income after income tax		(34.1)	(32.8)
Total comprehensive income		114.7	154.3
attributable to shareholders of RHI Magnesita N.V.		103.4	137.9
attributable to non-controlling interests	(25)	11.3	16.4

Consolidated Statement of Cash Flows

from 01.01.2019 to 31.12.2019

in € million	Notes	2019	2018
Cash generated from operations		470.4	462.2
Income tax paid less refunds		(67.8)	(67.9)
Net cash inflow from operating activities	(48)	402.6	394.3
Investments in property, plant and equipment and intangible assets		(156.1)	(122.6)
Investments in subsidiaries net of cash acquired		(0.5)	0.0
Investments in securities		(0.4)	(121.2)
Cash inflows from sale of subsidiaries net of cash disposed of		2.5	0.0
Cash inflows from the sale of property, plant and equipment		1.4	2.9
Cash inflows from the sale of securities and shares		40.9	118.4
Dividends received from joint ventures and associates		13.4	11.0
Investment subsidies received		0.2	2.1
Interest received	(50)	8.3	8.2
Investments in/ cash inflows from non-current receivables		0.0	0.4
Net cash (outflow) from investing activities		(90.3)	(100.8)
Share issue costs		0.0	(6.2)
Capital contribution to associates		0.0	(1.4)
Acquisition of treasury shares		(18.8)	0.0
Acquisition of non-controlling interests		(44.6)	(80.1)
Proceeds from sale of non-controlling interests		0.0	9.2
Dividend payments to shareholders of the Group		(74.2)	(33.6)
Dividend payments to non-controlling interests		(1.3)	(1.1)
Proceeds from borrowings and loans		432.0	734.9
Repayments of borrowings and loans		(550.4)	(801.9)
Changes in current borrowings		(2.8)	26.4
Interest payments	(50)	(49.8)	(71.1)
Repayment of lease obligations		(14.3)	0.0
Interest payments from lease obligations		(1.2)	0.0
Cash flows from derivatives		(14.4)	(20.1)
Net cash (outflow) from financing activities	(49)	(339.8)	(245.0)
Total cash flow		(27.5)	48.5
Change in cash and cash equivalents		(27.5)	48.5
Cash and cash equivalents at beginning of year		491.2	442.4
Foreign exchange impact		3.5	0.3
Cash and cash equivalents at year-end	(22)	467.2	491.2

Consolidated Statement of Changes in Equity

from 01.01.2019 to 31.12.2019

			Group reserves								
						Accumulated other comprehensive income					
in € million	Share capital	Treasury shares	Additional paid-in capital	Mandatory reserve	Retained earnings	Cash flow hedges	Defined benefit plans	Currency translation	Equity attributable to shareholders of RHI Magnesita N.V.	Non-controlling interests	Total equity
Notes	(23)		(24)	(24)	(24)	(24)	(24)	(24)		(25)	
31.12.2018	48.3	-	305.5	288.7	351.0	(5.0)	(114.2)	(73.8)	800.5	84.8	885.3
Profit after income tax	-		-	-	139.0	-	-	-	139.0	9.8	148.8
Currency translation differences	-		-	-	-	-	-	(1.4)	(1.4)	1.6	0.2
Market valuation of cash flow hedges	-		-	-	-	(6.1)	-	-	(6.1)	(0.1)	(6.2)
Remeasurement of defined benefit plans	-		-	-	-	-	(28.0)	-	(28.0)	-	(28.0)
Share of other comprehensive income of joint ventures and associates	-		-	-	-	-	(0.1)	-	(0.1)	-	(0.1)
Other comprehensive income after income tax	-	-	-	-	-	(6.1)	(28.1)	(1.4)	(35.6)	1.5	(34.1)
Total comprehensive income	-	-	-	-	139.0	(6.1)	(28.1)	(1.4)	103.4	11.3	114.7
Dividends	-	-	-	-	(98.8)	-	-	-	(98.8)	(1.3)	(100.1)
Issue of ordinary shares related to the integrated tender offer of Magnesita	1.2	-	55.8	-	-	-	-	-	57.0	-	57.0
Shares repurchased	-	(18.8)	-	-	-	-	-	-	(18.8)	-	(18.8)
Disposal of benefit plans	-	-	-	-	1.2	-	(1.2)	-	-	-	-
Acquisition in non-controlling interests without change of control	-	-	-	-	(16.9)	0.1	(2.1)	(4.6)	(23.5)	(74.0)	(97.5)
Share-based expenses	-	-	-	-	4.1	-	-	-	4.1	-	4.1
Transactions with shareholders	1.2	(18.8)	55.8	-	(110.4)	0.1	(3.3)	(4.6)	(80.0)	(75.3)	(155.3)
31.12.2019	49.5	(18.8)	361.3	288.7	379.6	(11.0)	(145.6)	(79.8)	823.9	20.8	844.7

in € million	Share capital	Additional paid-in capital	Mandatory reserve	Retained earnings	Cash flow hedges	Defined benefit plans	Currency translation	Equity attributable to shareholders of RHI Magnesita N.V.	Non-controlling interests	Total equity
		Group reserves								
					Accumulated other comprehensive income					
Notes	(23)	(24)	(24)	(24)	(24)	(24)	(24)		(25)	
31.12.2017	44.8	165.7	288.7	281.9	0.1	(107.7)	(54.7)	618.8	226.9	845.7
Effects of initial application of IFRS 15 (net of tax)				(6.0)				(6.0)	(0.6)	(6.6)
Effects of initial application of IFRS 9 (net of tax)				1.8				1.8	-	1.8
01.01.2018	44.8	165.7	288.7	277.7	0.1	(107.7)	(54.7)	614.6	226.3	840.9
Profit after income tax	-	-	-	158.1	-	-	-	158.1	29.0	187.1
Currency translation differences	-	-	-	-	-	-	(8.5)	(8.5)	(10.9)	(19.4)
Market valuation of cash flow hedges	-	-	-	-	(5.2)	-	-	(5.2)	0.2	(5.0)
Remeasurement of defined benefit plans	-	-	-	-	-	(6.6)	-	(6.6)	(1.9)	(8.5)
Share of other comprehensive income of joint ventures and associates	-	-	-	-	-	-	0.1	0.1	-	0.1
Other comprehensive income after income tax	-	-	-	-	(5.2)	(6.6)	(8.4)	(20.2)	(12.6)	(32.8)
Total comprehensive income	-	-	-	158.1	(5.2)	(6.6)	(8.4)	137.9	16.4	154.3
Dividends	-	-	-	(33.6)	-	-	-	(33.6)	(1.2)	(34.8)
Issue of ordinary shares related to the mandatory tender offer of Magnesita	3.5	139.8	-	-	-	-	-	143.3	-	143.3
Sale of non-controlling interests without loss of control	-	-	-	7.2	-	-	0.2	7.4	1.7	9.1
Acquisition in non-controlling interests without change of control	-	-	-	(59.4)	0.1	0.1	(10.9)	(70.1)	(158.4)	(228.5)
Share-based expenses	-	-	-	1.0	-	-	-	1.0	-	1.0
Transactions with shareholders	3.5	139.8	-	(84.8)	0.1	0.1	(10.7)	48.0	(157.9)	(109.9)
31.12.2018	48.3	305.5	288.7	351.0	(5.0)	(114.2)	(73.8)	800.5	84.8	885.3

Notes

to the Consolidated Financial Statements 2019

PRINCIPLES AND METHODS

1. General

RHI Magnesita N.V. (the "Company"), a public company with limited liability under Dutch law is registered with the Dutch Trade Register of the Chamber of Commerce under the number 68991665 and has its corporate seat in Arnhem, Netherlands. The administrative seat and registered office is located at Kranichberggasse 6, 1120 Vienna, Austria.

The Company and its subsidiaries, associates and joint ventures (the "Group") is a global industrial group whose core activities comprise of the development and production, sale, installation and maintenance of high-grade refractory products and systems used in industrial high-temperature processes exceeding 1,200°C. The Group supplies customers in the steel, cement, lime, glass and non-ferrous metals industries. In addition, the Group's products are used in the environment (waste incineration), energy (refractory construction) and chemicals (petrochemicals) sectors.

The shares of RHI Magnesita N.V. are listed on the Main Market of the London Stock Exchange and are included in the FTSE 250 Index.

RHI Magnesita N.V. was incorporated on 20 June 2017 and became the ultimate parent of the RHI Magnesita Group as of 26 October 2017, after completing the corporate restructuring of RHI AG. Until then, RHI AG was the ultimate parent of the Group. This restructuring represented a common control transaction that had no impact on the Consolidated Financial Statements, except for the reclassification of individual equity components.

The financial year of RHI Magnesita N.V. and the Group corresponds to the calendar year. If the financial years of subsidiaries included in the Consolidated Financial Statements do not end on 31 December due to local legal requirements, a special set of financial statements are prepared for the purpose of consolidation. The reporting date of the Indian subsidiaries is 31 March.

The Consolidated Financial Statements for the period from 1 January to 31 December 2019 were drawn up in accordance with all International Financial Reporting Standards (IFRSs) mandatory at the time of preparation as adopted by the European Union (EU). The presentation in the Consolidated Statement of Financial Position distinguishes between current and non-current assets and liabilities. Assets and liabilities are classified as current if they are due within one year or within a longer normal business cycle or if the company does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date. Inventories as well as trade receivables and trade payables are generally presented as current items. Deferred tax assets and liabilities as well as assets and provisions for pensions and termination benefits are generally presented as non-current items.

The Consolidated Statement of Profit or Loss is drawn up in accordance with the cost of sales method.

With the exception of specific items such as derivative financial instruments and plan assets for defined benefit obligations, the Consolidated Financial Statements are prepared on a historical cost basis unless otherwise stated.

The financial statements have been prepared on a going concern basis. Information on the outbreak of the coronavirus COVID-19 is disclosed under Note (64). The impact of COVID-19 on the Group is assessed below:

The Group benefits from a strong financial position, with low leverage and significant liquidity. As at 31 December 2019 the group has liquid resources of €467.2 million comprising cash and cash equivalents as well as since January 2020 a committed and unutilised credit facility amounting to €600.0 million. Furthermore, repayments of borrowings to financial institutions in 2020 are scheduled with €15.4 million only. Therefore, it is very likely that liquidity security is given for a period of at least 12 months after the date of approval of RHI Magnesita N.V.'s financial statements. As part of assessing the ability to continue as a going concern, RHI Magnesita also considered the impact of COVID-19 and a related potential global economic downturn on its business. Economic activities in the Steel and Industrial Segments are closely linked to the developments of the global markets. During this assessment management conducted various scenario analyses with sufficient depth and duration, considering different levels of revenue reduction and working capital implications. The sensitivities applied were informed by internal and external data sources, including a review of the Group's most recent production levels and short-term order book, customer feedback and review of regional macroeconomic forecasts. Using this data, management created Scenario A, Scenario B and Scenario C which modelled the effect of incremental reductions to revenue at regional and aggregated levels on the Group's results for a three-year period. The scenarios also accounted for the working capital implications of reduced sales activity and the mitigating actions available to management.

In each scenario, sufficient liquidity and headroom on the Group's covenants were demonstrated. Based on the most recent available external information we have no information that Scenario C is likely to occur. In the event of such further deterioration of market conditions as a result of the COVID-19 outbreak, and implementation of the mitigating actions identified by the Board, the Group will remain compliant with its financing covenant and will have sufficient liquidity to meet obligations when they fall due for a period of at least 12 months after 31 March 2020. In order to secure production capabilities and the health and safety of our employees, RHI Magnesita established Corona Task Forces on a global and regional basis, plants are operating with very strict restrictions, such as pre-work temperature checks. Moreover, all corporate offices are currently closed with employees working from home. RHI Magnesita is currently evaluating further potential actions to mitigate risk such as the use of short working hours, governmental subsidies and the tax benefits which are offered from the different national governments due to the COVID-19 crisis. As a result, and even though globally everyone is confronted with a high level of uncertainty, it is not expected that the coronavirus COVID-19 will have a material negative impact on the ability of the Group to operate as going concern.

The preparation of the Consolidated Financial Statements in agreement with generally accepted accounting principles under IFRS, as adopted by the EU, requires the use of estimates and assumptions that influence the amount and presentation of assets and liabilities recognised as well as the disclosure of contingent assets and liabilities as of the reporting date and the recognition of income and expenses during the reporting period. Although these estimates reflect the best knowledge of the management based on experience from comparable transactions, the actual values recognised at a later date may differ from these estimates.

All amounts in the Notes and tables are shown in € million, unless indicated otherwise. For computational reasons, rounding differences may occur.

The Annual Report was authorised for issue on 31 March 2020 and is subject to adoption at the Annual General Meeting of shareholders on 18 June 2020.

2. Initial application of new financial reporting standards

In 2019, the Group has applied for the first time a number of new standards and interpretations as well as amendments to IFRSs issued by the International Accounting Standards Board (IASB) that are mandatorily effective for an accounting period that begins on or after 1 January 2019.

Standard	Title	Publication (EU endorsement)[1]	Effects on RHI Magnesita Consolidated Financial Statements
New standards and interpretations			
IFRS 16	Leases	13.01.2016 (31.10.2017)	Detailed description after the tabular overview
IFRIC 23	Uncertainty over Income Tax Treatments	07.06.2017 (23.10.2018)	No material effects
Amendments of standards			
Various	Annual Improvements to IFRS 2015-2017 Cycle	12.12.2017 (14.03.2019)	No material effects
IAS 19	Plan Amendment, Curtailment or Settlement	07.02.2018 (13.03.2019)	No effect
IAS 28	Long-term Interests in Associates and Joint Ventures	12.10.2017 (08.02.2019)	No effect
IFRS 9	Prepayment Features with Negative Compensation	12.10.2017 (22.03.2018)	No effect
IFRS 7, IFRS 9, IAS 39	Interest Rate Benchmark Reform	26.09.2019 (15.01.2020)	No material effects

1) According to EU Endorsement Status Report of 23.01.2020.

IFRS 16 "Leases"

The accounting standard IFRS 16 "Leases", issued in January 2016 supersedes the previous IAS 17 "Leases" as well as the related interpretations and is applicable to financial years beginning on or after 1 January 2019.

Whereas accounting according to IFRS 16 remains mainly comparable to the IAS 17 regulations for lessors, accounting according to IFRS 16 leads to major changes for lessees as it requires lessees to recognise right-of-use assets and liabilities for all leases in the scope of IFRS 16. Applying this single lessee accounting model results in an increase in total assets and liabilities in the Consolidated Statement of Financial Position as well as in a replacement of the straight-line expenses for operating leases with a depreciation charge for right-of-use assets and interest expenses for lease liabilities in the Consolidated Statement of Profit or Loss. Moreover, there is a shift from cash flow from operating activities to cash flow from financing activities in the Consolidated Statement of Cash Flows, except for short-term leases and low value leases.

RHI Magnesita implemented IFRS 16 on 1 January 2019 using the modified retrospective approach for transition. According to this method the lease liability is measured at the present value of the remaining lease payments, discounted at using the incremental borrowing rate at initial application. The recognised amount of the right-of-use asset equals the lease liability. Cumulative adjustments were recognised as at adoption and comparative information was not restated.

When adopting IFRS 16 RHI Magnesita makes use of the following transition exemptions:

- Continuing to apply the definition of a lease in accordance with IAS 17 and IFRIC 4 and not to reassess whether a contract is or contains a lease according to IFRS 16.
- Relying on its assessment of whether leases are onerous immediately before the date of adoption as an alternative to performing impairment review.

RHI Magnesita makes use of the following ongoing IFRS 16 practical expedients:

- Lease payments for leases whose contractual term is 12 months or less or whose remaining term at adoption is 12 months or less will continue to be recognised as an expense.
- Lease payments for leases for which the underlying asset is of low value will continue to be recognised as an expense.
- Applying a single discount rate to a portfolio of leases with reasonably similar characteristics.

From 1 January 2019, leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate
- Amounts expected to be payable by the lessee under residual value guarantees
- The exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions. The incremental borrowing rate is based on the German federal bond and the US Government Treasury Yield Curve. Based on these two governmental curves, a spread is determined in relation to the bond rating of RHI Magnesita. This spread is then added with an inflation differential and a country risk premium for each country. The weighted average incremental borrowing rate applied to these lease liabilities was 2.44%.

Right-of-use assets are measured at cost comprising the following:

- The amount of the initial measurement of lease liability
- Any lease payments made at or before the commencement date less any lease incentives received
- Any initial direct costs, and
- Restoration and removal costs.

A lease modification is a change in the scope of a lease or the consideration for a lease, that was not part of the original terms and conditions of the lease. If the modification decreases the scope of the lease, the carrying amount of the right-of-use asset and the lease liability has to be reduced accordingly. If the modification increases the scope of the lease (consideration is not at a stand-alone price), the carrying amount of the right-of-use asset and the lease liability has to be increased accordingly.

RHI Magnesita's leases are mainly arrangements regarding land and buildings, technical equipment and machinery as well as other equipment, furniture and fixtures. The average lease term is eleven years for land and buildings, five years for technical equipment and four years for other equipment, furniture and fixtures. Impacts resulting from extension and termination options, as well as residual value guarantees are immaterial.

The following table shows the reconciliation of the minimum lease payments reported as at 31 December 2018 to the lease liability recognised on 1 January 2019:

Commitments arising from rental agreements and leases as at 31.12.2018	
Commitment for less than one year	16.3
Commitment for longer than one year and up to five years	27.7
Commitment for longer than five years	29.7
Total commitments arising from rental agreements and leases	73.7
Commitments arising from short-term leases and leases of low-value assets	(4.1)
Total commitments for the determination of the lease liability	69.6
Effect of discounting at the incremental borrowing rate	(7.6)
Lease liability as at 01.01.2019	62.0

The following table gives an overview of the positions affected by IFRS 16:

in € million	31.12.2019	01.01.2019
Right-of-use assets included in property, plant and equipment		
Right-of-use assets – land and buildings	24.0	40.0
Right-of-use assets – technical equipment and machinery	23.0	17.0
Right-of-use assets – other equipment, furniture and fixtures	4.2	5.0
Total right-of-use assets	51.2	62.0
thereof Segment Steel	28.2	34.0
thereof Segment Industrial	23.0	28.0
Lease liabilities included in other non-current and other current financial liabilities		
Current lease liabilities	13.8	16.0
Non-current lease liabilities	48.1	46.0
Total lease liabilities	61.9	62.0

in € million	2019
Depreciation charge of right-of-use assets	
Depreciation charge of right-of-use assets - land and buildings	5.1
Depreciation charge of right-of-use assets - technical equipment and machinery	7.0
Depreciation charge of right-of-use assets - other equipment furniture and fixtures	2.4
Total depreciation charge of right-of-use assets	14.5
Interest expense	1.2
Expenses related to short-term and low-value leases as well as variable lease payments	9.2
The total cash outflow for leases in 2019	24.7
Impact on Earnings per share in € (basic)	0.00
Impact on Earnings per share in € (diluted)	0.00

Payments associated with short-term leases of equipment and vehicles and all leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT equipment, office furniture and other small items.

IFRS 7, IFRS 9, IAS 39 “Interest Rate Benchmark Reform”
RHI Magnesita has elected to early adopt the amendments to IAS 39 and IFRS 7 Interest Rate Benchmark Reform (IBOR) issued in September 2019. In accordance with the transition provisions, the amendments have been adopted retrospectively to hedging relationships that existed at the start of the reporting period and to the amount accumulated in the cash flow hedge reserve at that date.

The amendments provide temporary relief from applying specific hedge accounting requirements to hedging relationships directly affected by the IBOR reform. The reliefs stipulated in the IBOR reform should not cause hedge accounting to terminate in general. However, any hedge ineffectiveness continues to be recorded in the income statement. Furthermore, the amendments set out triggers for when the reliefs will end, which include the uncertainty arising from interest rate benchmark reform no longer being present.

The timing and precise nature of the IBOR reform are currently uncertain. RHI Magnesita’s risk exposure that is directly affected by the IBOR reform concerns its USD 200 million floating-rate debt with a remaining term until 2023. RHI Magnesita has hedged this debt with an interest rate swap, and it has designated the swap in a cash flow hedge of the variability in cash flows of the debt, due to changes in USD LIBOR that is the current benchmark interest rate. Further information is provided under note (55).

Currently the structure of the USD LIBOR is unclear after 2021. This represents a possible source of ineffectiveness because this might affect at a different time and have a different impact on the hedged item (the floating-rate debt) and the hedging instrument (the interest rate swap used to hedge the debt). Management considers that the most likely scenario is that the hedged debt will move to the same alternative benchmark rate as the swap. Therefore, no material effect on the Group is expected.

According to recent developments on the market, the EURIBOR is expected to remain active as the benchmark rate in the Euro area and consequently the risk of discontinuation before 2023 is relatively small, thus the interest rate swap of EUR 305.6 million and its corresponding underlying hedged item, a floating-rate debt, both maturing in 2023, would most likely be unaffected. Even in the unlikely scenario of precocious discontinuation of the EURIBOR, Management considers that the hedged debt would move to the same alternative benchmark rate as the swap.

RHI Magnesita is closely monitoring the developments of the IBOR reform and is in close communication with the banks to minimise any mismatches going forward.

3. New financial reporting standards not yet applied

The IASB issued further standards, amendments to standards and interpretations, whose application is, however, not yet mandatory as at
31 December 2019. They were not applied early on a voluntary basis. They are not expected to have a significant impact on the RHI Magnesita Consolidated Financial Statements.

Standard	Title	Publication (EU endorsement)[1]	Mandatory application for RHI Magnesita	Expected effects on RHI Magnesita Consolidated Financial Statements
New standards				
IFRS 14	Regulatory Deferral Accounts	30.01.2014	No EU endorsement	Not relevant
IFRS 17	Insurance Contracts	18.05.2017	01.01.2021	Not relevant
Amendments of standards				
IAS 1, IAS 8	Definition of Material	31.10.2018	01.01.2020	No material effects
IFRS 3	Business Combinations	22.10.2018	01.01.2020	No effect
Various	Amendments to References to the Conceptual Framework in IFRS Standards	29.03.2018	01.01.2020	No effect

1) According to EU Endorsement Status Report of 23.01.2020.

The following financial reporting standard was issued by the IASB, but had not yet been adopted by the EU at the time of the preparation of the RHI Magnesita Consolidated Financial Statements:

Standard	Title	Publication[1]	Mandatory application for RHI Magnesita	Expected effects on RHI Magnesita Consolidated Financial Statements
New standards and interpretations				
Amendments of standards				
IAS 1	Classification of Liabilities as Current or Non-current	1/23/2020	1/1/2022	No material effects

1) According to EU Endorsement Status Report of 23.01.2020.

4. Integrated Tender Offer

As a result of the merger between RHI and Magnesita, the Group was required - in accordance with the share purchase agreement (SPA) and Brazilian laws and regulations – to make a mandatory public offer in Brazil which had to be addressed to all remaining Magnesita shareholders and had to be made on the same terms and conditions as those made available to the Sellers under the SPA, including as to purchase price and form of consideration. The Group decided to combine the mandatory offer with a so-called “delisting tender offer” in an Integrated Tender Offer (ITO) and filed with the Brazilian Securities Commission the respective request. The launch of the ITO was communicated to the minority shareholders on 10 November 2018.

Magnesita shareholders received the option of selling each Magnesita share in exchange of:

(i) R$18.46, adjusted by SELIC (the Brazilian benchmark interest rate) from 26 October 2017 until the date of the settlement of the auction of the Integrated Tender Offer, plus 0.1998 RHI Magnesita shares or
(ii) A cash-only alternative consideration.

The consideration of the cash-only alternative offer was the highest between:

(i) R$31.09, adjusted by SELIC from 26 October 2017 until the date of the settlement of the auction of the Integrated Tender Offer, and
(ii) R$35.56, not adjusted by SELIC.

In the course of the finalisation of the ITO in 2019, the Group acquired the remaining outstanding Magnesita shares during the first four months of 2019 and has issued a total of 1,140,658 new ordinary shares. As at 10 April 2019, RHI Magnesita's issued share capital consisted of 49,477,705 shares with voting rights. The fair value of the consideration as at 31 December 2019 is €97.5 million and includes a cash part in the amount of €40.5 million. These shares were delivered in four different instances to minority shareholders and admitted to trading on the London Stock Exchange's main market in the first four months 2019. The closing price per share on each of the trading days was used for the determination of the fair value of the issued ordinary shares totalling up to €57.0 million. The carrying amount of Magnesita's net assets in the Group's Consolidated Financial Statements as of 10 April 2019 was €499.7 million. Consequently, the carrying amount of non-controlling interests acquired amounts to €74.0 million. This transaction results in a decrease in equity attributable to shareholders of RHI Magnesita N.V totalling to €23.5 million.

5. Other changes in comparative information

Consolidated Statement of Profit or Loss
In 2019 RHI Magnesita initiated its Production Optimisation Plan and entered into the final phase of integration which led to a recognition of €112.1 million of restructuring expenses and asset write-downs. In line with the materiality principle this effect has been disclosed separately on the face of the Statement of Profit or Loss, the comparative figures have been adjusted accordingly.

Consolidated Statement of Cash Flows
Cash flows generated from operating activities have been repositioned within the Notes section and are now shown in Notes to Consolidated Statement of Cash Flows in order to improve peer comparability.

Segment reporting
Our internal management reporting is organised according to the activity of the customer. For the foundry customers this is the Steel segment as the majority of these customers are processing iron. Therefore, the responsibility of the foundry business has been moved from the Segment Industrial to Segment Steel in 2019. The information for the previous year was adjusted accordingly, impacting revenue by €8.7 million, Gross Profit by €4.0 million and segment assets by €3.6 million.

6. Methods of consolidation

Subsidiaries
Subsidiaries are companies over which RHI Magnesita N.V. exercises control. Control exists when the company has the power to decide on the relevant activities, is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

The main operating companies of the RHI Magnesita Group and their core business activities are as follows:

Name and registered office of the company	Country of core activity	Core business activity
Didier-Werke Aktiengesellschaft, Germany	Germany	Production
Magnesit Anonim Sirketi, Turkey	Turkey	Mining, production, sales
Magnesita Mineração S.A., Brazil	Brazil	Mining
Magnesita Refractories Company, USA	USA	Mining, production, sales
Magnesita Refractories GmbH, Germany	Germany	Production
Magnesita Refratários S.A., Brazil	International	Production, sales
RHI Magnesita Trading B.V., Netherlands	International	Procurement, sales, supply chain
Orient Refractories Limited, India	India	Production, sales
RHI Canada Inc., Canada	Canada	Production, sales, provision of services
RHI Magnesita GmbH, Austria	International	Sales, R&D, financing
RHI GLAS GmbH, Germany	International	Sales
RHI Refractories (Dalian) Co., Ltd., PR China	PR China	Production
RHI US Ltd., USA	USA	Production, sales, provision of services
RHI-Refmex, S.A. de C.V., Mexico	Latin America	Sales
Veitsch-Radex GmbH & Co OG, Austria	Austria	Mining, production

The acquisition method is used to account for all business combinations. The purchase price for shares is offset against the proportional share of net assets based on the fair value of the acquired assets and liabilities at the date of acquisition or when control is obtained. Intangible assets which were previously not recognised in the separate Financial Statements of the company acquired are also measured at fair value. Intangible assets identified when a company is acquired, including for example technology, mining rights and customer relations, are only measured separately at the time of acquisition if they are identifiable and are in the control of the company and a future economic benefit is expected.

For acquisitions where less than 100% of shares in companies are acquired, IFRS 3 allows an accounting policy choice whereby either goodwill proportionate to the share held or goodwill including the share accounted for by non-controlling interests can be recognised. This accounting policy choice can be exercised for each acquisition. For the acquisition of Magnesita, non-controlling interests have been measured at their proportionate share of Magnesita's identifiable net assets.

If a business combination is achieved in stages, the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date. Any gains and losses arising from such remeasurement are recognised in profit or loss.

After completing the purchase price allocation, the determined goodwill is allocated to the relevant cash-generating unit and tested for impairment. In accordance with the provisions of IFRS 3, negative goodwill is immediately recognised to profit or loss in other income after renewed measurement of the identifiable assets, liabilities and contingent liabilities.

Net assets of subsidiaries not attributable to RHI Magnesita N.V. are shown separately under equity as non-controlling interests. The basis for non-controlling interests is the equity after adjustment to the accounting and measurement principles of the RHI Magnesita Group and proportional consolidation entries.

Transaction costs which are directly related to business combinations are expensed as incurred. Contingent consideration included in the purchase price is recorded at fair value at initial consolidation.

When additional shares are acquired in entities already included in the Consolidated Financial Statements as subsidiaries, the difference between the purchase price and the proportional carrying amount in the subsidiary's net assets is offset against shareholders' equity. Gains and losses from the sale of shares are recorded in equity unless they lead to a loss of control.

All intragroup results are fully eliminated.

In accordance with IAS 12, deferred taxes are calculated on temporary differences arising from the consolidation. Subsidiaries are deconsolidated on the day control ends.

Joint ventures and associates
Shares in joint ventures and associates are accounted for using the equity method. A joint venture is a joint arrangement between the RHI Magnesita Group and one or several other partners whereby the parties that have joint control over the arrangement have rights to the net assets of the arrangement.

An associate is an entity over which the RHI Magnesita Group has significant influence. Significant influence is the power to participate in the investee's financial and operating policy decisions without control or joint control. There is the rebuttable presumption that if a company holds directly or indirectly 20% of the shares of the investee or has other abilities (e.g. through seats in the supervisory board) to influence the company's financial and operating policy decisions it has significant influence.

At the date of acquisition, a positive difference between the acquisition costs and the share in the fair values of identified assets and liabilities of the joint ventures and associates is determined and recognised as goodwill. Goodwill is shown as part of investments in joint ventures and associates in the Statement of Financial Position.

The acquisition cost of investments accounted for using the equity method is adjusted each year to reflect the change in the equity of the individual joint venture or associate that is attributable to the RHI Magnesita Group. Unrealised intragroup results from transactions are offset against the carrying amount of the investment on a pro-rata basis during consolidation, if material.

RHI Magnesita examines at every reporting date whether there exist any objective indications of an impairment of the shares in joint ventures and associates. If such indications exist, the required impairment is determined as the difference between the recoverable amount and the carrying amount of the joint ventures and associates and recognised in profit and loss in the item share of profit of joint ventures and associates.

When the group's share of losses in an equity-accounted investment equals or exceeds its interest in the entity, including any other unsecured long-term receivables, the group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the other entity. If the equity-accounted investment subsequently reports profits, the entity resumes recognising its share of profits only after those profits equal or exceed its share of losses not recognised.

The Financial Statements of the companies accounted for using the equity method are prepared in accordance with uniform accounting and measurement methods throughout the Group.

7. Foreign currency translation

Functional currency and presentation currency
The Consolidated Financial Statements are presented in Euro, which represents the functional and presentation currency of RHI Magnesita N.V.

The items included in the Financial Statements of each Group company are based on the currency of the primary economic environment in which the company operates (functional currency).

Foreign currency transactions and balances
Foreign currency transactions in the individual Financial Statements of Group companies are translated into the functional currency based on the exchange rate in effect on the date of the transaction. Gains and losses arising from the settlement of such transactions and the measurement of monetary assets and liabilities in foreign currencies at the closing rate are recognised in profit or loss under net expense on foreign exchange effects and related derivatives. Unrealised currency translation differences from monetary items which form part of a net investment in a foreign operation are recognised in other comprehensive income in equity. When a non-derivative financial instrument is designated as the hedging instrument in a net investment hedge in a foreign operation, the effective portion of the foreign exchange gains and losses is recognised in the currency translation difference reserve within equity. Non-monetary items in foreign currency are carried at historical rates.

If foreign companies are deconsolidated, the currency translation differences are recognised in the Statement of Profit or Loss as part of the gain or loss from the sale of shares in subsidiaries. In addition, when monetary items cease to form part of a net investment in a foreign operation or when in case of a net investment hedge the foreign operation is disposed, the currency translation differences previously recognised in other comprehensive income are reclassified to profit or loss.

Group companies
The Annual Financial Statements of foreign subsidiaries that have a functional currency differing from the Group presentation currency are translated into Euros as follows:

Assets and liabilities are translated at the closing rate on the reporting date of the Group, while monthly income and expenses and consequently the profit or loss for the year as presented in the Statement of Profit or Loss are translated at the respective closing rates of the previous month. Differences resulting from this translation process and differences resulting from the translation of amounts carried forward from the prior year are recorded under other comprehensive income without recognition to profit or loss. Monthly cash flows are translated at the respective closing rates of the previous month. Goodwill and adjustments to the fair value of assets and liabilities related to the purchase price allocations of a subsidiary outside the European currency area are recognised as assets and liabilities of the respective subsidiary and translated at the closing rate.

RHI Magnesita has evaluated the effect of applying IAS 29 “Financial Reporting in Hyperinflationary Economies” in Argentina with the conclusion that the effect on the Consolidated Financial Statements is considered immaterial to the Group.

The Euro exchange rates of currencies important for the RHI Magnesita Group are shown in the following table:

		Closing rate		Average rate[1]	
Currencies	1 € =	31.12.2019	31.12.2018	2019	2018
Argentine Peso	ARS	67.09	43.10	52.94	32.58
Brazilian Real	BRL	4.51	4.44	4.41	4.29
Canadian Dollar	CAD	1.46	1.56	1.49	1.53
Chilean Peso	CLP	842.57	793.69	792.03	753.18
Chinese Renminbi Yuan	CNY	7.81	7.87	7.73	7.81
Indian Rupee	INR	79.90	79.88	78.84	80.45
Mexican Peso	MXN	21.19	22.49	21.74	22.70
Norwegian Krone	NOK	9.88	9.94	9.86	9.62
Pound Sterling	GBP	0.85	0.90	0.88	0.89
Swiss Franc	CHF	1.09	1.13	1.11	1.15
South African Rand	ZAR	15.78	16.46	16.24	15.45
US Dollar	USD	1.12	1.14	1.12	1.18

1) Arithmetic mean of the monthly closing rates.

8. Principles of accounting and measurement

Goodwill
Goodwill is recognised as an asset in accordance with IFRS 3. It is tested for impairment at least once each year, or when events or a change in circumstances indicate that the asset could be impaired.

In accordance with IFRS 3, negative goodwill is recognised through profit or loss immediately after a new assessment of the identified assets, liabilities and contingent liabilities.

Other intangible assets
Mining rights were recognised in the course of the purchase price allocation for Magnesita and are amortised based on the depletion of the related mines. Depletion is calculated based on the volume mined in the period in proportion to the total estimated volume.

Customer relations were recognised in the course of purchase price allocations of acquired subsidiaries and are amortised on a straight-line basis over the expected period of useful life.

Research costs are expensed in the year incurred and included under general and administrative expenses.

Development costs are only capitalised if the allocable costs of the intangible asset can be measured reliably during its development period. Moreover, capitalisation requires that the product or process development can be clearly defined, is feasible in technical, economic and capacity terms and is intended for own use or sale. In addition, future cash inflows which cover not only normal costs but also the related development costs must be expected. Capitalised development costs are amortised on a straight-line basis over the expected useful life, however, with a maximum useful life of ten years, and recognised in cost of sales.

The development costs for internally generated software are expensed as incurred if their primary purpose is to maintain the functionality of existing software. Expenses that can be directly and conclusively allocated to individual programmes and represent a significant extension or improvement over the original condition of the software are capitalised as production costs and added to the original purchase price of the software. These direct costs include the personnel expenses for the development team as well as a proportional share of overheads. Software is predominantly amortised on a straight-line basis over a period of four years.

Purchased intangible assets are measured at acquisition cost, which also includes acquisition-related costs, less accumulated amortisation and impairments. Intangible assets with a finite useful life are amortised on a straight-line basis over the expected period of useful life. The following table shows the most important useful lives:

Customer relationships	6 to 15 years
Patents	7 to 18 years
Brand rights	20 years
Land use rights	30 to 65 years
Software	4 years

Property, plant and equipment

Property, plant and equipment is measured at acquisition or production cost, less accumulated depreciation and accumulated impairments. These assets are depreciated on a straight-line basis over the expected useful life, calculated pro rata from the month the asset is available for use.

IFRS 16 “Leases”, supersedes the previous IAS 17 “Leases” as well as the related interpretations and is applicable to financial years beginning on or after 1 January 2019. For the amounts relating to leases recognised in the Statement of Financial Position and in the Statement of Profit or Loss see the overview of the positions affected by IFRS 16 under Note (2).

Production costs of internally generated assets comprise direct costs as well as a proportionate share of capitalisable overheads and borrowing costs. If financing can be specifically allocated to an investment, borrowing costs are capitalised as production costs. If no direct connection can be made, the average rate on borrowed capital of the Group is used as the capitalisation rate due to the central funding of the Group.

Expected demolition and disposal costs at the end of an asset’s useful life are capitalised as part of acquisition cost and recorded as a provision. The criteria for this treatment are a legal or constructive obligation towards a third party and the ability to prepare a reliable estimate.

Real estate, land and plant under construction are not depreciated. Depreciation of other material property, plant and equipment is based on the following useful lives in the RHI Magnesita Group:

Factory and office buildings	15 to 50 years
Land improvement	8 to 30 years
Crusher machines and mixing facilities	8 to 20 years
Presses	10 to 12 years
Tunnel, rotary and shaft kilns	50 years
Other calcining and drying kilns	20 to 30 years
Cars, other plant, furniture and fixtures	3 to 35 years

RHI Magnesita's leases include mainly arrangements regarding land and buildings, technical equipment and machinery as well as other equipment, furniture and fixtures. The average lease term is eleven years for land and buildings, five years for technical equipment and four years for other equipment, furniture and fixtures. Impacts resulting from extension and termination options, as well as residual value guarantees are immaterial.

The residual values and economic useful lives are reviewed regularly and adjusted if necessary.

When components of plant or equipment have to be replaced at regular intervals, the relevant replacement costs are capitalised as incurred if the criteria per IAS 16 have been met. The carrying amount of the replaced components is derecognised. Regular maintenance and repair costs are expensed as incurred.

Gains or losses from the disposal of property, plant and equipment, which result as the difference between the net realisable value and the carrying amount, are recognised as income or expense in the Consolidated Statement of Profit or Loss.

Impairment of property, plant and equipment, goodwill and other intangible assets
Property, plant and equipment, including Right-of-use assets, and intangible assets, including goodwill, are tested for impairment if there is any indication that the value of these items may be impaired. Intangible assets with an indefinite useful life and goodwill are tested for impairment at least annually.

An asset is considered to be impaired if its recoverable amount is less than the carrying amount. The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use (present value of future cash flows). If the carrying amount is higher than the recoverable amount, an impairment loss equivalent to the resulting difference is recognised in the Statement of Profit or Loss. If the reason for an impairment loss recognised in the past for property, plant and equipment and for other intangible assets ceases to exist, a reversal of impairment on the amortised acquisition and production costs is recognised to profit or loss.

In the case of impairments related to cash-generating units (CGU) which contain goodwill, existing goodwill is initially reduced. If the required impairment exceeds the carrying amount of goodwill, the difference is apportioned proportionately to the remaining non-current tangible and intangible assets of the CGU. Reversals of impairment losses recognised on goodwill are not permitted and are therefore not considered. The effects of impairment tests at the CGU level are shown separately in the Statement of Profit or Loss.

If there is an indication for an impairment of a specific asset, only this specific asset will be tested for impairment. The recoverable amount is determined through fair value. If the fair value is lower than the carrying amount, an impairment loss is recorded in EBIT or, in the case of restructuring, in restructuring costs.

Cash-generating units (CGU)
In the Group individual assets do not generate cash inflows independent of one another; therefore, no recoverable amount can be presented for individual assets. As a result, the assets are combined in CGUs, which largely generate independent cash inflows. These units are combined in strategic business units and reflect the market presence and market appearance and are as such responsible for cash inflows. CGU's are determined based on group of assets that can generate cash inflows independent of other assets.

The organisational structures of the Group reflect these units. In addition to the joint management and control of the business activities in each unit, the sales know-how, the knowledge of RHI Magnesita's long-standing customer relationships or knowledge of the customer's production facilities and processes further support these units. Product knowledge is manifested in the application-oriented knowledge of chemical, physical and thermal properties of RHI Magnesita products. The services offered extend over the life cycle of RHI Magnesita products at the customer’s plant, from the appropriate installation and support of optimal operations, to environmentally sound disposal with the customer or the sustainable reuse in the Group’s production process. These factors determine cash inflow to a significant extent and consequently form the basis for the CGU structures.

The CGUs of the strategic business unit Steel are Linings and Flow Control. These two units are determined according to the production stages in the process of steel production.

In the Industrial Division, each industry line of business (glass, cement/lime, non-ferrous metals and environment, energy, chemicals) forms a separate CGU. All raw material producing facilities with the exception of Norway are combined in one CGU.

The plant in Porsgrunn, Norway, is not included in the raw materials unit, but treated as a separate CGU because a management team was installed specifically for the coordination and implementation of the optimisation measures due to the dimension and the special situation at the Porsgrunn plant. This organisation goes beyond plant management and includes sub-tasks of the administration processes.

As in the previous year, the impairment test is based on the value in use; the recoverable amount is determined using the discounted cash flow method and incorporates the terminal value. The detailed planning of the first five years is congruent with the strategic business and financial planning. Based on the detailed planning period, it is geared to a steady-state business development, which balances out possible economic or other non-sustainable fluctuations in the detailed planning period and forms the basis for the calculation of the terminal value. As in the previous year, the terminal value is based on a growth rate derived from the difference of the current and the possible degree of utilisation of the assets.

The net cash flows are discounted using a discount rate that is calculated taking into account the weighted average cost of capital of comparable companies (peer group); the corresponding parameters are derived from capital market information. In addition, country-specific risk premiums are considered in the weighted average cost of capital. The discount rate ranges between 5.4% and 8.9% in the year 2019. In the previous year, the discount rates ranged between 10.1% and 13.0%. Main reason for higher discount rates in 2018 was that the equity beta for the peer group increased as the peer group companies outperformed the market index during the period under consideration. In addition, in 2018 one member of the peer group did not pass the statistical test (t-test) and consequently was excluded from the calculation. The adoption of IFRS 16 has no material impact on the discount rate.

Composition of estimated future cash flows

The estimates of future cash flows include forecasts of the cash flows from continued use. If assets are disposed at the end of their useful life, the related cash flows are also included in the forecasts.

A simplified statement of cash flows serves to determine the cash flows on the basis of strategic business and financial planning. The forecasts include cash flows from future maintenance investments. Expansion investments are only taken into account when there has been a significant cash outflow or significant payment obligations have been entered into due to services received and it is sufficiently certain that the investment measure will be completed. All other expansion investments are not considered; this applies in particular to expansion investments that have been decided on but not begun.

Working capital is included in the carrying amount of the CGU; therefore, the recoverable amount only takes into account changes in working capital.

Basis for Planning

Basis for the impairment test was the 2020 Budget and Long-Term Plan 2021 to 2025, which was approved by the Board, and developed with the growth rates used in the forward-looking business plan. To forecast the CGUs’ cash flows, management predicts the growth rate using external sources for the development of the customer’s industries and expert assumptions. This includes forecasts about the regional growth of the steel production and the output of the non-steel clients. In combination with the development of the specific refractory consumption, which considers technological improvements, the growth rates for the individual CGUs are determined.

			2019			2018
	Discount rate before Tax	Perpetual annuity growth rate	Goodwill in € million	Discount rate before Tax	Perpetual annuity growth rate	Goodwill in € million
Steel Division - Linings	7.9%	0.9%	88.6	11.3%	0.9%	88.4
Steel Division - Flow Control	7.7%	0.9%	27.2	11.3%	0.9%	27.3

The remaining goodwill of €1.7 million (31.12.2018: €1.7 million) is spread among the remaining CGU's, all of them having sufficient headroom.

Result of impairment test

Based on the impairment test conducted at 31 December 2019, the recoverability of the assets was demonstrated in all CGUs, except for the CGU Norway.

The property, plant and equipment of CGU Norway has been fully impaired as a result of impairment testing in previous years. This was caused by production costs exceeding the price of comparable raw materials on the market. Given the high raw material prices in 2018 and the lack of Fused Magnesia in the market, management decided to increase the production of Fused Magnesite at the plant. Fused Magnesia is a key raw material used for refractory bricks sold to Linings customers. At the adoption date of IFRS 16, the financial projections supported the recognition of the right-of-use assets according to IFRS 16, but future profitability was insufficient to reverse previously recognised impairments. In the fourth quarter of 2019 the Fused magnesia prices declined and the availability on the market allows RHI Magnesita to buy the material from external sources at lower cost.

Considering the current low prices for Fused Magnesia from China, the cash flow generated by the facility in Norway is negative. The cash flow is calculated based on the external sales of products manufactured in Porsgrunn and the value of internal supply of Fused Magnesia. This value is calculated comparing the manufacturing costs versus potential costs of sourcing comparable material from external sources.

As a result, RHI Magnesita has to write-down the non-current assets of CGU Norway totalling € 13,9 million (thereof real estate, land and buildings € 0.9 million, technical equipment, machinery € 1.4 million, other plant, furniture and fixtures € 0.3 million, plant under construction € 0.8 million, right-of-use asset land and buildings € 10.4 million, right-of-use asset technical equipment and machinery € 0.1 million) as of December 2019 in accordance with IAS 36.

As in the previous year, no reversals of impairments were made in the financial year 2019.

Other financial assets and liabilities

Financial assets are classified as at amortised cost, if the contractual cash flows of the financial asset include solely payments of principal and interest and they are held in order to collect the contractual cash flows. If the contractual cash flows of financial assets include solely payments of principal and interest, but they are held in order to both collect the contractual cash flows and sell the financial asset, then the financial assets are classified as at fair value through other comprehensive income. If the contractual cash flows of financial assets do not solely include payments of principal and interest, then these financial assets are classified as at fair value through profit or loss.

The Group initially recognises securities on the trading date when the entity becomes a party to the contractual provisions of the instruments. All other financial assets and financial liabilities are initially recognised on the date when they are originated. Financial instruments, except for trade receivables, are initially recognised at fair value. Financial assets are derecognised if the entity transfers substantially all the risks and rewards or if the entity neither transfers nor retains substantially all the risks and rewards and has not retained control. Financial liabilities are derecognised when the contractual obligations are settled, withdrawn or have expired.

The item other financial assets in the Consolidated Statement of Financial Position of RHI Magnesita includes shares in non-consolidated subsidiaries and other investments, securities, financial receivables and positive fair values of derivative financial instruments.

The item other financial liabilities includes negative fair values of derivative financial instruments as well as liabilities to fixed-term or puttable non-controlling interests.

Shares in non-consolidated subsidiaries (RHI Magnesita exercises control but the subsidiary is not-fully consolidated due to materiality reasons), investments in other companies as well as securities are classified as at fair value through profit or loss in the RHI Magnesita Group. For materiality reasons if such financial assets are of minor significance cost serves as an approximation of fair value. Directly attributable transaction costs are recognised in profit or loss as incurred. Securities at fair value through profit or loss are measured at fair value and changes therein, including any interest income, are recognised in profit or loss.

Financial receivables are measured at amortised cost applying the effective interest method. Any doubt concerning the collectability of the receivables is reflected in the use of the lower present value of the expected future cash flows according to the impairment model described below. Foreign currency receivables are translated at the closing rate.

Derivative financial instruments, which are not part of an effective hedging relationship in accordance with IFRS 9 or do not meet the hedge accounting requirements, must be classified as at fair value through profit or loss and measured at fair value through profit or loss.

In the RHI Magnesita Group, this measurement category includes derivatives related to purchase obligations, forward exchange contracts, embedded derivatives in open orders that are denominated in currencies other than the functional currency as well as derivative financial instruments in the form of interest rate swaps.

Derivative financial instruments relating to purchase obligations are accounted for in accordance with IFRS 9 and concern a long-term power supply contract which provides for the purchase of fixed amounts of electricity at fixed prices. The measurement is made taking into account quoted electricity prices in the futures market. Based on the fixed amounts of electricity, the cash flows for the entire term of the contract are initially determined as the difference between forward rates and contractually fixed prices and discounted at the reporting date using a cost of borrowing rate corresponding to the term. The measurement effects resulting from this electricity derivative are shown as gain or loss from derivatives from supply contracts in the Statement of Profit or Loss.

The measurement of forward exchange contracts and embedded derivatives in open orders denominated in a currency other than the functional currency is made on a case-by-case basis at the respective forward rate on the reporting date. These forward rates are based on spot rates, and also include forward premiums and discounts. Unrealised valuation gains or losses and results from the realisation are recognised to the Statement of Profit or Loss under net expense of foreign exchange effects and related derivatives. The underlying transactions for the derivatives are carried at amortised cost.

For derivative financial instruments, which are incorporated in an effective hedging relationship in accordance with IFRS 9, the provisions regarding hedge accounting are applied. RHI Magnesita has concluded derivative financial instruments in the form of interest rate swaps to hedge the cash flow risk of financial liabilities carrying variable interest. Hedging transactions are shown as part of cash flow hedge accounting. The interest rate swaps as hedging instruments are measured at fair value, which corresponds to the amount which RHI Magnesita would receive or has to pay on the reporting date when the financial instrument is terminated. The fair value is calculated using the interest rates and yield curves relevant on the reporting date. The effective part of the fair value changes is initially recorded in other comprehensive income as an unrealised gain or loss. Only at the time of the realisation of the underlying transaction, the contribution of the hedging instrument is shown in the Statement of Profit or Loss. Ineffective parts of the fair value changes of cash flow hedges are recognised immediately in the Statement of Profit or Loss. If the underlying transaction is no longer expected to take place, the accumulated amount previously recorded in other comprehensive income is reclassified to the Statement of Profit or Loss.

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge are recognised in Other Comprehensive Income and presented in the currency translation difference reserve within equity while any gains or losses relating to the ineffective portion are recognised in the Statement of Profit or Loss. On disposal of the foreign operation, the cumulative amount of any such gains or losses recorded in Other Comprehensive Income is reclassified to the Statement of Profit or Loss. The Group uses a loan to hedge its exposure to foreign exchange risk on its investments in foreign subsidiaries.

Capital shares of non-controlling interests in subsidiaries with a fixed term are recognised under other financial liabilities in the Consolidated Statement of Financial Position in accordance with IAS 32. The liabilities are measured at amortised cost. The share of profit attributable to non-controlling interests is recognised under other net financial expenses in the Statement of Profit or Loss. Dividend payments to non-controlling interests reduce liabilities.

Furthermore, the RHI Magnesita Group has entered into purchase obligations with non-controlling shareholders of a subsidiary. Based on these agreements, the shareholders receive the right to tender their shares at any time on previously defined conditions. In this case, IAS 32 provides for carrying a liability in the amount of the probable future exercise price. The difference between the estimated liability and the carrying amount of the non-controlling interest was recognised to equity at the time of initial recognition without affecting profit or loss. Subsequently, the liability to puttable non-controlling interests is measured at amortised cost and changes are recorded in net finance costs.

Impairment of financial assets

Impairment of financial instruments is based on expected credit losses (ECL). Expected credit losses are defined as the difference between all contractual cash flows the entity is entitled to according to the contract and the cash flows that the entity expects to receive. The measurement of expected credit losses is generally a function of the probability of default, loss given default and the exposure at default.

RHI Magnesita recognises a loss allowance for expected credit losses on investments in debt instruments that are measured at amortised cost, trade receivables and contract assets. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument.

The Group recognises lifetime ECL for trade receivables and contract assets by applying the simplified approach. The expected credit losses on these financial assets are generally estimated using a provision matrix based on the Group's historical credit loss experience for customer groups located in different geographic regions. Forward-looking information is incorporated in the determination of the applicable loss rates for trade receivables. For the Group, the general economic development of the countries in which it sells its goods and services is the relevant for the determination if adjustment of the historical loss rates is necessary.

For all other financial instruments, the Group recognises lifetime ECL when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on 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 12-month ECL.

Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

RHI Magnesita makes use of the practical expedient that if a financial instrument has an ‘investment grade’ rating that it is assumed to be of low credit risk and no significant increase in the credit risk took place and the expected credit loss is calculated using the 12-month ECL. Among other factors the Group considers a significant increase in credit risk to have taken place when contractual payments are more than 30 days past due.

The Group considers the following as constituting an event of default, hence leading to a credit-impaired financial asset:

- significant financial difficulty of the issuer or the borrower;
- a breach of contract;
- the lender(s) of the borrower, for economic or contractual reasons relating to the borrower’s financial difficulty, having granted to the borrower concessions that the lender(s) would not otherwise consider;
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganisation;
- the disappearance of an active market for that financial asset because of financial difficulties.

In addition to these factors, RHI Magnesita applies the presumption in regard to trade receivables, that a default event has occurred when such receivables are 180 days past due unless the Group has reasonable and supportable information for anything different. 180 days past due are used as an objective evidence of default as this is presumed to reflect the Group’s customer industry.

For those financial instruments where objective evidence of default is present an individual assessment on expected credit losses takes place.

Generally, financial instruments are written off when there is no reasonable expectation of recovery. Financial assets written off may still be subject to enforcement activities under the Group’s recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

Deferred taxes
Deferred taxes are recognised on temporary differences between the tax base and the IFRS carrying amount of assets and liabilities, tax-loss carryforwards and consolidation entries.

Deferred tax assets are recognised on temporary differences to the extent it is probable that sufficient deferred tax liabilities exist or that sufficient taxable income before the reversal of temporary differences is available for the settlement of deductible temporary differences.

Deferred taxes are recognised on temporary differences relating to shares in subsidiaries and joint ventures, unless the parent company is in a position to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse. No temporary differences are recognised for financial instruments which were issued by subsidiaries to non-controlling interests and which are classified as a financial liability in accordance with IFRS.

The calculation of deferred taxes is based on the tax rate expected in the individual countries at the time the deferred tax asset is realised or the liability is settled and generally reflects the enacted or substantively enacted tax rate on the reporting date. As in the previous year, deferred taxes of the Austrian group companies are determined at the corporation tax rate of 25.0%. Deferred tax assets and liabilities of the Brazilian group companies are measured mainly at 34.0%. Tax rates from 12.5% to 34% (31.12.2018: 12.5% to 34.9%) were applied to the other companies.

Deferred tax assets and liabilities are offset if there is an enforceable right to offset current tax receivables against current tax liabilities, and if the deferred taxes relate to income taxes due from/to the same tax authorities.

Inventories
Inventories are stated at the lower of cost or net realisable value as of the reporting date. The determination of acquisition cost of purchased inventories is based on the average cost. Finished goods and work in process are valued at fixed and variable production cost. The net realisable value is the estimated selling price in the ordinary course of business minus any estimated cost to complete and to sell the goods. Impairments due to reduced usability are reflected in the calculation of the net realisable value.

Trade and other current receivables
Trade receivables are recognised initially at the amount of consideration that is unconditional, unless they contain significant financing components when they are recognised at fair value and subsequently carried at amortised cost minus any valuation allowances. Valuation allowances are calculated in accordance with the simplified approach of the impairment model for financial instruments (see impairment of financial assets above).

In case of factoring arrangements trade receivables are derecognised if RHI Magnesita transfers substantially all the risks and rewards or does not retain control.

Receivables denominated in foreign currencies are translated using the closing rate.

Emission certificates
Emission certificates acquired for a consideration are carried at cost and recognised to profit and loss in cost of sales when used up, written down to fair value or sold. In the case of a shortfall, a provision is recognised equivalent to the fair value of the lacking emission certificates.

Emission certificates allocated free of charge are not accounted for. Proceeds from the sale of these rights are recognised as revenue.

Cash and cash equivalents
Cash and cash equivalents includes cash on hand, cheques received and cash at banks with an original term of a maximum of three months. Moreover, shares in money market funds, which are only exposed to insignificant value fluctuations due to their high credit rating and investments in extremely short-term money market instruments and can be converted to defined cash amounts within a few days at any time, are also recorded under cash equivalents under IAS 7.

Cash and cash equivalents denominated in foreign currencies are translated at the closing rate.

Disposal groups held for sale
Non-current assets and disposal groups which can be sold in their present state and whose sale is highly probable are classified as held for sale. Assets and liabilities which are intended to be sold together in a single transaction represent a disposal group held for sale and are shown separately from other assets and liabilities in the Statement of Financial Position.

Non-current assets and disposal groups which are classified as held for sale are carried at the lower of fair value less costs to sell and carrying amount. Impairments are initially allocated to existing goodwill and then to the non-current assets on a pro-rata basis, based on the carrying amount of each individual asset of the disposal group. Impairments beyond that are allocated to current assets pursuant to the liquidity principle and recognised through profit or loss in the item other expenses. Non-current assets are not depreciated as long as they are classified as held for sale.

Borrowings and other financial liabilities
Financial liabilities include liabilities to financial institutions and other lenders and are measured at fair value less directly attributable transaction costs at initial recognition. In subsequent measurements these liabilities are measured at amortised cost applying the effective interest method. Financial liabilities in foreign currency are translated at the closing rate.

A financial liability is derecognised when the obligation under the liability is discharged (by payment or legal release), cancelled or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The terms are substantially different if the discounted present value of the cash flows under the new terms, including any fees paid net of any fees received and discounted using the original effective interest rate, is at least 10% different from the discounted present value of the remaining cash flows of the original financial liability. The difference in the respective carrying amounts is subsequently recognised in the Statement of Profit or Loss, including any costs or fees.

Provisions

Provisions are recognised when the Group incurs a legal or constructive obligation as a result of past events, and it is probable that an outflow of resources will be required to meet this obligation, and the amount of the obligation can be reliably estimated.

Non-current provisions are measured at their discounted settlement value as of the reporting date if the discounting effect is material.

If maturities cannot be estimated, they are shown under current provisions.

Provisions for pensions

With respect to post-employment benefits, a differentiation is made between defined contribution and defined benefit plans.

Defined contribution plans limit the company's obligation to the agreed amount of contributions to earmarked pension plans. The related expenses are shown in the functional areas and thus in EBIT.

Defined benefit plans require the company to provide the agreed amount of benefits to active and former employees and their dependents, with a differentiation made between pension systems financed through provisions and pension systems financed by external funds.

For pension plans financed through external funds, the pension obligation according to the projected unit credit method is netted out against the fair value of the plan assets. If the plan assets are not sufficient to cover the obligation, the net obligation is recognised under provisions for pensions. However, if the plan assets exceed the obligations, the asset recognised is limited to reductions of future contribution payments to the plan and is shown under other non-current assets.

The present value of defined benefit obligations for current pensions, future pension benefits and similar obligations and the related expenses are calculated separately for each plan annually by independent qualified actuaries in accordance with the provisions of IAS 19. The present value of future benefits is based on the length of service, expected wage/salary developments and pension adjustments.

The expense to be recognised in a period includes current and past service costs, settlement gains and losses, interest expenses from the interest accrued on obligations, interest income from plan assets and administration costs paid from plan assets. The net interest expense is shown separately in net finance costs. All other expenses related to defined benefit plans are allocated to the costs of the relevant functional areas.

Actuarial assumptions required to calculate these obligations, include the discount rate, increases in wages/salaries and pensions, retirement starting age and probability of employee turnover and actual claims. The calculation is based on local demographic parameters.

Interest rates used are the rates on high-quality corporate bonds issued with comparable maturities and currencies are applied to determine the present value of pension obligations. In countries where there is not a sufficiently liquid market for high-quality corporate bonds, the returns on government bonds are used as a basis.

The rates of increase for wages/salaries were based on an average of past years, which is also considered to be realistic for the future.

The fluctuation probabilities were estimated specific to age or seniority.

The retirement age used for the calculation is based on the respective statutory provisions of the country concerned. The calculation is based on the earliest possible retirement age according to the current statutory provisions of the respective country, among other things depending on gender and date of birth.

Remeasurement gains and losses are recorded net of deferred taxes under other comprehensive income in the period incurred.

Other personnel provisions

Other personnel provisions include provisions for termination benefits, service anniversary bonuses, payments to semi-retirees, share-based payments and lump-sum settlements.

Provisions for termination benefits are primarily related to obligations to employees whose employment is subject to Austrian law.

Employees who joined an Austrian company before 31 December 2002 receive a one-off lump-sum termination benefit as defined by Austrian labour legislation if the employer terminates the employment relationship or when the employee retires. The termination payment depends on the relevant salary at the time of the termination as well as the number of years of service and ranges between two and 12 monthly salaries. These obligations are measured in accordance with IAS 19 using the projected unit credit method applying an accumulation period of 25 years. Remeasurement gains and losses are recorded directly to other comprehensive income after considering tax effects and shown in the Statement of Comprehensive Income.

For employees who joined an Austrian company after 31 December 2002, employers are required to make regular contributions equal to 1.53% of the monthly wage/salary to a statutory termination benefit scheme. The company has no further obligations. Claims by employees to termination benefits are filed with the statutory termination benefit scheme, while the regular contributions are treated like defined contribution pension plans and included under personnel expenses of the functional areas.

Service anniversary bonuses are one-time special payments that are dependent on the employee's wage/salary and length of service. The employer is required by collective bargaining agreements or company agreements to make these payments after an employee has reached a certain number of uninterrupted years of service with the same company. Obligations are mainly related to service anniversary bonuses in Austrian and German group companies. Under IAS 19 service anniversary bonuses are treated as other long-term employee benefits. Provisions for service anniversary bonuses are calculated based on the projected unit credit method. Remeasurement gains or losses are recorded in the personnel costs of the functional areas in the period incurred.

Local labour laws and other similar regulations require individual group companies to create provisions for semi-retirement obligations. The obligations are partially covered by qualified plan assets and are reported on a net basis in the Statement of Financial Position.

In 2018, the Remuneration Committee of RHI Magnesita approved a new Remuneration Policy for the members of senior management of the Group. Based on this new long-term incentive programme, share-options are granted. Each reporting date the provisional amount per due date is recognised in equity.

Obligations for lump-sum settlements are based on company agreements in individual companies.

Other provisions
Provisions for warranties are created for individual contracts at the time of the sale of the goods concerned or after the service has been provided. The amounts of the provisions are based on the expected or actual warranty claims.

Provisions for restructuring are created providing a detailed formal restructuring plan has been developed and announced prior to the reporting date or whose implementation was commenced prior to the reporting date.

The Group recognises provisions for demolition and disposal costs and environmental damages. RHI Magnesita's facilities and its refractory, exploration and mining operations are subject to environmental and governmental laws and regulations in each of the jurisdictions in which it operates. These laws govern, among other things, reclamation or restoration of the environment in mined areas and the clean-up of contaminated properties. Provisions for demolition and disposal costs and environmental damages include the estimated demolition and disposal costs of plants and buildings as well as environmental restoration costs arising from mining activities, based on the present value of estimated cash flows of the expected costs. The estimated future costs of deactivation of assets are reviewed annually and adjusted, if appropriate.

A provision for an onerous or unfavourable contract is recognised when the expected benefits to be derived from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The non-current provisions are measured at the present value of the unavoidable costs of meeting the obligation under the contract which exceed the economic benefits expected to arise from that contract.

Provisions for labour and civil contingencies are recognised for all risks referring to legal proceedings that represent probable loss. Assessment of the likelihood of loss includes analysis of available evidence, including the opinion of internal and external legal advisors of the RHI Magnesita Group.

Trade payables and other current liabilities
These liabilities are initially recognised at fair value, and subsequently measured at amortised cost.Liabilities denominated in foreign currencies are translated at the closing rate.

Government grants
Government grants to promote investments are recognised as deferred income and released through profit or loss over the useful life of the relevant asset distributed on a straight-line basis.

Grants that were granted as compensation for expenses or losses are recognised to profit or loss in the periods in which the subsidised expenses are incurred. In the RHI Magnesita Group, they mainly include grants for research and employee development. Grants for research are recorded as income in general and administrative expenses.

Revenue and expenses

Revenue from the sale of goods and services is recognised at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The transaction price is the expected consideration to be received, to the extent that it is highly probable that there will not be a significant reversal of revenue in future periods. If the consideration in a contract includes a variable amount, the Group estimates the amount of consideration to which it will be entitled in exchange for transferring the goods or services to the customer. The variable consideration is estimated at contract inception and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognised will not occur when the associated uncertainty with the variable consideration is subsequently resolved. The average credit term is 60 days upon transfer of goods or service. The Group is using the practical expedient in IFRS 15 and does not adjust the promised amount of consideration for the effects of a significant financing component if it expects, at contract inception, that the period between the transfer of the promised good or service to the customer and payment will be one year or less. At contract inception, the Group identifies the goods or services promised in the contract and assesses which of the promised goods or services shall be identified as separate performance obligations. Promised goods or services give rise to separate performance obligations if they are capable of being distinct. Revenue is recognised as control is transferred, either over time or at a point of time. Control is defined as the ability to direct the use of and obtain substantially all of the economic benefits from an asset.

Regarding delivery contracts of refractory products the goods promised are distinct and control of the goods is passed to the customer typically when physical possession has been transferred to the customer. The transport service does not give rise to a separate performance obligation to which a part of revenue would have to be allocated, as this service is performed before control of the products is transferred to the customer.

In consignment arrangements, RHI Magnesita Group ships products to a customer but retains control of the goods until a predetermined event occurs. Revenue is not recognised on delivery of the products to the customer if the delivered products are held on consignment, but generally when the withdrawal of the products from the consignment stock occurs. Most of the products within consignment arrangements have a high stock turn rate.

The Group provides services (e.g. supervision, installation) that are either sold separately or bundled together with the sale of products to a customer. Contracts for bundled sales of products and installation services are comprised of two performance obligations as the promises to transfer products and provide services are capable of being distinct and separately identifiable. Accordingly, the transaction price allocated is based on the relative stand-alone selling prices of the product and services. Revenue from services is recognised over time, using an input method to measure progress towards complete satisfaction of the service, because the customer simultaneously receives and consumes the benefits provided by the Group.

Contracts for bundled sales of refractory products and non-refractory products (e.g. machines) provided to the customer free of charge comprise two performance obligations that are separately identifiable. Consequently, the Group allocates the transaction price based on the relative stand-alone selling prices of these performance obligations and allocates revenue to the non-refractory product which is delivered free of charge.

For contracts in the Steel segment with variable payment arrangements (transaction price depends on the customer’s production performance) management has determined that the promise to transfer each of the products and services to the customer is not separately identifiable from all the other promises in the context of such contracts. Therefore, only one single performance obligation exists - the performance of a management refractory service. Further information is provided under Note (10). With regards to these contracts, revenue is recognised over time on the basis using the output-oriented method (e.g. quantity of steel produced in the customer aggregate serviced).

Expected penalty fees from guaranteed durabilities when using refractory products are considered as a variable consideration in the form of a contract or a refund liability. Based on the expected value method, the amount of the variable consideration is estimated. The estimation of the variable consideration is not subject to a constraint as the Group has significant experience with promising durabilities. Once the uncertainty related to guaranteed durabilities ceases to exist, a significant reversal of revenue is highly unlikely. All other warranties guarantee that the transferred products correspond to the contractually agreed specifications and are classified as assurance type warranties. Consequently, no separate distinct performance obligation to the customer exists.

If transfer of goods or services to a customer is performed before the customer pays consideration or before payment is due, a contract asset, excluding any amounts presented as a receivable is recognised. A contract asset is an entity’s right to consideration in exchange for goods or services that the entity has transferred to a customer.

If a customer pays consideration before the entity transfers a good or service to the customer, the entity shall present the contract as a contract liability when the payment is made, or the payment is due (whichever is earlier). A contract liability is an entity's obligation to transfer goods or services to a customer for which the entity has received consideration (or an amount of consideration is due) from the customer.

Contract costs are the incremental costs of obtaining a contract and must be recognised as an asset if the company expects to recover those costs. As a practical expedient, RHI Magnesita expenses such costs when incurred, if the amortisation period would be 12 months or less.

In general, the term of customer contracts in accordance with IFRS 15 is no longer than one year. Therefore, the Group decided, as a practical expedient, not to disclose the remaining performance obligations for contracts with original expected duration of less than one year.

Expenses are recognised to the Statement of Profit or Loss when a service is consumed, or the costs are incurred.

Interest income and expenses are recognised in accordance with the effective interest method.

Dividends from investments that are not accounted for using the equity method are recognised to profit and loss at the time the legal claim arises.

Income taxes are recognised according to the local regulations applicable to each company. Current and deferred income taxes are recognised in the Statement of Profit or Loss unless they are related to items which were recorded directly in equity or in other comprehensive income. In such a case, income taxes are also recorded in equity or other comprehensive income.

RHI Magnesita GmbH, Vienna, Austria, acts as the head of a corporate tax group. A tax compensation agreement was concluded in 2017 between the head of the group and eight Austrian group members. According to the group and tax compensation agreement, the members of the group have to pay a positive tax compensation of 20% of the taxable profit to the head of the group if the result is positive, as long as tax loss carry forwards exist with the head of the group; subsequently 25% of the taxable profit have to be paid. In case of a tax loss of the group member, the head of the group has to pay a negative tax compensation to the member of the group, with a rate of 12.5% being applied insofar as the loss can be utilised within the group. In case the losses of a group member were compensated (negative tax allocation payment) and this group member generates taxable income within the next three years (after compensation), the positive tax allocation amounts to 12.5%. In case of a loss in the tax group, an unused tax loss of a group member is retained and offset against future taxable profits of the group member. When the contract is terminated, a compensation payment is agreed for unused tax losses of a group member, which were allocated to the head of the group.

In Germany, Didier-Werke Aktiengesellschaft, Wiesbaden, acts as the head of a tax group for corporate and trade tax purposes. The seven tax group members are obliged to transfer their profit or loss to Didier-Werke Aktiengesellschaft based on a profit or loss transfer agreement. Additionally, Didier-Werke Aktiengesellschaft, Wiesbaden, acts as the head of a tax group for VAT purposes with ten German tax group members. Furthermore, Rearden G Holdings Eins GmbH, Hagen, acts as the head of a two-level structure tax group with four group members for corporate, trade tax and VAT purposes.

9. Segment reporting

The RHI Magnesita Group comprises the operating segments Steel and Industrial. The segmentation of the business activities reflects the internal control and reporting structures and is regularly reported to the Chief Executive Officer.

The Steel segment specialises in supporting customers in the steel-producing and steel-processing industry. The Industrial segment serves customers in the glass, cement/lime, non-ferrous metals and environment, energy, chemicals industries. The main activities of the two segments consist of market development, global sales of high-grade refractory bricks, mixes and special products as well as providing services at the customers' sites.

The globally located manufacturing sites, which extract and process raw materials, are combined in one organisational unit. The allocation of manufacturing cost of the production plants to the Steel and Industrial Divisions is based on the supply flow.

Statements of Profit or Loss up to gross profit are available for each segment. The gross profit serves the management of the RHI Magnesita Group for internal performance management. Selling and marketing expenses, general and administrative expenses, restructuring and write-down expenses, other income and expenses, profit of joint ventures, net finance costs and income taxes are managed on a group basis and are not allocated.

Segment assets include trade receivables and inventories, which are available to the operating segments and are reported to the management for control and measurement, as well as property, plant and equipment, goodwill and other intangible assets, which are allocated to the segments based on the capacity of the assets provided to the segments. All other assets are not allocated. The recognition of segment assets is determined on the basis of the accounting and measurement methods applied to the IFRS Consolidated Financial Statements.

Data on revenue by country are disclosed by the sites of the customers. Data on non-current assets (goodwill, intangible assets and property, plant and equipment) are disclosed on the basis of the respective locations of the companies of the RHI Magnesita Group.

10. Critical accounting judgments and key sources of estimation uncertainty

The RHI Magnesita Group used forward-looking assumptions and estimates, especially with respect to business combinations, non-current assets, valuation adjustments to inventories and receivables, provisions and income taxes to a certain extent in the application of accounting and measurement methods.

The estimates are based on comparable values in the past, plan data and other findings regarding transactions to be accounted. The actual values may ultimately deviate from the assumptions and estimates made. The resulting changes in value of assets, liabilities, revenue and expenses are accounted for in the reporting period in which the change is made and in the affected future reporting periods.

Critical accounting judgments

Revenue recognition

For customer contracts in the Steel segment with variable payment arrangements where the transaction price depends on the customer's production performance, (e.g. quantity of steel produced) management has determined that the commitment to transfer each of the products and services to the customer is not separately identifiable from the other commitments in the context of such contracts. The customer expects complete refractory management for the agreed product areas in the steel plant in order to enable steel production. Thus, only one performance obligation, performance of a management refractory service, exists.

Trade payables subject to supply chain finance arrangements

RHI Magnesita participates in supply chain finance arrangements whereby raw material suppliers may elect to receive a discounted early payment of their invoice from a bank rather than being paid in line with the agreed contractual payment terms. The Group settles the amount owed to the bank. The invoice due date as well as the value of the original liability remains unaltered. RHI Magnesita assesses that these arrangements do not modify the terms of the original trade payable, and therefore financial liabilities subject to supply chain finance arrangements continue to be classified as trade payables.

There are no other critical accounting judgments made in the preparation of the Consolidated Financial Statements.

Key sources of estimation uncertainty

Business combinations (initial consolidation)

Estimates relating to the calculation of fair values of acquired assets, liabilities and contingent liabilities are required within the context of business combinations.

If intangible assets are identified, estimates are necessary for the determination of fair values by means of discounted cash flows, including the duration, amount of future cash flows, and discount rate. When determining the fair value of land, buildings and technical plant, above all the estimate of comparability of the reference objects with the objects subject to valuation is discretionary.

When making estimates in the context of purchase price allocations on major acquisitions, RHI Magnesita consults with independent experts who accompany the execution of the discretionary decisions and record it in appraisal documents.

Impairment of intangible assets with finite useful lives and property, plant and equipment

Intangible assets with a finite useful life and property, plant and equipment must be tested for impairment when events or a change in circumstances indicate that the carrying amount of an asset may not be recoverable. The carrying amounts of these assets amounted to €1,424.0 million at 31 December 2019 (31.12.2018: €1,427.4 million). In accordance with IAS 36, such impairment losses are determined through comparisons with the discounted future cash flows expected from the related assets of the cash-generating units (CGUs).

As part of the annual planning process, the impairment test is conducted for the CGUs defined in the RHI Magnesita Group, thus considering all changes resulting from updates of strategic planning. Sensitivity analyses are also performed as part of the impairment test. In their calculation one of the main parameters is changed as follows: increase in the discount rate by 10%, reduction in the form of the contribution margin by 10% and reduction of the growth rate in terminal value by 50%. In all CGUs, these simulations do not result in impairments. Likewise, in all CGUs a reduction of the discount rate by 10%, an increase in profitability in the form of the contribution margin by 10% and an increase in the growth rate in terminal value by 50% do not result in reversals of impairments.

Impairment of goodwill and other intangible assets with indefinite useful life
The effect of an adverse change by plus 10% in the estimated interest rates as of 31 December 2019 or by minus 10% in the contribution margin would not result in an impairment of goodwill recognised (carrying amount 31.12.2019: 117.5 million, 31.12.2018: €117.4 million) nor in an impairment charge to intangible assets with indefinite useful lives (carrying amount at 31.12.2019 and 31.12.2018: €1.8 million).

Intangible assets and property, plant and equipment
Management uses its experience to estimate the remaining useful life of an asset. The actual useful life of an asset may be impacted by an unexpected event that may result in an adjustment to the carrying amount of the asset.

Provisions for pensions and termination benefits
The present value of pension and termination benefit obligations depends on several factors, which are based on actuarial assumptions such as interest rates, future salary and pension increases as well as life expectancy. Due to the long-term nature of these obligations, these assumptions are subject to significant uncertainties.

The following sensitivity analysis shows the change in present value of the pension and termination benefit obligations if one key parameter changes, while the other influences are maintained constant. In reality, it is rather unlikely that these influences do not correlate. The present value of the pension obligations for the sensitivities shown was calculated using the same method as for the actual present value of the pension obligations (projected unit credit method).

			31.12.2019		31.12.2018
in € million	Change of assumption in percentage points or years	Pension plans	Termination benefits	Pension plans	Termination benefits
Present value of the obligations		557.9	52.0	506.6	55.5
Interest rate	+0.25	(17.1)	(1.4)	(14.0)	(1.5)
	(0.25)	17.4	1.4	15.0	1.5
Salary increase	+0.25	1.1	1.4	0.9	1.5
	(0.25)	(1.2)	(1.3)	(1.7)	(1.4)
Pension increase	+0.25	11.6	-	10.3	-
	(0.25)	(11.4)	-	(10.1)	-
Life expectancy	+1 year	21.0	-	17.2	-
	(1) year	(20.7)	-	(17.3)	-

These changes would have no immediate effect on the result of the period as remeasurement gains and losses are recorded in other comprehensive income without impact on profit or loss. The assumptions regarding the interest rate are reviewed semi-annually; all other assumptions are reviewed at the end of the year.

Other provisions
The recognition and measurement of other provisions totalling €168.3 million (31.12.2018: €162.2 million) were based on the best possible estimates using the information available at the reporting date. The estimates take into account the underlying legal relationships and are performed by internal experts or, when appropriate, also by external experts. Despite the best possible assumptions and estimates, cash outflows expected at the reporting day may deviate from actual cash outflows. As soon as additional information is available, the estimates made are reviewed and provisions are also adjusted.

The majority of the provisions refers to an unfavourable contract which was recognised in the course of the acquisition of Magnesita and is mainly based on an estimate of forgone profit margins compared to market conditions.

Income taxes
The calculation of income taxes of RHI Magnesita N.V. and its subsidiaries is based on the tax laws applicable in the individual countries. Due to their complexity, the tax items presented in the Consolidated Financial Statements may be subject to different interpretations by local finance authorities. When determining the amount of the capitalisable deferred tax assets, an estimate is required of future taxable income. Should the future taxable profit deviate by 10% from the assumption made on the reporting date within the planning period defined for the accounting and measurement of deferred taxes, the net position of deferred tax assets amounting to €127.9 million (31.12.2018: €92.7 million) would have to be increased by €1.7 million (31.12.2018: €0.6 million) or reduced by €2.0 million (31.12.2018: €0.6 million).

NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

11. Goodwill

Goodwill developed as follows:

in € million	2019	2018
Cost at beginning of the year	119.3	122.1
Currency translation	0.1	(2.8)
Cost at year-end	119.4	119.3
Accumulated impairment at beginning of the year	(1.9)	(1.9)
Accumulated impairment at year-end	(1.9)	(1.9)
Carrying amount at year-end	117.5	117.4

12. Other intangible assets

Other intangible assets changed as follows in the financial year 2019:

in € million	Mining rights	Customer relationship	Internally generated intangible assets	Other intangible assets	Total
Cost at 31.12.2018	169.4	108.7	50.5	129.2	457.8
Currency translation	(0.3)	0.6	0.1	0.6	1.0
Additions	0.0	0.0	3.4	6.3	9.7
Retirements and disposals	0.0	0.0	(1.6)	(4.4)	(6.0)
Reclassifications	0.0	0.0	0.0	2.4	2.4
Cost at 31.12.2019	169.1	109.3	52.4	134.1	464.9
Accumulated amortisation 31.12.2018	4.7	17.8	34.1	66.8	123.4
Currency translation	0.0	(0.1)	0.1	0.4	0.4
Amortisation charges	3.3	7.5	4.5	11.1	26.4
Impairment charges	0.0	0.0	0.0	0.6	0.6
Retirements and disposals	0.0	0.0	(1.6)	(3.3)	(4.9)
Accumulated amortisation 31.12.2019	8.0	25.2	37.1	75.6	145.9
Carrying amounts at 31.12.2019	161.1	84.1	15.3	58.5	319.0

Other intangible assets changed as follows in the previous year:

in € million	Mining rights	Customer relationship	Internally generated intangible assets	Other intangible assets	Total
Cost at 31.12.2017	179.2	100.0	47.6	143.1	469.9
Currency translation	(9.8)	(2.1)	0.0	(2.6)	(14.5)
Additions	0.0	0.0	2.9	1.2	4.1
Retirements and disposals	0.0	0.0	0.0	(2.5)	(2.5)
Reclassifications	0.0	10.8	0.0	(10.0)	0.8
Cost at 31.12.2018	169.4	108.7	50.5	129.2	457.8
Accumulated amortisation 31.12.2017	0.8	1.1	30.2	64.8	96.9
Currency translation	0.0	0.0	0.0	(0.8)	(0.8)
Amortisation charges	3.9	6.5	3.9	14.3	28.6
Retirements and disposals	0.0	0.0	0.0	(1.3)	(1.3)
Reclassifications	0.0	10.2	0.0	(10.2)	0.0
Accumulated amortisation 31.12.2018	4.7	17.8	34.1	66.8	123.4
Carrying amounts at 31.12.2018	164.7	90.9	16.4	62.4	334.4

Internally generated intangible assets comprise capitalised software and product development costs.

The customer relations of Magnesita have a carrying amount of €83.6 million (31.12.2018: €90.0 million) and a remaining useful life of 9 to 13 years.

Other intangible assets include in particular acquired patents, trademark rights, software, and land use rights. The land use rights have a carrying amount of €23.0 million (31.12.2018: €23.4 million) and a remaining useful life of 18 to 58 years.

There are no restrictions on the sale of intangible assets.

13. Property, plant and equipment

Property, plant and equipment developed as follows in the year 2019 and in the previous year:

in € million	Real estate, land and buildings	Raw material deposits	Technical equipment, machinery	Other plant, furniture and fixtures	Prepayments made and plant under construction	Right-of-use assets	Total
Cost at 31.12.2018	618.4	37.5	1,166.9	311.5	132.4	0.0	2,266.7
Initial recognition IFRS 16	0.0	0.0	0.0	0.0	0.0	62.0	62.0
Currency translation	0.4	(0.2)	1.7	0.9	(0.5)	0.5	2.8
Additions	3.4	(1.0)	11.6	7.4	132.2	17.7	171.3
Reassessment / Modification of leases (IFRS 16)	0.0	0.0	0.0	0.0	0.0	(3.9)	(3.9)
Retirements and disposals	(1.5)	(0.5)	(21.2)	(12.8)	(0.8)	(0.2)	(37.0)
Reclassifications	20.6	0.8	51.4	14.6	(89.8)	0.0	(2.4)
Cost at 31.12.2019	641.3	36.6	1,210.4	321.6	173.5	76.1	2,459.5
Accumulated depreciation 31.12.2018	261.8	22.5	657.2	230.3	0.1	0.0	1,171.9
Currency translation	0.5	(0.2)	1.5	0.9	0.0	0.1	2.8
Depreciation charges	13.4	1.6	99.0	17.7	0.0	14.5	146.2
Impairment charges	8.9	0.0	38.7	1.1	5.9	10.5	65.1
Retirements and disposals	(1.3)	(0.3)	(19.3)	(12.2)	0.0	(0.2)	(33.3)
Accumulated depreciation 31.12.2019	283.3	23.6	777.1	237.8	6.0	24.9	1,352.7
Carrying amounts at 31.12.2019	358.0	13.0	433.3	83.8	167.5	51.2	1,106.8

in € million	Real estate, land and buildings	Raw material deposits	Technical equipment, machinery	Other plant, furniture and fixtures	Prepayments made and plant under construction	Total
Cost at 31.12.2017	630.1	33.8	1,155.6	298.2	99.4	2,217.1
Currency translation	(14.8)	(0.7)	(22.8)	(3.0)	(3.8)	(45.1)
Additions	2.9	0.3	9.1	11.2	99.4	122.9
Retirements and disposals	(8.3)	0.0	(12.4)	(6.7)	0.0	(27.4)
Reclassifications	8.5	4.1	37.4	11.8	(62.6)	(0.8)
Cost at 31.12.2018	618.4	37.5	1,166.9	311.5	132.4	2,266.7
Accumulated depreciation 31.12.2017	256.8	21.3	575.8	220.7	0.8	1,075.4
Currency translation	(1.1)	(0.1)	(1.5)	(1.1)	0.0	(3.8)
Depreciation charges	12.8	1.3	93.9	16.8	0.0	124.8
Retirements and disposals	(6.9)	0.0	(11.3)	(6.3)	0.0	(24.5)
Reclassifications	0.2	0.0	0.3	0.2	(0.7)	0.0
Accumulated depreciation 31.12.2018	261.8	22.5	657.2	230.3	0.1	1,171.9
Carrying amounts at 31.12.2018	356.6	15.0	509.7	81.2	132.3	1,094.8

The item prepayments made and plant under construction includes plant under construction with a carrying amount of €163.5 million (31.12.2018: €129.9 million), with the sinterplant and the brickplant in Chizhou, China, representing the largest investment project under construction in 2019 as well as the modification of the smelter at the site in Radenthein, Austria, representing the largest investment project under construction in 2018. Information on impairment is provided under Note (8).

There are no restrictions on the sale of property, plant and equipment.

14. Investments in joint ventures and associates

The following investments in joint ventures and associates are accounted for using the equity method in the RHI Magnesita Consolidated Financial Statements:

in € million	31.12.2019	31.12.2018
Investments in joint ventures	19.5	19.6
Investments in associates	0.0	2.2
Carrying amount at year-end	19.5	21.8

Joint ventures

The RHI Magnesita Group holds a share of 50% (2018: 50%) in MAGNIFIN Magnesiaprodukte GmbH & Co KG (“MAGNIFIN”), a private company based in St. Jakob, Austria. The company’s core business activity is the production and sale of halogen-free flame retardants for plastics. The investment in MAGNIFIN is treated as a financial investment. MAGNIFIN is set up as an independent vehicle. RHI Magnesita has a residual interest in the net assets of the company and accordingly classified its share as a joint venture. There are no listed market prices available.

The following table summarises the income and expenses of MAGNIFIN:

in € million	2019	2018
Revenue	39.4	38.8
Profit before income tax	20.0	17.9
Depreciation	1.5	1.5
Interest expense	0.1	0.2
Other comprehensive (loss)/income	(0.3)	0.0
Total comprehensive income	19.7	17.9

Income taxes on the share of profit of MAGNIFIN amounting to €2.5 million (2018: €2.4 million) are recognised by the head of the tax group, RHI Magnesita GmbH, Vienna, Austria, due to the legal form of the joint venture and transferred to Veitscher Vertriebsgesellschaft m.b.H., Vienna, Austria, in accordance with the provisions of the tax compensation agreement.

The net assets of MAGNIFIN are shown in the table below:

in € million	31.12.2019	31.12.2018
Non-current assets	8.3	8.9
Current assets (without cash and cash equivalents)	14.7	11.2
Cash and cash equivalents	13.4	16.5
Non-current liabilities and provisions	(3.9)	(4.0)
Current provisions	(1.2)	(1.3)
Trade payables and other current liabilities	(3.2)	(2.9)
Net assets	28.1	28.4

The movement in the carrying amount of the share in MAGNIFIN in the RHI Magnesita's Consolidated Financial Statements is shown below:

in € million	2019	2018
Proportional share of net assets at beginning of year	14.3	15.7
Share of profit	10.5	9.4
Share of other comprehensive income (remeasurement losses)	(0.1)	0.0
Dividends received	(10.5)	(10.8)
Other changes in value	(0.1)	0.0
Proportional share of net assets at year-end	14.1	14.3
Goodwill	4.9	4.9
Carrying amount of investment at year-end	19.0	19.2

In the course of the acquisition of Magnesita in 2017 the Group acquired interests in an immaterial joint venture with a carrying amount of €0.5 million as of 31 December 2019 (31.12.2018: €0.4 million). The Group's share of the profit after income tax, other comprehensive income and total comprehensive income in 2019 amounts to less than €0.1 million (2018: €0.3 million).

Associates

As part of the acquisition of Magnesita in 2017 the Group acquired two immaterial associated companies with a carrying amount of €0.0 million as of 31 December 2019 (31.12.2018: €2.2 million). The Group's share of the profit after income tax and total comprehensive income for 2019 amounts to €0.7 million. In 2018 the Group's share of the profit after income tax amounted to €0.3 million, total comprehensive income including other comprehensive income of €0.1 million amounted to €0.4 million.

In 2019 the Group has decided to restructure its Sinterdolime sourcing options in Europe and increase its vertical integration. As a result, it will exit from the equity accounted investment in Sinterco in 2021. In the course of the Magnesita purchase price allocation the fair value of the investment was determined as zero due to its economic performance. It is RHI Magnesita's best estimate that no additional cash contributions will be needed to cover the closing cost based on the current operations and determined exit plan. However, the current shareholders' loan to Sinterco is fully written off, which results in a €9.6 million impairment in 2019, shown in result of joint ventures and associates.

The other immaterial associated company Krosaki Magnesita Refractories is in liquidation as of 31 December 2019.

15. Other non-current financial assets

Other non-current financial assets consist of the following items:

in € million	31.12.2019	31.12.2018
Interests in subsidiaries not consolidated	0.7	0.7
Marketable securities and shares	13.8	15.0
Interest rate swaps	0.0	0.6
Other non-current financial receivables	0.9	1.7
Other non-current financial assets	15.4	18.0

Accumulated impairments on investments, securities and shares amounted to €3.5 million (31.12.2018: €4.3 million).

16. Other non-current assets

Other non-current assets include the following items:

in € million	31.12.2019	31.12.2018
Tax receivables	27.4	20.7
Prepaid stripping costs	6.9	6.8
Judicial deposits	4.5	3.7
Plan assets from overfunded pension plans	0.2	2.1
Prepaid expenses	0.5	1.0
Other non-current assets	39.5	34.3

Prepaid expenses for stripping costs arising from mining raw materials in a surface mine are included in non-current assets due to the planned use of the mine.

Tax receivables relate to input tax credits, which are expected to be utilised in the medium term.

17. Deferred taxes

Deferred taxes are related to the following significant balance sheet items and loss carryforwards:

	31.12.2019		2019	31.12.2018		2018
in € million	Deferred tax assets	Deferred tax liabilities	(Expense)/Income	Deferred tax assets	Deferred tax liabilities	(Expense)/Income
Property, plant and equipment, intangible assets	26.5	136.4	30.2	20.1	159.7	25.1
Inventories	27.8	3.5	(6.0)	33.3	5.6	9.8
Trade receivables, other assets	21.0	11.7	8.5	7.7	7.1	24.8
Pensions and other personnel provisions	78.7	0.0	(1.9)	69.6	(0.2)	(2.3)
Other provisions	25.2	5.5	(4.8)	26.1	1.6	0.1
Trade payables, other liabilities	24.2	5.2	3.0	18.0	4.4	(10.6)
Tax loss carried forward	86.8	0.0	(7.1)	96.1	-	(29.9)
Offsetting	(108.3)	(108.3)	-	(99.8)	(99.8)	-
Deferred taxes	181.9	54.0	21.9	171.1	78.4	17.0

As of 31 December 2019, subsidiaries which generated tax losses in the past year or the previous year recognised net deferred tax assets on temporary differences and on tax loss carryforwards of €61.5 million (31.12.2018: €47.8 million). Deferred tax assets have been recognised because the companies concerned are expected to generate taxable income in the future.

Tax loss carryforwards totalled €494.5 million in the RHI Magnesita Group as of 31 December 2019 (31.12.2018: €467.7 million). A significant part of the tax loss carryforwards originated in Brazil and Austria where their deduction can be carried forward indefinitely. Furthermore, there are substantial tax loss carryforwards in China expiring within the next five years. The annual compensation of tax loss carryforwards in Austria is limited to 75% and in Brazil to 30% of the respective taxable profits. Deferred taxes on tax losses of €212.7 million (31.12.2018: €155.1 million) were not recognised. Of these losses, €0,1 million will expire in 2020, €0,4 million in 2022, €25,4 million in 2023, €7.8 million in 2024, €1.0 million in 2027 and €1.8 million in 2028 (31.12.2018: €5.8 million in 2021),while the remainder will be carried forward indefinitely.

In addition, no deferred tax assets were recognised for temporary differences totalling €1.4 million (31.12.2018: €5.1 million) as it is not sufficiently probable that they can be used. The deductible temporary differences can be carried forward indefinitely.

Taxable temporary differences of €965.0 million (31.12.2018: €1,085.7 million) and deductible temporary differences of €545.0 million (31.12.2018: €501.1 million) were not recognised on shares in subsidiaries because the corresponding distributions of profit or the sale of the investments are controlled by the Group and are not expected in the foreseeable future.

The maturity structure of deferred taxes is shown in the table below:

			31.12.2019			31.12.2018
in € million	Current	Non-current	Total	Current	Non-current	Total
Deferred tax assets	140.6	41.3	181.9	78.0	93.1	171.1
Deferred tax liabilities	(9)	(45.0)	(54.0)	2.9	(81.3)	(78.4)

18. Inventories

Inventories as presented in the Consolidated Statement of Financial Position consist of the following items:

in € million	31.12.2019	31.12.2018
Raw materials and supplies	134.5	176.8
Work in progress	123.9	140.8
Finished products and goods	334.0	391.9
Prepayments made	10.3	8.3
Inventories	602.7	717.8

Inventories include €2.8 million (31.12.2018: €2.3 million) carried at net realisable value. Net impairment losses amount to €8.0 million (2018: €-2.6 million).

There are no restrictions on the disposal of inventories.

19. Trade and other current receivables

Trade and other current receivables as presented in the Statement of Financial Position are classified as follows:

in € million	31.12.2019	31.12.2018
Trade receivables	317.5	349.9
Contract assets	1.9	1.9
Other taxes receivable	84.9	87.6
Receivables from joint ventures and associates	2.1	11.3
Prepaid expenses	2.3	3.0
Receivables from disposal of investments	0.0	2.6
Receivables from property transactions	2.7	2.2
Emission rights	1.7	1.7
Receivables from employees	3.4	1.7
Receivables from non-consolidated subsidiaries	0.2	0.3
Other current receivables	16.0	19.0
Trade and other current receivables	432.7	481.2
thereof financial assets	324.2	367.2
thereof non-financial assets	108.5	114.0

RHI Magnesita entered into factoring agreements and sold trade receivables to financial institutions. The balance sold totalled € 223.0 million as of 31 December 2019 (31.12.2018: € 229.9 million). The trade receivables have been derecognised as substantially all risks and rewards as well as control have been transferred. Payments received from customers in the period between the last sale of receivables and the reporting date are recognised in current borrowings.

Other taxes receivable include VAT credits and receivables from energy tax refunds, research, education and apprentice subsidies.

In 2018 trade receivables with a total nominal value of €34.0 million were assigned as security against financial liabilities. These financial liabilities have been fully repaid in 2019.

20. Income tax receivables

Income tax receivables amounting to €17.3 million (31.12.2018: €18.4 million) are mainly related to tax prepayments and deductible withholding taxes.

21. Other current financial assets

This item of the Consolidated Statement of Financial Position consists of the following components:

in € million	31.12.2019	31.12.2018
Derivatives in open orders	0.1	1.0
Marketable securities	0.0	36.3
Forward exchange contracts	0.0	1.1
Other current financial receivables	0.0	0.2
Other current financial assets	0.1	38.6

Accumulated impairments on other current financial receivables amounted to €0.6 million (31.12.2018: €1.1 million).

22. Cash and cash equivalents

This item of the Consolidated Statement of Financial Position consists of the following components:

in € million	31.12.2019	31.12.2018
Cash at banks	391.2	426.7
Money market funds	74.7	61.9
Cheques	1.2	2.5
Cash on hand	0.1	0.1
Cash and cash equivalents	467.2	491.2

Cash and cash equivalents include restricted cash totalling €23.3 million at 31 December 2019 (31.12.2018: €42.5 million). Restricted cash is mainly related to cash and cash equivalents at subsidiaries (mainly in Brazil, India and China) to which the company only has limited access due to foreign exchange and capital transfer controls. €13.0 million (31.12.2018: €23.8 million) are accounted for by subsidiaries with non-controlling interests.

23. Share capital

In exchange for the cancellation of the RHI AG shares as a result of the merger in the year 2017, in which RHI AG merged with and into RHI Magnesita N.V., the shareholders of RHI AG received one newly issued ordinary share of RHI Magnesita N.V. for each RHI AG share. As part of the purchase price for the acquisition of control of Magnesita, RHI Magnesita N.V. issued 5,000,000 new ordinary shares to the sellers of Magnesita shares as at 26 October 2017. Following the merger and the acquisition of control and also at year-end 2017, RHI Magnesita N.V.'s issued and fully paid-in share capital consisted of 44,819,039 ordinary shares at €1.0 each share.

In the course of the first close of the Integrated Tender Offer (ITO) in 2018 and the acquisition of additional 35.2% of shares in Magnesita, RHI Magnesita N.V. issued 3,518,008 new ordinary shares. Hence, share capital consisted of 48,337,047 ordinary shares at €1.0 each share as of 31 December 2018.

In the course of the finalisation of the ITO in 2019, the Group acquired the remaining outstanding Magnesita shares during the first four months of 2019 and has issued a total of 1,140,658 new ordinary shares. As at 10 April 2019, RHI Magnesita's issued share capital consisted of 49,477,705 shares with voting rights. Additional explanation is provided under Note (4).

The authorised share capital of RHI Magnesita N.V. amounts to €100,000,000 divided into 100,000,000 ordinary shares, of which 49,077,705 ordinary shares are issued and outstanding, taking into consideration the treasury shares amounting to 400,000. All outstanding RHI Magnesita shares grant the same rights. The shareholders are entitled to dividends and have one voting right per share at the Annual General Meeting. There are no RHI Magnesita shares with special control rights.

24. Group reserves

Treasury shares

During August and September 2019 RHI Magnesita N.V. purchased a total of 400,000 of its ordinary shares of one euro nominal value each pursuant to its £20 million share repurchase programme to satisfy awards made under employee performance share plans. Following the purchase of these shares the company holds 400,000 shares in treasury equalling €18.8 million.

Additional paid-in capital

At 31 December 2019 as well as at 31 December 2018, additional paid-in capital comprised premiums on the issue of shares less issue costs by RHI Magnesita N.V.

Mandatory reserve

The articles of association stipulate a mandatory reserve of €288,699,230.59 which was created in connection with the merger. No distributions, allocations or additions may be made and no losses of the company may be allocated to the mandatory reserve.

Retained earnings

Retained earnings includes the result of the financial year and results that were earned by consolidated companies during prior periods, but not distributed.

Accumulated other comprehensive income
Cash flow hedges includes gains and losses from the effective part of cash flow hedges less tax effects. The accumulated gain or loss from the hedge allocated to reserves is only reclassified to the Statement of Profit or Loss if the hedged transaction also influences the result or is terminated.

Defined benefit plans include the gains and losses from the remeasurement of defined benefit pension and termination benefit plans taking into account tax effects. No reclassification of these amounts to the Statement of Profit or Loss will be made in future periods.

Currency translation includes the accumulated currency translation differences from translating the Financial Statements of foreign subsidiaries, unrealised currency translation differences from monetary items which are part of a net investment in a foreign operation, net of related income taxes, as well as the effective portion of foreign exchange gains or losses when a non-financial instrument is designated as the hedging instrument in net investment hedge in a foreign operation.

25. Non-controlling interests

Non-controlling interests in Magnesita
After completion of the Integrated Tender Offer (ITO) as at 10 April 2019 the Group holds 100% of the Magnesita shares. Detailed information of this transaction and the consequences of the change of the ownership interest in Magnesita that do not result in a change of control are provided under Note (4). Magnesita is a global group dedicated to the production and sale of an extensive line of refractory materials and industrial minerals and distinguishes itself through its vertically integrated operations.

The carrying amount of the non-controlling interests at time of completion of the ITO as at 10 April 2019 is based on the net assets of Magnesita and is determined as follows:

in € million	10.04.2019	31.12.2018
Non-current assets	976.3	969.7
Current assets	1,556.6	561.0
Non-current liabilities	(356.0)	(400.6)
Current liabilities	(1,671.0)	(676.0)
Net assets before intragroup eliminations	505.9	454.1
Intragroup eliminations	(6.2)	(3.9)
Net assets	499.7	450.2
Percentage of non-controlling interests	14.8%	14.8%
Carrying amount of non-controlling interests	74.0	66.7

The aggregate Statement of Profit or Loss and Statement of Comprehensive Income are shown below:

in € million	1-3/2019	2018
Revenue	286.5	1,067.5
Operating expenses, net finance costs and income tax	(241.4)	(1,011.4)
Profit after income tax before intragroup eliminations	45.1	56.1
Intragroup eliminations	0.7	(3.4)
Profit after income tax	45.8	52.7
thereof attributable to non-controlling interests of Magnesita	5.8	26.3

in € million	1-3/2019	2018
Profit after income tax	45.8	52.7
Other comprehensive income/(loss)	4.7	(24.4)
Total comprehensive income	50.5	28.3
thereof attributable to non-controlling interests of Magnesita	7.3	14.2

The following table shows the summarised Statement of Cash Flows:

in € million	1-3/2019	2018
Net cash flow from operating activities	(8.0)	164.9
Net cash flow from investing activities	(13.2)	(10.2)
Net cash flow from financing activities	(15.2)	(258.5)
Total cash flow	(36.4)	(103.8)

Non-controlling interests in Orient Refractories Ltd.
Non-controlling interests hold a share of 33.5% (31.12.2018: 33.5%) in the listed company Orient Refractories Ltd. (in the following "ORL"), based in New Delhi, India. ORL is allocated to the Steel segment.

Based on the net assets of the company, the carrying amount of the non-controlling interests is determined as follows:

in € million	31.12.2019	31.12.2018
Non-current assets	30.4	24.3
Current assets	52.1	56.0
Non-current liabilities	(3.7)	(6.3)
Current liabilities	(17.8)	(19.6)
Net assets before intragroup eliminations	61.0	54.4
Intragroup eliminations	(0.2)	(0.4)
Net assets	60.8	54.0
Percentage of non-controlling interests	33.5%	33.5%
Carrying amount of non-controlling interests	20.4	18.1

The aggregate Statement of Profit or Loss and Statement of Comprehensive Income are shown below:

in € million	2019	2018
Revenue	90.8	91.0
Operating expenses, net finance costs and income tax	(79.1)	(81.6)
Profit after income tax before intragroup eliminations	11.7	9.4
Intragroup eliminations	0.2	(0.2)
Profit after income tax	11.9	9.2
thereof attributable to non-controlling interests of ORL	4.0	2.7

in € million	2019	2018
Profit after income tax	11.9	9.2
Other comprehensive income/(loss)	0.0	(2.3)
Total comprehensive income	11.9	6.9
thereof attributable to non-controlling interests of ORL	4.0	2.2

The following table shows the summarised Statement of Cash Flows of ORL:

in € million	2019	2018
Net cash flow from operating activities	11.9	9.5
Net cash flow from investing activities	(9.1)	(1.8)
Net cash flow from financing activities	(3.9)	(3.6)
Total cash flow	(1.1)	4.1

Net cash flow from financing activities includes dividend payments to non-controlling interests amounting to €1.3 million (2018: €1.1 million).

In addition, non-controlling interests hold a share of 33.5% in one immaterial subsidiary acquired in 2019. The carrying amount of the non-controlling interests amounts to €0.4 million as of 31 December 2019.

Accumulated other comprehensive income attributable to non-controlling interests
The development of accumulated other comprehensive income attributable to non-controlling interests is shown in the following table:

in € million	Cash flow hedges	Defined benefit plans	Currency translation
Accumulated other comprehensive income 31.12.2018	0.2	(2.1)	(7.9)
Unrealised results from currency translation	0.0	0.0	1.6
Reclassification to profit or loss	(0.1)	0.0	0.0
Transactions with non-controlling interests without change of control	(0.1)	2.1	4.5
Accumulated other comprehensive income 31.12.2019	0.0	0.0	(1.8)

26. Borrowings

Borrowings include all interest-bearing liabilities due to financial institutions and other lenders.

Borrowings have the following contractual remaining terms:

	Total	Remaining term		
in € million	31.12.2019	up to 1 year	2 to 5 years	over 5 years
Syndicated Term Loan	584.0	15.3	568.7	0.0
Bonded loans ("Schuldscheindarlehen")	400.0	0.0	100.0	300.0
Other credit lines and other loans	55.0	50.8	4.2	0.0
Accrued interest	4.1	4.1	0.0	0.0
Total liabilities to financial institutions	1,043.1	70.2	672.9	300.0
Other financial liabilities	15.6	2.3	13.1	0.2
Capitalised transaction costs	(3.7)	(1.0)	(2.7)	0.0
Borrowings	1,055.0	71.5	683.3	300.2

in € million	Total 31.12.2018	Remaining term up to 1 year	2 to 5 years	over 5 years
Syndicated Term Loan	479.9	0.0	479.9	0.0
Bonded loans ("Schuldscheindarlehen")	216.0	0.0	152.0	64.0
Export credits and investment financing	171.9	34.4	137.5	0.0
Other credit lines and other loans	278.9	278.9	0.0	0.0
Accrued interest	6.9	6.9	0.0	0.0
Total liabilities to financial institutions	1,153.6	320.2	769.4	64.0
Other financial liabilities	16.6	2.3	13.7	0.6
Capitalised transaction costs	(3.8)	(0.9)	(2.9)	0.0
Borrowings	1,166.4	321.6	780.2	64.6

RHI Magnesita further improved its financial structure by signing a new €100.0 million 5-year term loan guaranteed by the Austrian export credit agency (OeKB) in June 2019. The interest rate is floating and is based on EURIBOR plus a margin between 0.4% and 1.3%, according to Group Leverage. RHI Magnesita borrows currently at the lowest margin of 0.4%. The final maturity of the loan is February 2024. Cash inflows from the new term loan in the amount of €100.0 million are shown in the Consolidated Statement of Cash Flows in proceeds from borrowings and loans.

In July and October 2019 RHI Magnesita took out a Schuldscheindarlehen (“SSD”) bonded loan in one tranche of €280.0 million and another of €20.0 million respectively. Cash inflows from the new term loan in the amount of €300.0 million are shown in the Consolidated Statement of Cash Flows in proceeds borrowings and loans. With the proceeds from the new and lower interest bearing SSD bonded loans, the Group repaid €116.0 million of the extinguished legacy SSD bonded loans. Cash outflows from the redemption of the bonded loan in the amount of €116.0 million are included in repayments of borrowings and loans.

The utilised sum of USD 210.0 million at December 2018 from the USD 400.0 million RCF was fully repaid during the year of 2019 and at 31 December 2019 the RCF remained fully unutilised.

In the US, a legacy long-term loan of USD 37.5 million was early settled in January 2019. Likewise, in Brazil, remaining legacy loan of BRL 265.3 million was early settled in August 2019. Both cash outflows from the redemption of these loans are included in repayments of borrowings and loans.

As at 31.12.2018 €34.0 million of the liabilities to financial institutions were secured by receivables, which were fully repaid in 2019.

Net debt excluding lease liabilities/adjusted EBITDA is the main financial covenant of the loan agreements. Calculation of this covenant and net debt/adjusted EBITDA is shown under Note (57). Compliance with the covenants is measured on a semi-annual basis. Covenant ratio is limited at 3.5. Breach of covenants leads to an anticipated maturity of loans. During 2019 and 2018, the Group met all covenant requirements.

For liabilities of €1,008.1 million (31.12.2018: €1,052.6 million), lenders have a termination option in the case of a change of control. In the event that certain reasons for termination exist, the lenders may declare the loan due with immediate effect and demand immediate repayment of the principal including interest, as well as the payment of other amounts payable that may have been incurred.

Considering interest swaps, 59% (31.12.2018: 55%) of the liabilities to financial institutions carry fixed interest and 41% (31.12.2018: 45%) carry variable interest.

The following table shows fixed interest terms and conditions, taking into account interest rate swaps, without liabilities from deferred interest:

Interest terms fixed until	Effective annual interest rate	Currency	31.12.2019 Carrying amount in € million	Interest terms fixed until	Effective annual interest rate	Currency	31.12.2018 Carrying amount in € million
2020	EURIBOR + margin	EUR	389.9	2019	EURIBOR + margin	EUR	132.0
	LIBOR + margin	USD	15.9		LIBOR + margin	USD	221.7
	Interbank Deposit Certificate (CDI) + margin	CNY	14.0		Interbank Deposit Certificate (CDI) + margin	BRL	113.9
	Various - variable rate	Var.	0.2		Variable interest rate + margin	EUR	34.0
					3.77%	EUR	3.0
					Various - variable rate	Var.	16.5
				2020	1.28%	USD	32.8
					2.30%	EUR	12.4
2022	1.74%	EUR	62.0	2022	1.74%	EUR	62.0
	4.60%	EUR	3.0		4.60%	EUR	3.0
2023	0.28%	EUR	305.5	2023	1.56%	EUR	196.2
	3.09%	USD	178.5		1.12%	EUR	109.4
					3.94%	USD	174.8
2024	3.10%	EUR	35.0	2024	3.10%	EUR	35.0
2026	1.10%	EUR	27.0				
2024	1.52%	EUR	8.0				
			1,039.0				1,146.7

In some cases, the terms to maturity of the contracts are substantially longer than the period during which interest terms are fixed.

27. Other financial liabilities

Other financial liabilities include the negative fair value of derivative financial instruments as well as lease liabilities and fixed-term and puttable non-controlling interests in Group companies. This item of the Consolidated Statement of Financial Position consists of the following items:

	31.12.2019			31.12.2018		
in € million	Current	Non-current	Total	Current	Non-current	Total
Derivatives from supply contracts	5.9	18.0	23.9	0.9	20.0	20.9
Interest rate swaps	0.0	14.8	14.8	0.0	7.3	7.3
Derivatives in open orders	0.6	0.0	0.6	0.0	0.0	0.0
Derivative financial liabilities	6.5	32.8	39.3	0.9	27.3	28.2
Lease liabilities	13.8	48.1	61.9	0.0	0.0	0.0
Fixed-term or puttable non-controlling interests	11.6	24.2	35.8	14.1	22.2	36.3
Other financial liabilities	31.9	105.1	137.0	15.0	49.5	64.5

Additional explanation on derivative financial instruments is provided under Note (55).

28. Provisions for pensions

The net liability from pension obligations in the Consolidated Statement of Financial Position is as follows:

in € million	31.12.2019	31.12.2018
Present value of pension obligations	557.9	506.6
Fair value of plan assets	(248.0)	(223.9)
Funded status	309.9	282.7
Asset ceiling	18.0	19.5
Net liability from pension obligations	327.9	302.2
thereof assets from overfunded pension plans	0.2	2.1
thereof pensions	328.1	304.3

The present value of pension obligations by beneficiary groups is as follows:

in € million	31.12.2019	31.12.2018
Active beneficiaries	115.3	101.4
Vested terminated beneficiaries	74.6	68.7
Retirees	368.0	336.5
Present value of pension obligations	557.9	506.6

The calculation of pension obligations is based on the following actuarial assumptions:

in %	31.12.2019	31.12.2018
Interest rate	2.3%	3.3%
Future salary increase	2.6%	2.7%
Future pension increase	2.1%	2.2%

These are average values which were weighted with the present value of the respective pension obligation.

The calculation of the actuarial interest rate for the European currency area is based on a yield curve for returns of high-quality corporate bonds denominated in EUR with an average rating of AA, which is derived from pooled index values. The calculation of the actuarial interest rate for the USD and GBP currency area is based on a yield curve for returns of high-quality corporate bonds denominated in USD and GBP with an average rating of AA, which is derived from pooled index values. Where there are very long-term maturities, the yield curve follows the performance of bonds without credit default risk. The interest rate is calculated annually at 31 December, taking into account the expected future cash flows which were determined based on the current personal and commitment data.

The calculation in Austria was based on the AVÖ 2018-P demographic calculation principles for salaried employees from the Actuarial Association of Austria. In Germany, the Heubeck 2018 G actuarial tables were used as a basis. In the other countries, country-specific mortality tables were applied.

The main pension regulations are described below:

The Austrian group companies account for €122.0 million (31.12.2018: €125.8 million) of the present value of pension obligations and for €23.2 million (31.12.2018: €26.4 million) of the plan assets. The agreed benefits include pensions, invalidity benefits and benefits for surviving dependents. Commitments in the form of company or individual agreements depend on the length of service and the salary at the time of retirement. For the majority of commitments the amount of the company pension subsidy is limited to 75% of the final remuneration including a pension pursuant to the General Social Insurance Act (ASVG). RHI Magnesita has concluded pension reinsurance policies for part of the commitments. The pension claims of the beneficiaries are limited to the coverage capital required for these commitments. Pensions are predominantly paid in the form of annuities and are partially indexed. For employees joining the company after 1 January 1984, no defined benefits were granted. Rather, a defined contribution pension model is in place. In addition, there are commitments based on the deferred compensation principle, which are fully covered by pension reinsurance policies, and commitments for preretirement benefits for employees in mining operations.

The pension plans of the German group companies account for €160.4 million (31.12.2018: €155.1 million) of the present value of pension obligations and for €0.7 million (31.12.2018: €0.7 million) of plan assets. The benefits included in company agreements comprise pensions, invalidity benefits and benefits for surviving dependents. The amount of the pension depends on the length of service for the majority of the commitments and is calculated as a percentage of the average monthly wage/salary of the last 12 months prior to retirement. In some cases, commitments to fixed benefits per year of service have been made. The pensions are predominantly paid in the form of annuities and are adjusted in accordance with the development of the consumer price index for Germany. The pension plans are closed for new entrants, except one contribution-based plan. There is no defined contribution model on a voluntary basis. Individual commitments have been made, with major part of them being retired beneficiaries.

The pension plan of the US group company Magnesita Refractories Company, York, USA, accounts for €87.5 million (31.12.2018: €74.2 million) of the present value of pension obligations and for €67.8 million (31.12.2018: €61.8 million) of the plan assets. The pension plan is a non-contributory defined benefit plan covering a portion of the employees of the company. The plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA). Effective 21 June 1999, the company offered the participants the opportunity to elect to participate in a single enhanced defined contribution plan. Participants who make this election are no longer eligible for future accruals under this plan. All benefits accrued as of the date of transfer will be retained. Employees hired after 21 June 1999 and employees that did not meet the plan's eligibility requirements as of 21 June 1999 are not eligible for this plan. The pensions are predominantly paid in the form of annuities and are adjusted annually based on the US consumer price index. The company's contributions for the year ended 31 December 2019 met, or exceeded, the minimum funding requirements of ERISA.

The pension plan of the UK group company Magnesita Refractories Ltd., Dinnington, United Kingdom, accounts for €63.5 million (31.12.2018: €53.0 million) of the present value of pension obligations and holds €81.5 million (31.12.2018: €69.6 million) of assets, although only €63.5 million (31.12.2018: €53.0 million) of the plan assets are reflected on the balance sheet due to the application of IFRIC 14 (asset ceiling). The company sponsors a funded defined benefit pension plan for qualifying UK employees. The plan is administered by a separate board of trustees which is legally separate from the company. The trustees are composed of representatives of both the employer and employees, plus an independent professional trustee. The trustees are required by law to act in the interest of all relevant beneficiaries and are responsible for the investment policy with regard to the assets plus the day to day administration of the benefits. Under the plan, employees are entitled to annual pensions on retirement at age 65 of one-sixtieth of final pensionable salary for each year of service. Pensionable salary is defined as basic salary less the Lower Earnings Limit. Benefits are also payable on death and following other events such as withdrawing from active service. No other post-retirement benefits are provided to these employees.

The pension liabilities of the Brazilian group company Magnesita Refratários S.A. account for €72.5 million (31.12.2018: €62.6 million) of the present value of pension obligations and for €39.9 million (31.12.2018: €34.6 million) of the plan assets. The pension plan qualifies as an optional benefit plan. Employees are entitled to contribute to the plan, with the company contributing 1.5 times this value. The agreed benefits include pensions, invalidity benefits and benefits for surviving dependents. Commitments in the form of company or individual agreements depend on the length of service and salary at the time of retirement. For the majority of commitments, the amount of the company pension obligation is limited to 75% of the final remuneration. At retirement the employee may choose to receive up to 25% of his/her amount at once or receive it on a pro-rata base with different options of monthly quotes.

The following table shows the development of net liability from pension obligations:

in € million	2019	2018
Net liability from pension obligations at beginning of year	302.2	306.8
Currency translation	0.3	(1.9)
Pension cost	12.2	11.6
Remeasurement losses	36.9	12.2
Benefits paid	(18.2)	(17.3)
Employers' contributions to external funds	(4.9)	(9.0)
Reclassifications	(0.4)	(0.2)
Net liability from pension obligations at year-end	328.1	302.2

The present value of pension obligations developed as follows:

in € million	2019	2018
Present value of pension obligations at beginning of year	506.6	517.1
Currency translation	5.2	(3.0)
Current service cost	3.7	3.9
Past service cost	0.0	(0.5)
Interest cost	16.5	15.2
Remeasurement losses/(gains)		
from changes in demographic assumptions	(1.4)	7.8
from changes in financial assumptions	60.1	(5.8)
due to experience adjustments	0.4	2.7
Benefits paid	(33.1)	(31.1)
Employee contributions to external funds	0.5	0.5
Reclassifications	(0.6)	(0.2)
Present value of pension obligations at year-end	557.9	506.6

The movement in plan assets is shown in the table below:

in € million	2019	2018
Fair value of plan assets at beginning of year	223.9	228.6
Currency translation	5.8	(1.2)
Interest income	9.1	7.7
Administrative costs (paid from plan assets)	(0.5)	(0.3)
Income/(expense) on plan assets less interest income	19.5	(6.6)
Benefits paid	(14.9)	(13.8)
Employers' contributions to external funds	4.9	9.0
Employee contributions to external funds	0.5	0.5
Transfer	(0.3)	0.0
Fair value of plan assets at year-end	248.0	223.9

The changes in the asset ceiling are shown below:

in € million	2019	2018
Asset ceiling at beginning of year	19.5	18.3
Currency translation	1.0	(0.1)
Interest expense	0.6	0.4
(Gains)/losses from changes in asset ceiling less interest expense	(3.1)	0.9
Asset ceiling at year-end	18.0	19.5

At 31 December 2019 the weighted average duration of pension obligations amounts to 12 years (31.12.2018: 12 years).

The following amounts were recorded in the Consolidated Statement of Profit or Loss:

in € million	2019	2018
Current service cost	3.7	3.9
Negative past service cost	0.0	(0.5)
Gains on settlement	(0.1)	0.0
Interest cost	16.7	15.2
Interest income	(9.2)	(7.7)
Interest expense from asset ceiling	0.6	0.4
Administrative costs (paid from plan assets)	0.5	0.3
Pension expense recognised in profit or loss	12.2	11.6

The remeasurement results recognised in other comprehensive income are shown in the table below:

in € million	2019	2018
Accumulated remeasurement losses at beginning of year	131.4	119.3
Remeasurement losses on present value of pension obligations	59.2	4.6
(Income)/expense on plan assets less interest income	(19.5)	6.6
(Gains)/losses from changes in asset ceiling less interest expense	(3.1)	0.9
Accumulated remeasurement losses at year-end	168.0	131.4

The present value of plan assets is distributed to the following classes of investments:

			31.12.2019			31.12.2018
in € million	Active market	No active market	Total	Active market	No active market	Total
Insurances	0.0	40.2	40.2	0.0	39.1	39.1
Equity instruments	4.1	31.0	35.1	4.7	18.5	23.2
Debt instruments	17.7	44.2	61.9	14.3	49.2	63.5
Cash and cash equivalents	38.1	4.0	42.1	32.3	4.1	36.4
Other assets	65.8	2.9	68.7	57.9	3.8	61.7
Fair value of plan assets	125.7	122.3	248.0	109.2	114.7	223.9

The present value of the insurances to cover the Austrian pension plans corresponds to the coverage capital. Insurance companies predominantly invest in debt instruments and to a low extent in equity instruments and properties.

Plan assets do not include own financial instruments of the Group or assets utilised by the RHI Magnesita Group.

RHI Magnesita works with professional fund managers for the investment of plan assets. They act on the basis of specific investment guidelines adopted by the pension fund committee of the respective pension plans. The committees consist of management staff of the finance department and other qualified executives. They meet regularly in order to approve the target portfolio with the support of independent actuarial experts and to review the risks and the performance of the investments. In addition, they approve the selection or the extension of contracts of external fund managers.

The largest part of the other assets is invested in pension reinsurance, which creates a low counterparty risk towards insurance companies. In addition, the Group is exposed to interest risks and longevity risks resulting from defined benefit commitments.

The Group generally endows the pension funds with the amount necessary to meet the legal minimum allocation requirements of the country in which the fund is based. Moreover, the Group makes additional allocations at its discretion from time to time. In the financial year 2020, RHI Magnesita expects employer contributions to external plan assets to amount to €3.7 million and direct payments to entitled beneficiaries to €21.1 million. In the previous year, employer contributions of €4.8 million and direct pension payments of €17.1 million had been expected for the financial year 2019.

29. Other personnel provisions

Other personnel provisions consist of the following items:

in € million	31.12.2019	31.12.2018
Termination benefits	52.0	55.5
Service anniversary bonuses	21.0	19.4
Legacy share-based payment program	0.0	1.6
Semi-retirements	2.8	1.9
Lump-sum settlements	0.0	0.1
Other personnel provisions	75.8	78.5

Provisions for termination benefits

Provisions for termination benefits were based on the following weighted average measurement assumptions:

in %	31.12.2019	31.12.2018
Interest rate	1.3%	2.1%
Future salary increase	3.4%	3.9%

The interest rate for the measurement of termination benefit obligations in the Euro area was determined taking into account the company specific duration of the portfolio.

Provisions for termination benefits developed as follows in the financial year and the previous year:

in € million	2019	2018
Provisions for termination benefits at beginning of year	55.5	58.1
Currency translation	0.1	0.0
Current service cost	1.5	1.6
Past service cost	(0.7)	0.0
Interest cost	1.1	0.9
Remeasurement losses/(gains)		
from changes in demographic assumptions	0.0	1.1
from changes in financial assumptions	2.1	(2.3)
due to experience adjustments	(1.8)	0.5
Benefits paid	(5.8)	(4.4)
Provisions for termination benefits at year-end	52.0	55.5

Payments for termination benefits are expected to amount to €5.8 million in the year 2020. In the previous year, the payments for termination benefits expected for the year 2019 amounted to €3.5 million.

The following remeasurement gains and losses were recognised in other comprehensive income:

in € million	2019	2018
Accumulated remeasurement losses at beginning of year	27.2	27.9
Remeasurement losses/(gains)	0.3	(0.7)
Accumulated remeasurement losses at year-end	27.5	27.2

At 31 December 2019 the weighted average duration of termination benefit obligations amounts to 11 years (31.12.2018: 11 years).

Provisions for service anniversary bonuses
The measurement of provisions for service anniversary bonuses is based on an average weighted interest rate of 0.8% (31.12.2018: 1.7%) and takes into account salary increases of 3.4% (31.12.2018: 3.7%).

Provisions for semi-retirement
The funded status of provisions for obligations to employees with semi-retirement contracts is shown in the table below:

in € million	31.12.2019	31.12.2018
Present value of semi-retirement obligations	6.3	5.1
Fair value of plan assets	(3.5)	(3.2)
Provisions for semi-retirement obligations	2.8	1.9

External plan assets are ring-fenced from all creditors and exclusively serve to meet semi-retirement obligations.

30. Other non-current provisions

The development of non-current provisions is shown in the table below:

in € million	Onerous/ unfavourable contracts	Labour and civil contingencies	Demolition/disposal costs, environmental damages	Other	Total
31.12.2018	83.8	8.3	12.5	4.6	109.2
Currency translation	(0.8)	(0.2)	0.0	0.1	(0.9)
Reversals	0.0	0.0	(2.4)	0.0	(2.4)
Additions	0.4	2.1	0.0	0.0	2.5
Additions interest	8.4	0.0	0.6	0.0	9.0
Reclassifications	(14.3)	0.0	0.0	(4.6)	(18.9)
31.12.2019	77.5	10.2	10.7	0.1	98.5

In November 2017, RHI Magnesita sold a plant located in Oberhausen, Germany, in order to satisfy the conditions imposed by the European Commission in connection with their approval of the Acquisition of Control of Magnesita. As RHI Magnesita is obligated to provide raw materials at cost, the Group has recognised a provision for unfavourable contracts as part of the purchase price allocation to reflect the foregone profit margin. The non-current portion of this contract obligation amounts to €71.2 million as of 31.12.2019 (31.12.2018:
€80.0 million). Furthermore, provisions for contract obligations amounting to €6.3 million (31.12.2018: €3.2 million) are due to contracts for logistics services and the procurement of raw materials.

The provision for labour and civil contingencies primarily comprises labour litigation provisions against RHI Magnesita totalling 337 cases amounting to €8.0 million (31.12.2018: €7.1 million).

The provision for demolition and disposal costs and environmental damages primarily includes provisions for the estimated costs of mining site restoration of several mines in Brazil amounting to €3.9 million (31.12.2018: €5.9 million) and various sites in the United States amounting to €6.3 million (31.12.2018: €6.1 million).

Provisions related to tax litigation procedures in Peru and Colombia included in the amount of €4.6 million in other provisions as of 31 December 2018 were reclassified to income tax liabilities as of 31 December 2019.

31. Other non-current liabilities

Other non-current liabilities consist of the following items:

in € million	31.12.2019	31.12.2018
Deferred income for subsidies received	5.8	6.2
Liabilities to employees	1.4	2.5
Contingent consideration for acquired subsidiaries	0.0	0.6
Miscellaneous non-current liabilities	0.1	1.0
Other non-current liabilities	7.3	10.3
thereof financial liabilities	0.0	0.6
thereof non-financial liabilities	7.3	9.7

32. Trade payables and other current liabilities

Trade payables and other current liabilities included in the Consolidated Statement of Financial Position consist of the following items:

in € million	31.12.2019	31.12.2018
Trade payables	354.1	502.5
Contract liabilities	45.5	64.8
Liabilities to employees	87.5	99.6
Taxes other than income tax	49.7	30.0
Dividend liabilities	25.0	0.5
Payables from property transactions	17.0	9.2
Payables from commissions	8.2	13.0
Customers with credit balances	6.6	7.3
Liabilities to joint ventures and associates	0.7	5.4
Liabilities to non-consolidated subsidiaries	0.7	1.0
Other current liabilities	19.0	23.6
Trade payables and other current liabilities	614.0	756.9
thereof financial liabilities	412.3	539.3
thereof non-financial liabilities	201.7	217.6

Trade payables include an amount of €67.4 million (31.12.2018: €85.5 million) for raw material purchases subject to supply chain finance arrangements.

Contract liabilities mainly consist of prepayments received on orders. Prepayments received on orders as of 31 December 2018 were recognised as revenue in the current reporting period.

The item liabilities to employees primarily consists of obligations for wages and salaries, payroll taxes and employee-related duties, performance bonuses, unused vacation and flexitime credits.

Other current liabilities include €1.3 million (31.12.2018: €1.6 million) investment reimbursement obligation to the former subsidiary Dolomite Franchi S.p.A., and other accrued expenses.

33. Income tax liabilities

Income tax liabilities amounting to €35.4 million (31.12.2018: €32.2 million) primarily include income taxes for the current year and previous years which have not yet been definitively audited by domestic and foreign tax authorities. Taking into account a multitude of factors, including the interpretation, comments and case law regarding the respective tax laws as well as past experiences, adequate liabilities have been recognised.

34. Current provisions

The development of current provisions is shown in the table below:

in € million	Restructuring costs	Demolition/ disposal costs, environmental damages	Warranties	Onerous/ unfavourable contracts	Guarantees provided	Other	Total
31.12.2018	10.1	7.4	2.7	21.1	3.0	8.7	53.0
Currency translation	0.1	0.0	0.0	0.1	0.0	0.0	0.2
Utilised	(6.1)	(1.3)	(1.0)	(20.0)	0.0	(5.3)	(33.7)
Reversals	(0.6)	(1.1)	(1.9)	(5.8)	(3.1)	(0.5)	(13.0)
Additions	28.3	0.4	9.5	9.0	0.1	1.2	48.5
Reclassifications	0.0	0.0	0.0	13.4	0.0	1.4	14.8
31.12.2019	31.8	5.4	9.3	17.8	0.0	5.5	69.8

Provisions for restructuring costs amount to €31.8 million as of 31 December 2019 (31.12.2018: €10.1 million) and primarily consist of benefit obligations to employees due to termination of employment resulting from corporate reorganisation of RHI Magnesita. Out of the €31.8 million, €12.1 million relates to the plant closure in Hagen, Germany, and €4.0 million to the partial shut-down of the plant in Trieben, Austria.

The item demolition and disposal costs, environmental damages includes an amount of €2.5million (31.12.2018: €2.5 million) which refers to the former site in Aken, Germany. It is assumed that this provision will be used up within the next 12 months.

Provisions for warranties include provisions for claims arising from warranties and other similar obligations from the sale of refractory products.

Provisions for contract obligations include the current portion of the Oberhausen contract obligation amounting to €10.4 million (31.12.2018: €11.5 million). The amortisation of this provision led to an income of €15.5 million in 2019 (31.12.2018: €10.0 million). Furthermore, provisions for other unfavourable contracts amounting to €3.5 million (31.12.2018: €6.7 million) and provisions for unfavourable contracts related to contracts for logistics services and the procurement of raw materials totalling €3.9 million (31.12.2018: €2.9 million) are included.

Provisions for guarantees provided included obligations from sureties and guarantees to banks and insurance companies as of 31 December 2018. As of 31 December 2019, these provisions are disclosed as contingent liabilities, as the outflow of resources is not estimated to be probable.

The item other provisions includes a provision for the share-based remuneration programme of the members of the former Management Board of RHI AG of €1.9 million (31.12.2018: €1.4 million).

In addition, provisions for legal proceedings amounting to €0.7 million (31.12.2018: €3.2 million) are included in the item other provisions. It is currently uncertain when precisely the cash outflow is due.

Furthermore, several provisions, which are individually immaterial and cannot be allocated to one of the above-mentioned categories, are included in other provisions. A large part of these costs is expected to be paid within 12 months.

NOTES TO THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS

35. Revenue

Revenue is essentially generated by product deliveries and by performing management refractory services. The distribution of revenue by product group, division and country is given in the explanations to segment reporting under Note (51).

36. Cost of sales

Cost of sales comprises the production cost of goods sold as well as the purchase price of merchandise sold. In addition to direct material and production costs, it also includes overheads including depreciation charges on production equipment, amortisation charges of intangible assets as well as impairment losses and reversals of impairment losses of inventories. Moreover, cost of sales also includes the costs of services provided by the Group or services received.

37. Selling and marketing expenses

This item includes personnel expenses for the sales staff as well as depreciation charges and other operating expenses related to the market and sales processes.

38. General and administrative expenses

General and administrative expenses primarily consist of personnel expenses for the administrative functions, legal and other consulting costs, expenses for research and non-capitalisable development costs.

Research and development expenses totalled €35.0 million (2018: €32.6 million), of which development costs amounting to €9.0 million (2018: €8.3 million) were capitalised. Income from research grants amounted to €4.4 million (2018: €3.8 million) in 2019. Amortisation and impairment of development costs amounting to €4.4 million (2018: €3.8 million) are recognised under cost of sales.

39. Restructuring and write-down expenses

In 2019 the Group initiated a plant rationalisation programme which led to €46.7 million of restructuring expenses and €65.4 million of asset write-downs of which €54.6 million are allocated to Segment Steel and €10.8 million are allocated to Segment Industrial.

This item includes costs for the plant closure in Hagen, Germany, amounting to €55.3 million (thereof termination of employment of €12.4 million and write-down of €42.9 million), the partial shut-down of the plant in Trieben, Austria, amounting to €13.7 million (thereof termination of employment of €5.1 million and write-down of €8.6 million) and other costs for termination of employment totalling €18.9 million. In 2018, restructuring costs primarily related to costs for termination of employment incurred in connection with the corporate reorganisation of RHI Magnesita amounting to €5.4 million.

In addition, restructuring costs include expenses for unused logistics services and procurement of raw materials in the Porsgrunn plant, Norway, amounting to €6.1 million (2018: €3.9 million).

Write-down expenses amounting to €13.9 million result from the impairment testing of CGU Norway according to IAS 36, of which €9.3 million are allocated to Segment Steel and €4.6 million are allocated to Segment Industrial. Further information is provided under Note (8).

40. Other income

The individual components of other income are:

in € million	2019	2018
Amortisation of Oberhausen provision	15.5	10.0
Income from the reversal of provisions	4.6	0.0
Income from the disposal of non-current assets	1.9	2.2
Result from derivatives from supply contracts	0.0	19.6
Income from restructuring	0.0	5.4
Miscellaneous income	12.9	6.7
Other income	34.9	43.9

In 2018, income from restructuring amounting to €5.4 million resulted from the reversal of acquisition-related provisions for redundancy programmes.

41. Other expenses

Other expenses include:

in € million	2019	2018
Expenses for strategic projects	(9.0)	(13.5)
Losses from the disposal of non-current assets	(4.3)	(3.0)
Result from deconsolidation - recycling currency translation differences	(3.7)	0.0
Result from derivatives from supply contracts	(3.0)	0.0
Miscellaneous expenses	(11.3)	(6.1)
Other expenses	(31.3)	(22.6)

Expenses for strategic projects amounting to €9.0 million mainly include legal and consulting fees related to optimisation of supply chain, M&A and integration costs. In 2018, expenses for strategic projects amounted to €13.5 million and mainly included legal and consulting fees for the acquisition and integration of Magnesita as well as the related corporate reorganisation of RHI Magnesita.

42. Interest income

This item includes interest on cash at banks and similar income amounting to €8.7 million (2018: €8.8 million), interest income on financial receivables amounting to €0.2 million (2018: €0.2 million) and interest income on securities and shares amounting to €0.2 million (2018: €0.7 million). In 2018 €0.4 million were accounted for by impaired securities.

43. Foreign exchange effects and related derivatives

The net expense on foreign exchange effects and related derivatives consists of the following items:

in € million	2019	2018
Foreign exchange gains	83.3	98.6
Gains from related derivative financial instruments	14.6	4.5
Foreign exchange losses	(83.4)	(160.2)
Losses from related derivative financial instruments	(31.7)	(24.2)
Net expense on foreign exchange effects and related derivatives	(17.2)	(81.3)

Compared to the previous year the Group improved its financial structure. The absence of the Magnesita legacy debt combined with reduced volatility of Euro and Brazilian Real against the US Dollar resulted in lower net expense on foreign exchange effects. Realised losses from derivative financial instruments result from the dissolution of derivatives as of July 2019. These derivatives were fully restructured in 2019 and no effect is expected in the future out of this item.

In 2018 the net expense on foreign exchange effects and related derivatives resulted mainly from the devaluation of the Euro, Argentine Peso and Brazilian Real against the US Dollar, affecting both intercompany and third-party loans, accounts payable and accounts receivable.

44. Other net financial expenses

Other net financial expenses consist of the following items:

in € million	2019	2018
Interest income on plan assets	8.6	7.3
Interest expense on provisions for pensions	(16.7)	(15.2)
Interest expense on provisions for termination benefits	(1.2)	(0.9)
Interest expense on other personnel provisions	(0.3)	(0.3)
Net interest expense personnel provisions	(9.6)	(9.1)
Unwinding of discount of provisions and payables	(12.9)	(15.6)
Interest expense on non-controlling interests	(3.9)	(5.3)
Interest expense on lease liabilities	(1.2)	0.0
Gains from the disposal of securities and shares	0.9	0.7
Reversal of impairment losses on securities	0.8	0.0
Impairment losses on securities	0.0	(1.4)
Expenses from the valuation of put options	(0.5)	(1.0)
Other interest and similar expenses	(12.3)	(10.9)
Other net financial expenses	(38.7)	(42.6)

45. Income tax

Income tax consists of the following items:

in € million	2019	2018
Current tax expense	(72.7)	(75.9)
Deferred tax (expense)/income relating to		
temporary differences	29.8	46.7
tax loss carryforwards	(7.9)	(29.7)
	21.9	17.0
Income tax	(50.8)	(58.9)

The current tax expense of the year 2019 includes tax expenses for previous periods of €8.4 million (2018: €7.1 million) and income from income tax relating to prior periods of €1.7 million (2018: €0.5 million).

Income tax expenses for prior periods mainly include exit value expenses out of an ongoing transfer of functions between related parties amounting to €1.8 million as well as tax audit expenses in APAC and Italy amounting to € 1.2 million. In 2018 €3.8 million were related to an ongoing tax audit respectively tax loss forfeit in Germany.

In addition to the income taxes recognised in the Statement of Profit or Loss, tax income totalling €18.0 million (2018: €5.7 million), which is attributable to other comprehensive income, was also recognised in other comprehensive income.

The reasons for the difference between the income tax expense, which would result from the application of the Austrian corporate tax rate of 25% on the profit before income tax, and the income tax reported are shown below:

in € million	2019	2018
Profit before income tax	199.6	246.0
Income tax expense calculated at 25% (2018: 25%)	49.9	61.5
Different foreign tax rates	(4.4)	1.8
Expenses not deductible for tax purposes, non-creditable taxes	17.2	10.1
Non-taxable income and tax benefits	(22.5)	(32.3)
Tax losses and temporary differences of the financial year not recognised	9.9	9.5
Utilisation of previously unrecognised loss carryforwards and temporary differences	(2.5)	(0.2)
Recognition of previously unrecognised loss carryforwards and temporary differences	(13.3)	(0.7)
Change in valuation allowance on deferred tax assets	0.6	1.2
Deferred tax expense due to tax rate changes	(0.6)	(1.8)
Deferred income tax relating to prior periods	8.5	2.4
Current income tax relating to prior periods	7.6	6.7
Other	0.5	0.7
Recognised tax expense	50.8	58.9
Effective tax rate (in %)	25.5%	23.9%

In 2019 expenses not deductible for tax purposes include voluntary leave payment, Chinese capacity compensation and a write down of a receivable which is not deductible for tax purposes in the total amount of €4.4 million. Non-taxable income includes benefits concerning the SUDENE tax regime amounting to €9.1 million. This tax regime is calculated on profits from activities covered by the incentive tax treatment for priority projects for the development of the SUDENE region in Brazil. Due to improved projections of taxable income deferred tax assets on tax loss carryforwards previously not recognised in the amount of €7.4 million in the Netherlands and €5.9 million in China were capitalised. Deferred tax assets relating to the tax losses of the current financial year of €3.8 million have not been recognised in the Netherlands and €2.3 million have not been recognised in Brazil.

Tax expense due to tax rate changes relates mainly to an Indian company, where the tax rate changed from 34,94% to 27,83%, leading to an additional expense of €1,5 million and to an American company where the tax rate changed from 23,66% to 24,2%, leading to an additional income of €0,7 million.

In 2018, deferred tax expense due to tax rates changes was primarily attributable to the reduction of the corporate income tax rate in Norway from 24% to 23% of 0.9 million and an increase in corporate income tax rate in Turkey from 20% to 22% of €0.4 million. Non-taxable income and tax benefits include the SUDENE tax regime amounting to €20.4 million.

46. Expense categories

The presentation of the Consolidated Statement of Profit or Loss is based on the function of expenses. The following tables show a classification by expense category for 2019 and the previous year:

in € million	Cost of sales	Selling and marketing expenses	General and administrative expenses	Other income/ expenses	Restructuring and write-down income/expenses	Total 2019
Changes in inventories, own work capitalised	60.7	0.0	(4.8)	0.0	0.0	55.9
Cost of materials	1,269.6	(0.7)	2.4	0.0	1.7	1,273.0
Personnel costs	412.2	76.9	115.2	0.0	25.3	629.6
Depreciation and amortisation charges	154.1	2.7	15.9	0.0	0.0	172.7
Write-down expenses	0.0	0.0	0.0	0.0	65.4	65.4
Other income	(23.2)	(2.0)	(4.3)	(1.8)	0.0	(31.3)
Other expenses	331.7	49.3	84.8	(1.8)	19.7	483.7
Total	2,205.1	126.2	209.2	(3.6)	112.1	2,649.0

Cost of materials includes expenses for raw materials and supplies and purchased goods of €1,049.6 million (2018: €1,321.3 million) as well as expenses for services received, especially energy, amounting to €223.5 million (2018: €232.5 million).

in € million	Cost of sales	Selling and marketing expenses	General and administrative expenses	Other income/ expenses	Restructuring and write-down income/expenses	Total 2018[1)]
Changes in inventories, own work capitalised	(79.2)	0.0	(2.8)	0.0	0.0	(82.0)
Cost of materials	1,550.8	0.6	2.4	0.0	0.0	1,553.8
Personnel costs	409.6	72.8	106.2	0.0	5.6	594.2
Depreciation and amortisation charges	133.5	7.9	12.0	0.0	0.0	153.4
Other income	(27.5)	(0.2)	(4.2)	(9.9)	0.0	(41.8)
Other expenses	357.3	47.8	94.8	(11.4)	16.7	505.2
Total	2,344.5	128.9	208.4	(21.3)	22.3	2,682.8

1) To ensure comparability prior-year figures have been adjusted.

Amortisation charges of intangible assets are largely recognised in cost of sales. Other expenses mainly include freight costs, commissions, travel costs as well as consulting and other outside services.

47. Personnel costs

Personnel costs consist of the following components:

in € million	2019	2018
Wages and salaries	489.6	474.0
Pensions		
Defined benefit plans	4.1	3.7
Defined contribution plans	5.9	5.2
Termination benefits		
Defined benefit plans	0.8	1.6
Defined contribution plans	1.4	1.5
Other expenses	15.9	2.9
Social security costs	79.3	73.7
Fringe benefits	32.7	31.6
Personnel expenses (without interest expenses)	629.7	594.2

Personnel costs do not include amounts resulting from the interest accrued on personnel provisions. They amount to €9.6 million (2018: €9.1 million) and are recorded in other net financial expenses.

NOTES TO THE CONSOLIDATED STATEMENT OF CASH FLOWS

The Statement of Cash Flows shows how cash and cash equivalents of the Group change through cash inflows and cash outflows during the reporting year. In accordance with IAS 7, cash flows from operating activities, from investing activities and from financing activities are distinguished. Cash flows from investing and financing activities are determined on the basis of cash payment, while cash flow from operating activities is derived from the Consolidated Financial Statements using the indirect method.

The respective monthly changes in items of the Statement of Financial Position of companies that report in foreign currencies are translated at the closing rate of the previous month and adjusted for effects arising from changes in the group of consolidated companies or in other businesses. Therefore, the Statement of Cash Flows cannot be derived directly from changes in items of the Consolidated Statement of Financial Position. As in the Statement of Financial Position, cash and cash equivalents are translated at the closing rate. The effects of changes in exchange rates on cash and cash equivalents are shown separately.

48. Net cash flow from operating activities

in € million	2019	2018
Profit after income tax	148.8	187.1
Adjustments for		
income tax	50.8	58.9
depreciation	146.2	124.8
amortisation	26.4	28.6
write-down of property, plant and equipment and intangible assets	65.5	0.0
income from the reversal of investment subsidies	(0.6)	(0.5)
write-ups/ impairment losses on securities	8.7	0.3
losses from the disposal of property, plant and equipment	2.8	1.4
gains from the disposal of securities and shares	(0.9)	(0.7)
losses from the disposal of subsidiaries	3.7	0.0
net interest expense and derivatives	49.6	92.5
share of profit of joint ventures and associates	(11.1)	(10.1)
other non-cash changes	26.0	18.1
Changes in working capital		
inventories	110.9	(56.7)
trade receivables	30.3	21.9
contract assets	0.0	(1.9)
trade payables	(145.0)	48.8
contract liabilities	(19.0)	36.5
Changes in other assets and liabilities		
other receivables and assets	(4.9)	(29.5)
provisions	(8.0)	(59.4)
other liabilities	(9.8)	2.1
Cash generated from operations	470.4	462.2

Other non-cash expenses and income include mainly the net interest expenses for defined benefit pension plans amounting to €9.6 million (2018: €9.1 million), net remeasurement losses of monetary foreign currency positions and derivative financial instruments of €19.8 million (2018: €14.5 million).

49. Net cash flow from financing activities

The reconciliation of movements of financial liabilities and assets to cash flows arising from financing activities for the current and the prior year is shown in the tables below:

		Cash changes	Non-cash changes				
in € million	31.12.2018		Changes in foreign exchange rates	Initial recognition IFRS 16	Interest expense and other changes	Additions and modifications of leases (IFRS 16)	31.12.2019
Liabilities to financial institutions	1,153.6	(161.8)	7.3	0.0	44.0	0.0	1,043.1
Lease liabilities	0.0	(15.5)	0.4	62.0	1.2	13.8	61.9
Liabilities to fixed-term or puttable non-controlling interests	36.3	(5.3)	0.3	0.0	4.5	0.0	35.8
Other financial liabilities and capitalised transaction costs	12.8	(2.1)	0.1	0.0	1.1	0.0	11.9
Trade payables	1.8	(1.8)	0.0	0.0	0.0	0.0	0.0
Changes of financial liabilities and assets arising from financing activities	1,204.5	(186.5)	8.1	62.0	50.8	13.8	1,152.7

		Cash changes	Non-cash changes			
in € million	31.12.2017		Changes in foreign exchange rates	Interest expense and other changes	Reclassification	31.12.2018
Liabilities to financial institutions	953.0	164.8	(12.0)	60.3	(12.5)	1,153.6
Perpetual bond	215.3	(215.0)	1.3	(1.6)	0.0	0.0
Senior notes	55.6	(54.6)	0.6	(1.6)	0.0	0.0
Liabilities to fixed-term or puttable non-controlling interests	32.0	(1.8)	(0.4)	6.5	0.0	36.3
Other financial liabilities and capitalised transaction costs	1.7	(0.5)	(0.3)	(0.6)	12.5	12.8
Prepaid transaction costs related to financial liabilities	(2.5)	0.0	0.0	2.5	0.0	0.0
Trade payables	0.0	(4.5)	0.0	6.3	0.0	1.8
Changes of financial liabilities and assets arising from financing activities	1,255.1	(111.6)	(10.8)	71.8	0.0	1,204.5

The reconciliation of the cash impact of net financing in 2019 and 2018 is shown in the tables below:

in € million	Profit or loss	Reconciliation to cash net finance cost financing cash movements	 other cash and non-cash movements	 Cash impact of net financing costs
Interest income	9.1	0.0	0.8	8.3
Interest expenses on borrowings	(28.4)	(5.7)	(4.2)	(29.9)
Net expense on foreign exchange effects and related derivatives	(17.2)	0.0	(2.8)	(14.4)
Other net financial expenses	(38.7)	(5.8)	(24.6)	(19.9)
Net finance costs	(75.2)			(55.9)

in € million	Profit or loss	Reconciliation to cash net finance cost financing cash movements	 other cash and non-cash movements	 Cash impact of net financing costs
Interest income	9.7	0.0	1.5	8.2
Interest expenses on borrowings	(48.5)	(12.8)	(6.9)	(54.4)
Net expense on foreign exchange effects and related derivatives	(81.3)	0.0	(61.2)	(20.1)
Other net financial expenses	(42.6)	(5.2)	(31.1)	(16.7)
Net finance costs	(162.7)			(83.0)

Non-cash movements in other net financial expenses are mainly related to net interest expenses on personnel provisions as well as to expenses from the discount on provisions.

50. Total interest paid and interest received

Total interest paid amounts to €50.5 million in the reporting period (2018: €72.4 million), of which €0.4 million (2018: €0.3 million) is included in cash flow from operating activities, €0.3 million (2018: €1.0 million) in cash flow from investing activities and €49.8 million (2018: €71.1 million) in cash flow from financing activities.

Total interest received amounts to €8.3 million for the financial year 2019 (2018: €8.5 million), of which €0.0 million (2018: €0.2 million) are included in cash flow from operating activities and €8.3 million (2018: €8.3 million) in cash flow from investing activities.

OTHER DISCLOSURES

51. Segment reporting

Segment reporting by operating company division

The following tables show the financial information for the operating segments for the year 2019 and the previous year:

in € million	Steel	Industrial	Group 2019
Revenue	2,018.0	904.3	2,922.3
Gross profit	466.8	250.4	717.2
EBIT			273.3
Net finance costs			(75.2)
Share of profit of joint ventures and associates			1.5
Profit before income tax			199.6
Depreciation and amortisation charges	(109.1)	(63.5)	(172.6)
Segment assets 31.12.2019	1,545.9	919.5	2,465.4
Investments in joint ventures and associates 31.12.2019			19.5
Reconciliation to total assets			834.7
			3,319.6
Investments in property, plant and equipment and intangible assets (according to non-current assets statement)	103.2	77.8	181.0

in € million	Steel	Industrial	Group 2018[1)]
Revenue	2,213.0	868.4	3,081.4
Gross profit	526.4	210.5	736.9
EBIT			398.6
Net finance costs			(162.7)
Share of profit of joint ventures and associates			10.1
Profit before income tax			246.0
Depreciation and amortisation charges	(97.5)	(55.9)	(153.4)
Segment assets 31.12.2018	1,669.9	944.4	2,614.3
Investments in joint ventures and associates 31.12.2018			21.8
Reconciliation to total assets			902.9
			3,539.0
Investments in property, plant and equipment and intangible assets (according to non-current assets statement)	67.7	59.3	127.0

1) Adjusted to reflect the changes in presentation.

No single customer contributed 10% or more to consolidated revenue in 2019. Companies which are known to be part of a group are treated as one customer. In 2018, revenue amounting to €317.5 million was realised with one customer, which was included in the Steel segment.

When allocating revenue to product groups, a distinction is made between shaped products (e.g. hydraulically pressed bricks, fused cast bricks, isostatically pressed products), unshaped products (e.g. repair mixes, construction mixes and castables), refractory management services as well as other revenue. Other mainly includes revenue from the sale of non-group refractory products.

In the reporting year, revenue is classified by product group as follows:

in € million	Steel	Industrial	Group 2019
Shaped products	963.0	613.7	1,576.7
Unshaped products	323.4	187.6	511.0
Management refractory services	628.8	0.0	628.8
Other	102.8	103.0	205.8
Revenue	2,018.0	904.3	2,922.3

In 2018, revenue was classified by product group as follows:

in € million	Steel	Industrial	Group 2018[1)]
Shaped products	1,114.9	575.9	1,690.8
Unshaped products	340.9	192.1	533.0
Management refractory services	616.0	0.0	616.0
Other	141.2	100.4	241.6
Revenue	2,213.0	868.4	3,081.4

1) Adjusted to reflect the changes in presentation.

Revenue from shaped and unshaped products is transferred to the customers at a point in time, whereas revenue from management refractory services is transferred over time. Other revenue amounting to €96.9 million (2018: €100.9 million) is transferred over time and an amount of €108.9 million (2018: €140.7 million) is transferred at a point of time.

Segment reporting by country
Revenue in 2019 and in the previous year is classified by customer sites as follows:

in € million	Steel	Industrial	Group
Netherlands	11.4	5.0	16.4
All other countries			
USA	359.7	55.4	415.1
Brazil	273.3	58.8	332.1
India	206.3	45.5	251.8
PR China	47.6	136.1	183.7
Germany	96.8	74.1	170.9
Mexico	108.1	47.4	155.5
Italy	88.5	26.3	114.8
Canada	47.9	55.2	103.1
Russia	68.8	9.6	78.4
Other countries, each below €52.7 million	709.6	390.9	1,100.5
Revenue	2,018.0	904.3	2,922.3

in € million	Steel	Industrial	Group
Netherlands	13.9	11.9	25.8
All other countries			
USA	353.7	54.2	407.9
Brazil	277.1	56.1	333.2
India	202.3	43.0	245.3
Germany	116.6	66.8	183.4
PR China	44.0	121.7	165.7
Mexico	127.8	33.2	161.0
Italy	104.6	27.0	131.6
Canada	46.4	45.8	92.2
Russia	73.7	13.2	86.9
Other countries, each below €62.9 million	852.9	395.5	1,248.4
Revenue	2,213.0	868.4	3,081.4

The carrying amounts of goodwill, other intangible assets and property, plant and equipment are classified as follows by the respective sites of the Group companies:

in € million	31.12.2019	31.12.2018
Brazil	514.0	520.7
USA	233.2	233.1
Austria	228.8	220.6
Germany	154.0	198.6
PR China	181.9	160.1
India	64.7	58.0
Mexico	38.9	34.5
France	27.9	31.8
Turkey	29.4	30.6
Other countries, each below €22.1 million (31.12.2018: €18.6 million)	70.5	58.6
Goodwill, intangible assets and property, plant and equipment	1,543.3	1,546.6

52. Earnings per share

In accordance with IAS 33, earnings per share are calculated by dividing the profit or loss attributable to the shareholders of RHI Magnesita N.V. by the weighted average number of shares outstanding during the financial year.

	2019	2018
Profit after income tax attributable to the owners of the parent (in € million)	139.0	158.1
Weighted average number of shares for basic EPS	49,220,010	44,963,615
Effects of dilution from share options	273,969	94,105
Weighted average number of shares for dilutive EPS	49,493,979	45,057,720
Earnings per share basic (in €)	2.82	3.52
Earnings per share diluted (in €)	2.81	3.52

The weighted average number of shares for basic and dilutive EPS considers the weighted average effect of the newly issued ordinary shares as well the effect of changes in treasury shares during the reporting period. As of 31 December 2019, there are 273,969 diluting options.

53. Dividend payments and proposed dividend

The Annual General Meeting on 6 June 2019 approved the pay-out of a dividend of €1.50 per share for 2018. Consequently, a dividend totalling €74.2 million was paid out to the shareholders of RHI Magnesita N.V. at the beginning of July 2019.

On 23 July 2019 the Board of Directors of RHI Magnesita N.V. approved the 2019 interim dividend of €0.50 per share amounting to € 24.5 million. The 2019 interim dividend was paid on 9 January 2020.

For 2019, the Board of Directors has recommended not to pay a final dividend for 2019, subject to shareholder approval at the Annual General Meeting, on 5 June 2020 to shareholders on the register at 2020. This decision will be reviewed later in the year once the outlook becomes clearer.

Dividend payments to the shareholders of RHI Magnesita N.V. have no income tax consequences for RHI Magnesita N.V.

54. Additional disclosures on financial instruments

The following tables show the carrying amounts and fair values of financial assets and liabilities by measurement category and level and the allocation to the measurement category in accordance with IFRS 13. In addition, carrying amounts are shown aggregated according to measurement category.

			31.12.2019		31.12.2018	
in € million	Measurement category IFRS 9[1)]	Level	Carrying amount	Fair value	Carrying amount	Fair value
Other non-current financial assets						
Interests in subsidiaries not consolidated	FVPL	3	0.7	0.7	0.7	0.7
Marketable securities	FVPL	1	13.3	13.3	14.5	14.5
Shares	FVPL	3	0.5	0.5	0.5	0.5
Interest derivatives designated as cash flow hedges	-	2	0.0	0.0	0.6	0.6
Other non-current financial receivables	AC	-	0.9	-	1.7	-
Trade and other current receivables	AC	-	324.2	-	367.2	-
Other current financial assets						
Marketable securities	FVPL	1	0.0	0.0	35.2	35.2
Shares	FVPL	1	0.0	0.0	1.1	1.1
Derivatives	FVPL	2	0.1	0.1	2.1	2.1
Other current financial receivables	AC	-	0.0	-	0.2	-
Cash and cash equivalents	AC	-	467.2	-	491.2	-
Financial assets			806.9		915.0	
Non-current and current borrowings						
Liabilities to financial institutions	AC	2	1,043.1	1,056.6	1,153.6	1,165.6
Other financial liabilities and capitalised transaction costs	AC	2	11.9	-	12.8	-
Non-current and current other financial liabilities						
Lease liabilities	AC	2	61.9	-	-	-
Derivatives	FVPL	2	24.5	24.5	20.9	20.9
Interest derivatives designated as cash flow hedges	-	2	14.8	14.8	7.3	7.3
Liabilities to fixed-term or puttable non-controlling interests	AC	2	35.8	-	36.3	-
Other non-current liabilities						
Contingent consideration for acquired subsidiaries	FVPL	3	0.0	0.0	0.6	0.6
Trade payables and other current liabilities	AC	-	412.3	-	539.3	-
Financial liabilities			1,604.3		1,770.8	
Aggregated according to measurement category						
Financial assets measured at FVPL			14.6		54.1	
Financial assets measured at amortised cost			792.3		860.3	
Financial liabilities measured at amortised cost			1,565.0		1,742.0	
Financial liabilities measured at FVPL			24.5		21.5	

1) FVPL: Financial assets/financial liabilities measured at fair value through profit or loss.
AC: Financial assets/financial liabilities measured at amortised cost.

In the RHI Magnesita Group marketable securities, derivative financial instruments, shares, and interests in subsidiaries not consolidated are measured at fair value.

Fair value is defined as the amount for which an asset could be exchanged, or a liability settled, between market participants in an arm's length transaction on the day of measurement. When the fair value is determined it is assumed that the transaction in which the asset is sold or the liability is transferred takes place either in the main market for the asset or liability, or in the most favourable market if there is no main market. RHI Magnesita considers the characteristics of the asset or liability to be measured which a market participant would consider in pricing. It is assumed that market participants act in their best economic interest.

RHI Magnesita takes into account the availability of observable market prices in an active market and uses the following hierarchy to determine fair value:

Level 1:	Prices quoted in active markets for identical financial instruments.
Level 2:	Measurement techniques in which all important data used are based on observable market data.
Level 3:	Measurement techniques in which at least one significant parameter is based on non-observable market data.

The fair value of securities, shares, and interests in subsidiaries not consolidated is based on price quotations at the reporting date (Level 1), where such quotations exist. In other cases a valuation model (Level 3) would be used for such instruments with the exception that such instruments are immaterial to the group, in which case amortised cost serves as an approximation of fair value.

The fair value of interest derivatives in a hedging relationship (interest rate swaps) is determined by calculating the present value of future cash flows based on current yield curves taking into account the corresponding terms (Level 2).

The fair value of other derivative contracts corresponds to the market value of the forward exchange contracts and the embedded derivatives in open orders denominated in a currency other than the functional currency, as well as the market value of a long-term power supply contract, which was classified as a derivative financial instrument since 2015. These derivatives are measured using quoted forward rates that are currently observable (Level 2).

The fair value of the contingent consideration liability amounting to €0.0 million (31.12.2018: €0.6 million) recognised in 2017 due to the acquisition of Agellis is determined by discounting the estimated earn-out with the transaction's internal rate of return (Level 3).

RHI Magnesita takes into account reclassifications in the measurement hierarchy at the end of the reporting period in which the changes occur. Apart from the initial application of IFRS 9, there were no shifts between the different measurement levels in the two reporting periods.

Liabilities to financial institutions, other financial liabilities and capitalised transaction costs, lease liabilities and liabilities to fixed-term or puttable non-controlling interests are carried at amortised cost in the Consolidated Statement of Financial Position. The fair values of the liabilities to financial institutions are only shown in the notes and calculated at the present value of the discounted future cash flows using yield curves that are currently observable (Level 2).

The financial receivables approximately correspond to the fair value as due to the amount of the existing receivables no material deviation between the fair value and the carrying amount is assumed and the credit default risk is accounted for by forming valuation allowances.

The remaining terms of trade and other current receivables and liabilities as well as cash and cash equivalents are predominantly short. Therefore, the carrying amounts of these items approximate fair value at the reporting date.

At the two reporting dates, no contractual netting agreement of financial assets and liabilities were in place.

Net results by measurement category in accordance with IFRS 9

The effect of financial instruments on the income and expenses recognised in 2019 and 2018 is shown in the following table, classified according to the measurement categories defined in IFRS 9:

in € million	2019	2018
Net (loss)/gain from financial assets and liabilities measured at fair value through profit or loss	(17.7)	1.4
Net loss from financial assets and liabilities measured at fair value through profit or loss designated on initial recognition	0.5	(1.2)
Net gain/(loss) from financial assets and liabilities measured at amortised cost	(39.7)	(123.5)

The net gain from financial assets and liabilities measured at fair value through profit or loss includes income from securities and shares, income from the disposal of securities and shares, impairment losses and income from reversals of impairment losses, unrealised results from the measurement of a long-term commodity futures contract, changes in the market value and realised results of forward exchange contracts and embedded derivatives in open orders in a currency other than the functional currency of RHI Magnesita, interest derivatives which do not meet the requirements of hedge accounting in accordance with IFRS 9 and interest income from securities.

The net gain or loss from financial assets and liabilities at fair value through profit or loss designated on initial recognition includes income related to the settlement and measurement of securities and personnel obligations.

The net loss from financial assets and liabilities measured at amortised cost includes interest income and expenses, changes in valuation allowances and losses on derecognition, foreign exchange gains and losses as well as expenses related to the measurement of put options. The net loss is mainly related to financial liabilities measured at amortised cost.

Net finance costs include interest income amounting to €9.1 million (2018: €9.5 million) and interest expenses of €49.9 million (2018: €69.5 million), which result from financial assets and liabilities which are not carried at fair value through profit or loss.

55. Derivative financial instruments

Commodity forward

The RHI Magnesita Group signed a commodity forward contract for electricity for the fusion plant in Porsgrunn, Norway, in November 2011 which has been accounted for as a financial instrument in accordance with IFRS 9 since 31 December 2015 because the “own-use exemption” (exemption for own use in accordance with IFRS 9 no longer applies.

The measurement of the entire term of the contract until the end of the year 2023 at market price level leads to a financial liability of €23.9 million at 31 December 2019 (31.12.2018: €20.9 million). The corresponding present value of the cash flows for the agreed electricity supply totals €59.5 million at 31 December 2019 (31.12.2018: €71.3 million); the present value of the cash flow at market price amounts to €35.6 million (31.12.2018: €50.4 million).

Interest rate swaps

RHI Magnesita has concluded interest rate swaps to hedge the cash flow risk associated to financial liabilities carrying variable interest rates. Variable interest cash flows of financial liabilities were designated as hedged items. The cash flow changes of the hedged items, which result from the changes of the variable interest rates, are balanced out by the cash flow changes of the interest rate swaps. These hedging measures pursue the objective to transform variable-interest financial liabilities into fixed interest financial liabilities, thus hedging the cash flow from the financial liabilities. Ineffectiveness in the hedge relationship may arise due to credit risk, although this risk is assessed to be very low.

In the year 2018, RHI Magnesita concluded an interest rate swap with a nominal volume of €305.6 million maturing in 2023. The interest and compensation payments are due on a quarterly basis. Fixed interest rate amounts to roughly 0.28%, the variable interest rate is based on the EURIBOR. Furthermore, one other interest rate swap has been concluded in 2018, with a nominal volume of USD 200.0 million and a term until 2023. The interest and compensation payments are also due on a quarterly basis. Fixed interest rate amounts to roughly 3.1%, the variable interest rate is based on the USD LIBOR.

A hedging relationship with a nominal volume of USD 50.0 million (31.12.2018: USD 50.0 million) with an original maturity until 2020 was early settled in 2019. An income of €0.7 million recognised in other comprehensive income was reclassified to profit or loss and recognised within other net financial expenses.

In 2018, two interest rate swaps measured at fair value through profit or loss with an original maturity until 2019 and with a nominal value of €12.2 million were subject to early settlement in the reporting period. Total expense in 2018 of this transaction amounted to €0.3 million and was recognised within other net financial expenses.

The fair values of the interest rate swaps totalled €-14.8 million at the reporting date (31.12.2018: €-6.7 million) and are shown in other non-current financial liabilities (31.12.2018: €7.3 million) in the Consolidated Statement of Financial Position. At 31.12.2018 a fair value of € 0.6 million was shown in other non-current financial assets. For the reporting period 2019, €-7.4 million (2018: €6.8 million) have been recognised in other comprehensive income and an income amounting to €0.7 million (2018:€0.0) has been reclassified from other comprehensive to profit or loss and recognised within other net financial expenses. No ineffectiveness has been recognised in profit and loss.

Forward exchange contracts
As of 31 December 2019, there were no open forward exchange contracts.

The nominal value and fair value of forward exchange contracts as of 31 December 2018 are shown in the table below:

			31.12.2018	
Purchase	Sale		Nominal value in million	Fair value in € million
EUR	USD	USD	182.0	1.1
USD	INR	EUR	890.0	0.0
Forward exchange contracts				1.1

56. Financial risk management

Financial risks are incorporated in RHI Magnesita's corporate risk management and are centrally controlled by Corporate Treasury.

None of the following risks have a significant influence on the going concern of the RHI Magnesita Group.

Credit risks
The maximum credit risk from recognised financial assets amounts to €806.9 million (31.12.2018: €915.0 million) and is primarily related to investments with banks and receivables due from customers.

The credit risk with banks related to investments (especially cash and cash equivalents) is reduced as business transactions are only carried out with prime financial institutions with a good credit rating. Individual counterpart exposures limits are assigned to each financial institution based on a matrix composed of the credit rating (S&P or Moody's) and balance sheet assets.

Receivables from customers are hedged as far as possible through credit insurance and collateral arranged through banks (guarantees, letters of credit) in order to mitigate credit and default risk. Credit and default risks are monitored continuously, and provisions are formed for risks that have occurred and are identifiable.

In the following, the credit risk from trade receivables is shown classified by customer industry, by foreign currency and by term.

This credit risk, which is hedged by existing credit insurance, letters of credit and bank guarantees, is shown by customer segment in the following table:

in € million	31.12.2019	31.12.2018
Segment Steel	206.8	250.3
Segment Industrial	110.7	99.6
Trade receivables	317.5	349.9
Credit insurance and bank guarantees	(140.8)	(139.8)
Net credit exposure	176.7	210.1

The following table shows the carrying amounts of receivables denominated in currencies other than the functional currencies of the Group companies. The carrying amounts of the receivables in the functional currency of the respective Group company are included under other functional currencies:

in € million	31.12.2019	31.12.2018
US Dollar	75.9	75.4
Euro	10.1	11.6
Pound Sterling	5.2	5.8
Other currencies	3.5	7.0
Other functional currencies	222.8	250.1
Trade receivables	317.5	349.9

The movement in the valuation allowance in respect of trade and other receivables and contract assets during the year and the previous year was as follows.:

	2019		2018	
in € million	Individually assessed - credit impaired	Collectively assessed - not credit impaired	Individually assessed - credit impaired	Collectively assessed - not credit impaired
Accumulated valuation allowance at beginning of year	29.6	1.2	28.7	3.3
Currency translation	0.3	-	(1.1)	-
Addition	5.9	-	5.0	-
Use	(1.0)	-	(3.0)	-
Reversal	(2.5)	-	0.0	-
Net remeasurement of loss allowance	-	0.1	-	(2.1)
Accumulated valuation allowance at year-end	32.3	1.3	29.6	1.2

For trade receivables and contract assets, for which no objective evidence of impairment exists, lifetime expected credit losses have been calculated using a provision matrix as shown below:

in € million						Trade receivables - days past due	
31.12.2019	Not past due	less than 30 days	between 31 and 60 days	between 61 and 90 days	between 91 and 180 days	more than 180 days	Total
Expected credit loss rate in %	0.04 - 0.65%	0.08 - 1.50%	0.33 - 10.33%	0.90 - 19.71%	1.43 - 26.35%	3.02 - 46.81%	
Gross carrying amount	260.8	20.8	8.0	1.9	1.4	2.8	295.7
Life time expected credit loss	0.4	0.1	0.1	0.1	0.1	0.5	1.3

in € million						Trade receivables - days past due	
31.12.2018	Not past due	less than 30 days	between 31 and 60 days	between 61 and 90 days	between 91 and 180 days	more than 180 days	Total
Expected credit loss rate in %	0.05 - 0.45%	0.11 - 1.08%	0.50 - 7.04%	1.39 - 13.33%	2.27 - 17.63%	5.86 - 33.81%	
Gross carrying amount	294.0	34.0	7.6	3.2	2.8	4.0	345.6
Life time expected credit loss	0.4	0.1	0.1	0.1	0.2	0.3	1.2

Liquidity risk

Liquidity risk refers to the risk that financial obligations cannot be met when due. The Group's financial policy is based on long-term financial planning and is centrally controlled and monitored continuously at RHI Magnesita. The liquidity requirements resulting from budget and medium-term planning are secured by concluding appropriate financing agreements. As of 31 December 2019, the RHI Magnesita Group has a committed credit facility of USD 400.0 million, which is fully unutilised (31.12.2018: USD 190.0 million were unutilised). The USD 400.0 million committed RCF is a syndicated facility with multiple international banks and matures in 2023. The companies of the RHI Magnesita Group are integrated into a clearing process managed by Corporate Treasury and provided with financing limits in order to minimise the need of borrowings for the Group as a whole.

Non-derivative financial instruments

An analysis of the terms of non-derivative financial liabilities based on undiscounted cash flows including the related interest payments shows the following expected cash outflows:

			Remaining term		
in € million	Carrying amount 31.12.2019	Cash outflows	up to 1 year	2 to 5 years	over 5 years
Liabilities to financial institutions					
fixed interest	135.0	147.4	2.7	108.5	36.2
variable interest	908.1	949.6	76.2	601.7	271.7
Other financial liabilities and capitalised transaction costs	11.9	13.4	2.0	11.2	0.2
Lease liabilities	61.9	79.5	16.2	37.7	25.6
Liabilities to fixed-term or puttable non-controlling interests	35.8	187.8	11.6	13.2	163.0
Trade payables and other current liabilities	412.3	412.3	412.3	0.0	0.0
Non-derivative financial liabilities	1,565.0	1,790.0	521.0	772.3	496.7

in € million	Carrying amount 31.12.2018	Cash outflows	Remaining term up to 1 year	2 to 5 years	over 5 years
Liabilities to financial institutions					
fixed interest	116.1	127.3	2.7	88.5	36.1
variable interest	1,037.5	1,100.9	338.6	732.9	29.4
Other financial liabilities and capitalised transaction costs	12.8	15.2	2.2	12.3	0.7
Liabilities to fixed-term or puttable non-controlling interests	36.3	211.8	14.2	18.4	179.2
Contingent consideration for acquired subsidiaries	0.6	0.6	0.0	0.6	0.0
Trade payables and other current liabilities	539.3	539.3	539.3	0.0	0.0
Non-derivative financial liabilities	1,742.6	1,995.1	897.0	852.7	245.4

Derivative financial instruments

The remaining terms of derivative financial instruments based on expected undiscounted cash flow as of 31 December 2019 and 31 December 2018 are shown in the table below:

in € million	Carrying amount 31.12.2019	Cash flows	Remaining term up to 1 year	2 to 5 years	over 5 years
Receivables from derivatives with net settlement					
Derivatives in open orders	0.1	0.1	0.1	0.0	0.0
Liabilities from derivatives with net settlement					
Derivatives from supply contracts	23.9	24.6	6.0	18.6	0.0
Interest rate swaps	14.8	15.1	5.0	10.1	0.0
Derivatives in open orders	0.6	0.6	0.6	0.0	0.0

in € million	Carrying amount 31.12.2018	Cash flows	Remaining term up to 1 year	2 to 5 years	over 5 years
Receivables from derivatives with net settlement					
Interest rate swaps	0.6	0.6	0.5	0.1	0.0
Derivatives in open orders	1.0	1.0	1.0	0.0	0.0
Forward exchange contracts	1.1	1.1	1.1	0.0	0.0
Liabilities from derivatives with net settlement					
Derivatives from supply contracts	20.9	22.2	1.0	21.2	0.0
Interest rate swaps	7.3	8.1	2.4	5.7	0.0

Foreign currency risks

Foreign currency risks arise where business transactions (operating activities, investments, financing) are conducted in a currency other than the functional currency of a company. They are monitored at the Group level and analysed with respect to hedging options. Usually the net position of the Group in the respective currency serves as the basis for decisions regarding the use of hedging instruments.

Foreign currency risks are created through financial instruments which are denominated in a currency other than the functional currency (in the following: foreign currency) and are monetary in nature. Important primary monetary financial instruments include trade receivables and payables, cash and cash equivalents as well as financial liabilities as shown in the Consolidated Statement of Financial Position. Equity instruments are not of a monetary nature, and therefore not linked to a foreign currency risk in accordance with IFRS 7.

The majority of foreign currency financial instruments in the RHI Magnesita Group result from operating activities, above all from intragroup financing transactions, unless the foreign exchange effects recognised to profit or loss on monetary items, which represent part of a net investment in a foreign operation in accordance with IAS 21, are eliminated or hedged through forward exchange contracts. Significant provisions denominated in foreign currencies are also included in the analysis of risk.

The following table shows the foreign currency positions in the major currencies as of 31 December 2019:

in € million	USD	EUR	ZAR	CHF	Other	Total
Financial assets	813.8	57.0	12.8	0.8	69.0	953.4
Financial liabilities, provisions	(646.9)	(165.7)	0.0	(11.2)	(34.9)	(858.7)
Net foreign currency position	166.9	(108.7)	12.8	(10.4)	34.1	94.7

The foreign currency positions as of 31 December 2018 are structured as follows:

in € million	USD	EUR	ZAR	CHF	Other	Total
Financial assets	651.5	104.1	15.8	1.4	77.7	850.5
Financial liabilities, provisions	(938.6)	(241.7)	0.0	(11.0)	(63.0)	(1,254.3)
Net foreign currency position	(287.1)	(137.6)	15.8	(9.6)	14.7	(403.8)

The disclosures required by IFRS 7 for foreign exchange risks include a sensitivity analysis that shows the effects of hypothetical changes in the relevant risk variables on profit or loss and equity. In general, all non-functional currencies in which Group companies enter into financial instruments are considered to be relevant risk variables. The effects on a particular reporting period are determined by applying the hypothetical changes in these risk variables to the financial instruments held by the Group as of the reporting date. It is assumed that the positions on the reporting date are representative for the entire year. The sensitivity analysis does not include the foreign exchange differences that result from translating the net asset positions of the foreign group companies into the Group currency, the Euro.

A 10% appreciation or devaluation of the relevant functional currency against the following major currencies as of 31 December 2019 would have had the following effect on profit or loss and equity (both excluding income tax):

	Appreciation of 10%		Devaluation of 10%	
in € million	Gain/(loss)	Equity	Gain/(loss)	Equity
US Dollar	(15.2)	(4.7)	18.6	5.7
Euro	9.9	15.5	(12.1)	(18.9)
South African Rand	(1.2)	(1.2)	1.4	1.4
Swiss Franc	0.9	0.9	(1.2)	(1.2)
Other currencies	(3.0)	(3.0)	3.8	3.9

The hypothetical effect on profit or loss at 31 December 2018 can be summarised as follows:

	Appreciation of 10%		Devaluation of 10%	
in € million	Gain/(loss)	Equity	Gain/(loss)	Equity
US Dollar	27.0	27.0	(33.0)	(33.0)
Euro	12.4	12.4	(15.1)	(15.1)
South African Rand	(1.4)	(1.4)	1.7	1.7
Swiss Franc	0.9	0.9	(1.1)	(1.1)
Other currencies	(1.4)	(1.4)	1.6	1.6

Net investment hedge
Non-current borrowings as of 31 December 2019 include USD 200.0 million which have been designated as a hedge of the net investments in two subsidiaries in the USA as of 1 July 2019. This borrowing is used to hedge the Group´s exposure to the USD foreign exchange risk on these investments. Gains or losses on the translation of this borrowing are reclassified to Other Comprehensive Income to offset any gains or losses on translation of the net investments in the subsidiaries.

There is an economic relationship between the hedged item and the hedging instrument as the net investment creates a translation risk that will match the foreign exchange risk on the USD borrowing. The Group has established a hedge ratio of 1:1 as the underlying risk of the hedging instrument is identical to the hedged risk component. Hedge ineffectiveness could arise when the amount of the investment in the foreign subsidiary becomes lower than the amount of the fixed rate borrowing. For the reporting period, there was no ineffectiveness to be recorded from net investments hedges.

The impact of the hedging instrument for the period 2019 is shown as follows:

in € million	Carrying amount	Statement of Financial Position	Change in fair value used for measuring ineffectiveness	Nominal amount
	178.5	Non-current borrowings	(2.9)	USD 200.0 million

The change in the carrying amount of the non-current borrowing as a result of the foreign currency movements since 1 July 2019 is recognised in Other Comprehensive Income within the currency translation differences.

The impact of the hedged item for the period 2019 is shown as follows:

in € million	Change in fair value used for measuring ineffectiveness	Nominal amount
	2.9	2.2

The hedging gain or loss recognised in the currency translation differences is also including the corresponding tax effect. The hedging gain or loss recognised before tax is equal to the change in the fair value used for measuring effectiveness.

Interest rate risks
The interest rate risk in the RHI Magnesita Group is primarily related to financial instruments carrying variable interest rates, which may lead to fluctuations in results and cash flows. At 31 December 2019, interest rate hedges amounting to a nominal value of €305.6 million (31.12.2018: €305.6 million) and a nominal value of USD 200.0 million (31.12.2018: USD 250.0 million) existed; a variable interest rate was converted into a fixed interest rate through an interest rate swap.

The exposure to interest rate risks is presented through sensitivity analyses in accordance with IFRS 7. These analyses show the effects of changes in market interest rates on interest payments, interest income and interest expense and on equity.

The RHI Magnesita Group measures fixed interest financial assets and financial liabilities at amortised cost, and did not use the fair value option - a hypothetical change in the market interest rates for these financial instruments at the reporting date would have had no effect on profit and loss or equity.

Changes in market interest rates on financial instruments designated as hedges as a part of cash flow hedges to protect against interest rate-related payment fluctuations have an effect on equity and are therefore included in the equity-related sensitivity analysis. If the market interest rate as of 31 December 2019 had been 25 basis points higher or lower, equity would have been €3.1 million (31.12.2018: €3.8 million) higher or lower taking into account tax effects.

Changes in market interest rates have an effect on the interest result of primary variable interest financial instruments whose interest payments are not designated as hedged items as a part of cash flow hedge relationships against interest rate risks, and are therefore included in the calculation of the result-related sensitivities. If the market interest rate as of 31 December 2019 had been 25 basis points higher or lower, the interest result would have been €0.1 million (31.12.2018: €0.1 million) lower or higher.

Other market price risk
RHI Magnesita holds certificates in an investment fund amounting to €13.3 million (31.12.2018: €12.0 million) to cover the legally required protection of personnel provisions of Austrian group companies. The market value of these certificates is influenced by fluctuations of the worldwide volatile stock and bond markets.

In 2015, an energy supply contract with a term until the year 2023 was classified as a derivative financial instrument and the fair value of the financial liability amounts to €23.9 million at 31 December 2019 (31.12.2018: €20.9 million). If the quoted forward prices at 31 December 2019 had been 20% higher or lower, EBIT would have been €7.1 million (31.12.2018: €10.1 million) higher or lower. In contrast, if the borrowing costs relevant for discounting had been 25 basis points higher or lower at the reporting date, EBIT would have been
€0.1million (31.12.2018: €0.2 million) higher or lower.

57. Capital management

The objectives of the capital management strategy of the RHI Magnesita Group are to continue as a going concern and to provide a capital base to finance growth and investments, to service debt, and to increase shareholders value, including the payment of dividends to shareholders.

The RHI Magnesita Group manages its capital structure through careful monitoring and assessment of the overall economic framework conditions, credit, interest rate and foreign exchange risks and the requirements and risks related to operations and strategic projects.

The capital structure key figures at the reporting date are shown below:

	31.12.2019	31.12.2018
Net debt (in € million)	649.7	638.9
Net gearing ratio (in %)	76.9%	72.2%
Net debt to adjusted EBITDA	1.17x	1.16x

Net debt, which reflects borrowings and lease liabilities net of cash and cash equivalents and marketable securities, is managed by Corporate Treasury. The main task of the Corporate Treasury department is to execute the capital management strategy as well as to secure liquidity to support business operations on a sustainable basis, to use banking and financial services efficiently and to limit financial risks while at the same time optimising earnings and costs.

The net gearing ratio is the ratio of net debt to total equity.

Net debt excluding lease liabilities/adjusted EBITDA is the main financial covenant of loan agreements. The key performance indicator for net debt in the RHI Magnesita Group is the group leverage, which reflects the ratio of net debt to adjusted EBITDA, including lease liabilities. It is calculated as follows:

in € million	31.12.2019	31.12.2018
EBIT	273.3	398.6
Amortisation	26.4	28.6
Restructuring and write-down expenses	112.1	22.3
Other operating income and expenses	(3.6)	(21.3)
Adjusted EBITA	408.2	428.2
Depreciation	146.2	124.8
Adjusted EBITDA	554.4	553.0
Total debt	1,055.0	1,166.4
Lease liabilities	61.9	0.0
Cash and cash equivalents	467.2	491.2
Marketable securities	0.0	36.3
Net debt	649.7	638.9
Net debt excluding IFRS 16 lease liabilities	587.8	638.9
Net debt to adjusted EBITDA	1.17x	1.16x
Net debt to adjusted EBITDA excluding IFRS 16 lease liabilities	1.06x	1.16x

In both 2019 and 2018, all externally imposed capital requirements were met. The Group has sufficient liquidity headroom within its committed debt facilities.

RHI Magnesita N.V. is subject to minimum capital requirements according to its articles of association. The articles of association stipulate a mandatory reserve of €288,699,230.59 which was created in connection with the merger.

58. Contingent liabilities

At 31 December 2019, warranties, performance guarantees and other guarantees amount to €44.0 million (31.12.2018: €43.0 million). Contingent liabilities have a remaining term between two months and three years, depending on the type of liability. Based on experiences of the past, the probability that contingent liabilities are used is considered to be low.

In addition, contingent liabilities from sureties of €0.3 million (31.12.2018: €0.3 million) were recorded, of which €0.3 million (31.12.2018: €0.3 million) are related to contingent liabilities to creditors from joint ventures.

Individual administrative proceedings and lawsuits which result from ordinary activities are pending as of 31 December 2019 or can potentially be exercised against RHI Magnesita in the future. The related risks were analysed with a view to their probability of occurrence. The Group is a party in several tax proceedings in Brazil which involve an estimated amount of €233.5 million (31.12.2018: €169.0 million). No provision was set up to cover the potential disbursements related to such proceedings as, according to IFRS, management classified the risks of loss (based on the evaluation of legal advisors) as possible but not probable. The proceedings are as follows.

In 2011, the Brazilian Tax Authorities issued an assessment regarding Corporate Income Taxes on the amortization of goodwill related to the years 2008 and 2009. The tax authorities disallowed the deductibility of the amortisation of tax goodwill arising from operations with subsidiaries. In 2016, the company was notified of the decision issued by the Administrative Council of Tax Appeals (“CARF”), which cancelled more than 90% of the tax assessment. However, the CARF’s ruling is still subject to appeals filed by both the company and the General Counsel to the National Treasury (“PGFN”). The final ruling for this proceeding is expected within one to two years. As of 31 December 2019, the potential risk amounts to €81.7 million, including interest and penalties (31.12.2018: €81.4 million).

In 2016, the Brazilian Tax Authorities considered the arguments partially accepted by the CARF in the proceeding started in 2011 to challenge goodwill deductions for the years 2011 and 2012. In December 2016, the company filed a defense against the tax assessment, which was partially granted by the tax authorities. The parties can appeal to the CARF as soon as the formal notice about the first-tier decision occurs. The final decision is expected within three to four years. As of 31 December 2019, the potential risk amounts to €38.1 million, including interest and penalties (31.12.2018: €37.5 million).

In 2019, the Brazilian Tax Authorities extended the goodwill challenge also for the years 2013 to 2018. The company will file a defense against the tax assessment notice. A preliminary first-tier decision by the tax authorities (the Federal Revenue Judgment Office in the city of Belo Horizonte) is expected within one to two years. As of 31 December 2019, the potential risk amounts to €53.3 million, including interest and penalties.

In 2013, the Brazilian Tax Authorities raised an assessment notice for allegedly failing to pay social security contributions in the period from January to December 2009. The company has appealed the assessment. Legal opinions demonstrate that the company has solid supporting documentation capable of reversing the assessment. The final decision is expected within one to two years. The potential loss from this proceeding amounts to €4.2 million (including interest and penalties) as at 31 December 2019 (31.12.2018: €4.8 million).

Furthermore, the Brazilian Tax Authorities issued a tax assessment against a former Brazilian holding company. The assessment relates to the offset of federal taxes' credits and debits performed by the company up to and including 2008, which have not been approved by the Tax Authorities. Legal opinions demonstrate that the company's arguments are solidly based on supporting documentation. The final decision is expected within four to five years. As of 31 December 2019, the potential risk amounts to €12.8 million, including interest and penalties (31.12.2018: €10.7 million).

The Brazilian Tax Authorities also issued a tax assessment regarding the Financial Compensation for Exploration of Mineral Resources ("CFEM"). Based on the opinion of its legal advisors, the company appealed against the assessment and the chances of loss in this proceeding were considered "possible" due to the applicable case-law of the Brazilian courts. Additionally, changes in the CFEM legislation mirror the company's interpretation and, therefore, demonstrate its accurateness. The final decision is expected within four to five years. As of 31 December 2019, the potential risk amounts to €14.0 million, including interest and penalties (31.12.2018: €12.9 million).

In addition to the above, the Brazilian Tax Authorities issued a tax assessment for an allegedly incurred use of Income Tax credits relating to the year 2015. Legal opinions demonstrate that the company's arguments are solidly based on substantial supporting documentation. The final decision is expected within four to five years. As of 31 December 2019, the potential risk amounts to €3.5 million, including interest and penalties.

Finally, in 2018 the State Tax Authorities issued a tax assessment in respect of the Tax on the Circulation of Goods and Services ("ICMS") for an alleged lack of compliance of ancillary obligation and lack of tax collection concerning the period stemming from years 2013 to 2017. The potential loss amounted to €4.1 million (including interest and penalties) as at 31 December 2018. In 2019, the State Taxpayers Council granted a 73% reduction of the original assessment amount through immediate payment. In view of this decision, in November 2019, the company opted to pay €1.2 million to settle the claim.

The calculation of income taxes of RHI Magnesita N.V. and its subsidiaries is based on the tax laws applicable in the individual countries. Due to their complexity, the tax items presented in the Consolidated Financial Statements may be subject to different interpretations by local finance authorities. In this context it should be noted that a tax provision is generally recognised when the group has a present obligation as a result of a past event, and when it is considered probable that there will be a future outflow of funds.

Since RHI Magnesita is continually adapting its global presence to improve customer service and maintain its competitive advantage, the group leads open discussions with tax authorities, mostly about the transfer of functions between related parties and their exit value. In this regard, disputes may arise, where the group's management understanding differs from the positions of the local authorities. In such cases, when an appeal is available, the group's management judgments are based on a likely outcome approach based on in-house tax experts, professional firms, and previous experiences when assessing the risks. Magnesita Refratários S.A., Contagem, Brazil, is also involved in other minor lawsuits totalling €25.9 million (31.12.2018: €17.6 million) which relate to a number of assessments concerning various taxes and related obligations.

Furthermore, Magnesita Refratários S.A., Contagem, Brazil, is party to a public civil action for damages caused by overloaded trucks in contravention with the Brazilian traffic legislation. In 2017, a decision was rendered in favour of Magnesita in the trial court considering the requests submitted by the Federal Public Attorney's Office to be completely devoid of legal merit. The decision taken by the trial court was subject to appeal by the Public Ministry of Minas Gerais. The final decision is expected in 10 years. The potential loss from this proceeding amounts to €13.3 million as at 31 December 2019 (31.12.2018: €12.1 million).

Other minor proceedings and lawsuits in which subsidiaries are involved have no significant negative influence on the financial position and performance of the RHI Magnesita Group.

59. Other financial commitments

Capital commitments amount to €5.0 million as at 31 December 2019 (31.12.2018: €5.4 million) and are exclusively due to third parties. They are shown at nominal value.

In addition, the RHI Magnesita Group has purchase commitments related to the supply with raw materials, especially for electricity, natural gas, strategic raw materials as well as for the transport of raw materials within the Group. This results in other financial commitments of the nominal value of €175.5 million at the reporting date (31.12.2018: €96.2 million). The increase in other financial commitments compared to the previous year mainly results from energy purchase contracts concluded in 2019. The remaining terms of the contracts amount to up to seven years. Purchases from these arrangements are recognised in accordance with the usual course of business. Purchase contracts are regularly reviewed for imminent losses, which may occur, for example, when requirements fall below the agreed minimum purchase volume or when contractually agreed prices deviate from the current market price level.

In 2019 obligations from rental and leasing contracts are not part of other financial commitments due to the initial application of IFRS 16. Further information is provided under Note (2).

60. Expenses for the Group auditor

The expensed fees for the activities of the Group auditor PwC that are included in the Consolidated Statement of Profit or Loss are shown in the following table:

in € million	2019	2018
Audit of the Financial Statements	2.9	2.7
thereof invoiced by PwC Accountants N.V.	1.0	0.2
thereof invoiced by PwC network firms	1.9	2.5
Other audit related services	0.0	0.1
Tax compliance services	0.3	0.9
Other non-audit services	0.2	0.0
Total fees	3.4	3.7

The expensed fees for the audited financial statements in 2019 include the half year review procedures that were not applicable in 2018."

In 2019, other audit related services, tax compliance services and other non-audit services amounting to €0.5 million (2018: €1.0 million) were performed and invoiced by PwC network firms outside of the Netherlands.

61. Annual average number of employees

The average number of employees of the RHI Magnesita Group based on full time equivalents amounts to:

	2019	2018
Salaried employees	4,860	5,947
Waged workers	9,515	8,171
Number of employees on annual average	14,375	14,118

84 full time equivalents of salaried employees work in the Netherlands. In 2018 16 full time equivalents of salaried employees worked in the Netherlands.

62. Transactions with related parties

Related companies include subsidiaries that are not fully consolidated, joint ventures, associates and MSP Foundation, Liechtenstein, as a shareholder of RHI Magnesita N.V. since it exercises significant influence based on its share of more than 25% in RHI Magnesita N.V. In accordance with IAS 24.9v, the personnel welfare foundation of Stopinc AG, Hünenberg, Switzerland, also has to be considered a related company.

Related persons are persons having authority and responsibility for planning, directing and controlling the activities of the Group (key management personnel) and their close family members. Since 26 October 2017, key management personnel comprises of members of the Board of Directors of RHI Magnesita N.V. and the Executive Management Team. Before that, members of the Management Board and the Supervisory Board of RHI AG formed the key management personnel.

Related companies

In 2019 and 2018, the Group conducted the following transaction with its related companies:

	Joint ventures		Associates		Non-consolidated subsidiaries	
in € million	2019	2018	2019	2018	2019	2018
Revenue from the sale of goods and services	3.3	3.1	0.0	0.1	0.0	0.3
Purchase of raw materials	1.6	3.2	15.7	20.3	0.1	0.1
Interest income	0.0	0.1	0.8	0.8	0.0	0.0
Asset purchase	0.0	0.0	0.0	0.6	0.0	0.0
Trade and other receivables	1.3	0.9	0.0	0.0	0.2	0.2
Loans granted	0.0	0.0	0.8	10.4	0.0	0.1
Trade liabilities	0.0	0.3	0.7	5.1	0.7	0.9
Dividends received	10.5	10.8	2.9	0.2	0.0	0.0

In 2019 and 2018, the Group charged electricity and stock management costs to the joint venture MAGNIFIN Magnesiaprodukte GmbH & Co KG, St. Jakob, Austria, and purchased raw materials. In 2019 and 2018, the associate Sinterco S.A., Nameche, Belgium, sold sintered doloma to the RHI Magnesita Group. Furthermore, the Group has a financing receivable of €0.8 million (31.12.2018: €10.4 million) from a loan agreement with Sinterco.

The balances at the end of 2019 are unsecured and will be paid in cash. Before the acquisition of Magnesita the Group had no associates.

To secure a pension claim of a former employee of MAGNIFIN, RHI Magnesita has assumed a surety amounting to €0.3 million (31.12.2018: €0.3 million). A resulting cash outflow is not expected. No guarantees were received.

In 2019 and 2018, no transactions were carried out between the RHI Magnesita Group and MSP Foundation, with the exception of the dividend paid.

A service relationship with respect to the company pension scheme of the employees of Stopinc AG exists between the personnel welfare foundation of Stopinc AG and the fully consolidated subsidiary Stopinc AG. Stopinc AG makes contribution payments to the plan assets of the foundation to cover pension obligations. The pension plan is recognised as a defined benefit plan and is included in Note (28). At 31 December 2019, no current account receivables existed (31.12.2018: €0.0 million). In the past reporting period, employer contributions amounting to €0.6 million (2018: €0.0 million) were made to the personnel welfare foundation. The overfunding of the pension plan is recognised as a non-current asset of €0.2 million (31.12.2018: €2.1 million).

Related persons

Remuneration of key management personnel of the Group, which is subject to disclosure in accordance with IAS 24, comprises the remuneration of the active Board of Directors and the Executive Management Team (EMT) in 2019 and 2018 as well as the former Management Board and Supervisory Board of RHI AG until October 2017.

For the financial year 2019, expenses for the remuneration of the Executive Directors and EMT members, active in 2019, recognised in the Consolidated Statement of Profit or Loss total €9.8 million (2018: €10.1 million including also remuneration of the former Management Board). The expenses, not including non-wage labour costs, amount to €9.2 million (2018: €9.1 million), of which €6.7 million (2018: €8.4 million) were related to current benefits (fixed, variable and other earnings), €0.0 million (2018: €0.0 million) to benefits related to the termination of employment and €2.5 million (2018: €0.7 million) to share-based remuneration. At 31 December 2019, liabilities for performance-linked variable earnings and share-based payments for active members of the former Management

Board of €2.6 million (2018: €5.6 million) are recognised as liabilities. There are no obligations arising from post-employment benefits and legally required termination benefits.

In addition to the variable remuneration, the members of the former Management Board of RHI AG active in 2017 were also entitled to share-based payments. The programme was terminated after RHI AG merged with and into RHI Magnesita N.V. and the provisioned amount will be paid until 2020. In the financial year 2019, a payment of €1.0 million was made in this regard (2018: €1.4 million).

For Non-Executive Directors, remuneration totalling €1.2 million (2018: €1.0 million including remuneration for the former Supervisory Board) was recognised through profit or loss in the year 2019. The compensation paid to the Non-Executive Directors and the members of the former Supervisory Board only consists of short-term employee benefits.

Employee representatives acting as Non-Executive Directors of RHI Magnesita N.V. who are employed by the Group, do not receive compensation for their activity as Non-Executive Directors. For their activity as employees in the Company and the activity of their close relatives employed with RHI Magnesita, expenses of €0.2 million (2018: €0.8 million) are recognised.

No advance payments or loans were granted to key management personnel. The RHI Magnesita Group did not enter into contingent liabilities on behalf of the key management personnel.

Directors Dealings reports are published on the websites of RHI Magnesita N.V. and of the London Stock Exchange. The members of the Board of Directors are covered by Directors &Officers insurance at RHI Magnesita.

Detailed and individual information on the remuneration of the Board of Directors is presented in the Annual Report on Remuneration,in the Remuneration Committee report and the Remuneration Policy on pages 96 to 120 of the Annual Report of the RHI Magnesita Group.

Earnings of former members of the former Management Board amounted to €2.7 million (2018: €2.6 million), of which €0.2 million (2018: €0.6 million) are related to share-based remuneration.

RHI Magnesita and a close relative of a Non-Executive Director concluded a non-remunerated consultancy agreement to advise the Group on the economic and political framework in countries in which it does not yet have strong business links.

In the ordinary course of business, RHI Magnesita had the following transactions with various organisations with which certain members of the Board of Directors are associated. All transactions with related part are conducted on an arm's-length basis and in accordance with normal business terms.

Karl Sevelda holds position as a supervisory board member at Siemens AG Austria. Siemens AG Austria is both a supplier and customer of the Group with only immaterial transaction volumes. The related party was not involved in the decision making of any of these transactions.

Furthermore, Fiona Paulus is an independent non-executive board member of Interpipe Group. RHI Magnesita supplied the Interpipe Group with refractory materials amounting to about € 3.0 million in 2019. However, the materiality of these sales is not significant for the Group.

Equity-settled share option plan (LTIP)
The company implemented a share option plan for the members of senior management of the Group starting with 2018 which was approved by shareholders at the Annual General Meeting held on 7 June 2018. The Group operates in two different share option plans, one applicable for the financial year 2019 and one for the financial year 2018.

Each share option converts into one ordinary share of the Company on exercise. No amounts are paid or payable by the recipient on receipt of the option. The options carry rights to dividends but no voting rights. Options may be exercised at any time from the date of vesting to the date of their expiry.

The number of options granted is calculated in accordance with the performance-based formula approved by the shareholders at the annual general meeting and is subject to approval by the remuneration committee.

The formula rewards employees to the extent of the Group's achievements judged against quantitative criteria which are explained in detail in the Remuneration Committee Report.

The vesting period for each share option plan is three years. If the options remain unexercised after a period of seven years from the vesting date the options expire. Options are forfeited if the employee leaves the Group before the options vest.

LTIP 2019	2019 Number of options	2018 Number of options
As at 1 January	0	-
Granted during the year	188,856	-
Exercised during the year	0	-
Forfeited during the year	(9,081)	-
As at 31 December	179,775	-
Vested and exercisable at 31 December	0	-

LTIP 2018	2019 Number of options	2018 Number of options
As at 1 January	94,105	0
Granted during the year	89	107,599
Exercised during the year	0	0
Forfeited during the year	0	(13,494)
As at 31 December	94,194	94,105
Vested and exercisable at 31 December	0	0

No options expired or were exercised during the periods covered by the above tables.

The options outstanding at 31 December 2019 have a weighted-average contractual life of 2.5 years.

The outstanding share options for the LTIP 2018, which were granted on 6 June 2019, will expire on 7 June 2021. The share price at grant date for the 94,105 options was €53.13. The outstanding share options for the LTIP 2019, which were granted on 19 August 2019, will expire on 20 August 2022. The share price at grant date for the 188,856 options was €46.32.

The assessed fair value at grant date of options of the LTIP 2018 as 31 December 2019 was €54.48 per option. The assessed fair value at grant date of options of the LTIP 2019 granted during the year ended 31 December 2019 was €46.32 per option. The fair value of share options with non-market performance conditions has been calculated using the Black-Scholes option pricing model. The fair value of options with market-related performance conditions has been measured using the Monte Carlo model. The calculation takes into account the exercise price, the term of the option, the share price at grant date and expected price volatility of the underlying share, the expected dividend yield, the risk free interest rate for the term of the option and the correlations and volatilities of the peer group companies.

The requirement that the employee has to save in order to purchase shares under the share purchase plan has been incorporated into the fair value at grant date by applying a discount to the valuation obtained. The discount has been determined by estimating the probability that the employee will stop saving based on historical behaviour.

The inputs used in the measurement of the fair values at grant date of the equity-settled share-based payment plans for 2019 and the previous year were as follows:

LTIP 2019 in € million	2019	2018
Fair value at grant date	8.3	-
Expected volatility (weighted-average)	30,36%	-
Expected life (weighted-average)	36 Months	-
Expected dividends	0,5	-
Risk-free interest rate	0,47%	-

LTIP 2018 in € million	2019	2018
Fair value at grant date	5.0	5.0
Expected volatility (weighted-average)	21,45%	21,45%
Expected life (weighted-average)	24 Months	36 Months
Expected dividends	0,5	0,5
Risk-free interest rate	0,89%	0,89%

Expected volatility was determined by calculating the historical volatility of the Group's share price over the previous years. The expected life used in the model has been adjusted, based on management's best estimate, for the effect of non-transferability, exercise restrictions, and behavioural considerations.

63. Board of Directors of RHI Magnesita N.V.

The members of the Board of Directors are as follows:

Executive Directors

Stefan Borgas	Ian Botha

Non-Executive Directors

Herbert Cordt	James Leng
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg	David Schlaff
Celia Baxter	John Ramsay
Janet Ashdown	Wolfgang Ruttenstorfer
Andrew Hosty	Karl Sevelda
Fiona Paulus	

Employee Representative Directors

Franz Reiter	Michael Schwarz

64. Material events after the reporting date

In January 2020 RHI Magnesita has refinanced its USD 400.0 million revolving credit facility in order to further strengthen the capital structure and extend the debt maturity. The new revolving credit facility has been converted to EUR, increased to €600.0 million and the maturity has been extended to 2025.

On January 28, 2020 the Group acquired Missouri Refractories Co, Inc. (MORCO) in order to strengthen its position in the North American refractory market. The purchase price amounted to USD 9.8 million. The site is strategically located in the Midsouth of the United States, a region that is rapidly growing in importance for RHI Magnesita. It produces over 400 high-quality monolithic mixes, which serve a multitude of industries, including steel, cement, lime and glass.

The outbreak of the coronavirus COVID-19 will likely have an impact on RHI Magnesita's customer industries as well as on supply chain and production. Considering that the spread of the virus accelerated during the first quarter 2020, this event was classified as a non-adjusting event for accounting purposes. Given the uncertainties on scope and length as well as the ongoing developments, the Group cannot give any accurate or reliable estimates on potential quantitative impacts currently. This may result in an overall challenged and volatile market environment. The assessment on the ability of the group to operate as going concern is disclosed under Note (1).

After the reporting date on 31 December 2019, there were no other events of special significance which may have a material effect on the financial position and performance of the RHI Magnesita Group.

Company Balance Sheet as at 31 December 2019

(before appropriation of result)

in € million	Notes	31.12.2019	31.12.2018
ASSETS			
Non-current assets			
Financial non-current assets	(A)	815.3	915.5
Deferred tax assets		7.4	0.0
Total non-current assets		822.7	915.5
Current assets			
Receivables from group companies		28.5	0.0
Cash and cash equivalents	(B)	0.1	0.1
Total current assets		28.6	0.1
Total assets		851.3	915.6
EQUITY AND LIABILITIES			
Equity			
Share capital	(C)	49.5	48.3
Additional paid-in capital	(D)	361.3	305.5
Legal and mandatory reserves	(E)	197.9	209.9
Other reserves		95.0	78.7
Treasury shares	(F)	(18.8)	0.0
Result for the period	(J)	139.0	158.1
Shareholders' Equity		823.9	800.5
Current liabilities			
Other current liabilities	(G)	27.4	115.1
Total current liabilities		27.4	115.1
Total equity and liabilities		851.3	915.6

Company Statement of Profit or Loss for the period 1 January to 31 December 2019

in € million	Notes	2019	2018
General and administrative expenses		(14.7)	(8.5)
Result before taxation		(14.7)	(8.5)
Net financial result	(H)	(1.5)	0.0
Income tax		7.4	0.0
Net result from investments	(I)	147.8	166.6
Net result for the period	(J)	139.0	158.1

Movements in Shareholders' Equity

in € million	Share capital	Treasury shares	Additional paid-in capital	Legal and mandatory reserves: Cash flow hedges	Legal and mandatory reserves: Currency translation	Legal and mandatory reserves: Mandatory reserve	Other reserves: Retained earnings	Net result	Equity attributable to shareholders
31.12.2018	48.3	-	305.5	(5.0)	(73.8)	288.7	78.7	158.1	800.5
Appropriation of prior year result	-	-	-	-	-	-	158.1	(158.1)	-
Net result	-	-	-	-	-	-	-	139.0	139.0
Acquisition with non-controlling interests without change of control	-	-	-	0.1	(4.6)	-	(19.0)	-	(23.5)
Issue of ordinary shares related to the integrated tender offer of Magnesita	1.2	-	55.8	-	-	-	-	-	57.0
Shares repurchased	-	(18.8)	-	-	-	-	-	-	(18.8)
Share-based expenses	-	-	-	-	-	-	4.1	-	4.1
Dividends	-	-	-	-	-	-	(98.8)	-	(98.8)
Net income / (expense) recognised directly in equity	-	-	-	(6.1)	(1.4)	-	(28.1)	-	(35.6)
31.12.2019	49.5	(18.8)	361.3	(11.0)	(79.8)	288.7	95.0	139.0	823.9

in € million	reserves: Share capital	reserves: Additional paid-in capital	Legal and mandatory: Cash flow hedges	Legal and mandatory: Currency translation	Legal and mandatory: Mandatory reserve	Other reserves: Retained earnings	Net result	Equity attributable to shareholders
31.12.2017	44.8	165.7	0.1	(54.7)	288.7	263.5	(89.3)	618.8
Effects of initial application of IFRS 15 (net of tax)						(6.0)		(6.0)
Effects of initial application of IFRS 9 (net of tax)						1.8		1.8
01.01.2018	44.8	165.7	0.1	(54.7)	288.7	259.3	(89.3)	614.6
Appropriation of prior year result	-	-	-	-	-	(89.3)	89.3	-
Net result	-	-	-	-	-	-	158.1	158.1
Acquisition with non-controlling interests without change of control	-	-	0.1	(10.7)	-	(52.1)	-	(62.7)
Issue of ordinary shares related to the integrated tender offer of Magnesita	3.5	139.8	-	-	-	-	-	143.3
Share-based expenses	-	-	-	-	-	1.0	-	1.0
Dividends	-	-	-	-	-	(33.6)	-	(33.6)
Net income / (expense) recognised directly in equity	-	-	(5.2)	(8.4)	-	(6.6)	-	(20.2)
31.12.2018	48.3	305.5	(5.0)	(73.8)	288.7	78.7	158.1	800.5

Notes

to the Company Financial Statements 2019

General

RHI Magnesita N.V. (the “Company”), a public company with limited liability under Dutch law is registered with the Dutch Trade Register of the Chamber of Commerce under the number 68991665 and has its corporate seat in Arnhem, Netherlands. The administrative seat and registered office is located at Kranichberggasse 6, 1100 Vienna, Austria.

The shares of RHI Magnesita N.V. (ISIN code NL0012650360) are listed on the Main Market of the London Stock Exchange and are included in the FTSE 250 index.

Basis of preparation

The Company financial statements have been prepared in accordance with the provisions of Part 9 of Book 2 of the Dutch Civil Code. The Company uses the option of Section 362, subsection 8, of Part 9, Book 2, of the Dutch Civil Code to prepare the Company financial statements on the basis of the same accounting principles as those applied for the Consolidated Financial Statements. Valuation is based on recognition and measurement requirements of accounting standards adopted by the EU (i.e. only IFRS that is adopted for use in the EU at the date of authorisation) as explained further in the notes to the Consolidated Financial Statements.

Significant accounting policies

Financial fixed assets

Investments in Group companies in the Company Financial Statements are accounted for using the equity method.

Net result from investments

The share in the result of investments comprises the share of the Company in the result of these investments.

Fixed assets

(A) Financial fixed assets

The financial fixed assets comprise investments in:

		31.12.2019	31.12.2018
Name and registered office of the company	Country of core activity	Share in %	Share in %
Didier Werke A.G., Wiesbaden, Germany	Germany	12.5	12.5
RHI Refractories Raw Material GmbH, Vienna, Austria	Austria	25.0	25.0
RHI Magnesita GmbH, Vienna, Austria	Austria	100.0	100.0
RHI Magnesita Trading B.V., Rotterdam, Netherlands	Netherlands	100.0	100.0

The investments have developed as follows:

in € million	2019	2018
At beginning of year	915.5	569.3
Effects of the initial application of IFRS 9 and IFRS 15	0.0	(4.2)
Transactions with non-controlling interests without change of control	(23.5)	(59.2)
Capital contributions	107.0	262.1
Changes from currency translation and cash flow hedges	(7.5)	(13.6)
Changes from defined benefit plans	(28.1)	(6.5)
Equity settled transaction	4.1	1.0
Dividend distribution	(300.0)	0.0
Net result from investments	147.8	166.6
Balance at year-end	815.3	915.5

As part of the finalisation of the ITO in 2019 (as described in Note (4) of the Consolidated Financial Statements), the Company issued and contributed a total of 1,140,658 new ordinary shares, with a fair value of €56,950,485, to RHI Magnesita GmbH. In July 2019 the Company made a capital contribution of €50,000,000 to RHI Magnesita Trading B.V.

The following list, prepared in accordance with the relevant legal requirements (Dutch Civil Code, Book 2, Sections 379), shows all companies in which RHI Magnesita N.V. holds a direct or indirect share of at least 20% (with the exception of the RHISA Employee Trust):

		31.12.2019		31.12.2018	
Ser. no.	Name and registered office of the company	Share-holder	Share in %	Share-holder	Share in %
1.	RHI Magnesita N.V., Arnhem, Netherlands				
	Fully consolidated subsidiaries				
2.	Agellis Group AB, Lund, Sweden	56.	100.0	56.	100.0
3.	Baker Refractories Holding Company, Delaware, USA	43.	100.0	43.	100.0
4.	Baker Refractories I.C., Inc., Delaware, USA	3.	100.0	3.	100.0
5.	Baker Refractories, Las Vegas, USA	43.	100.0	43.	100.0
6.	Betriebs- und Baugesellschaft mit beschränkter Haftung, Wiesbaden, Germany	10.	100.0	10.	100.0
7.	D.S.I.P.C.-Didier Société Industrielle de Production et de Constructions, Valenciennes, France	10.	100.0	10.	100.0
8.	Didier Belgium N.V., Evergem, Belgium	71.,104.	100.0	71.,104.	100.0
9.	Didier Vertriebsgesellschaft mbH, Wiesbaden, Germany	10.	100.0	10.	100.0
10.	Didier-Werke Aktiengesellschaft, Wiesbaden, Germany	1.,56.	100.0	1.,56.	100.0
11.	Dutch Brasil Holding B.V., Arnhem, Netherlands	110.	100.0	110.	100.0
12.	Dutch MAS B.V., Arnhem, Netherlands	10.	100.0	10.	100.0
13.	Dutch US Holding B.V., Arnhem, Netherlands	110.	100.0	110.	100.0
14.	FE "VERA", Dnepropetrovsk, Ukraine	56.	100.0	56.	100.0
15.	Feuerfestwerk Bad Hönningen GmbH, Hagen, Germany	115.	100.0	115.	100.0
16.	FireShark Refractories GmbH, Vienna, Austria	74.	100.0	74.	100.0
17.	GIX International Limited, Dinnington, United Kingdom	114.	100.0	114.	100.0
18.	INDRESCO U.K. Ltd., Dinnington, United Kingdom	17.	100.0	17.	100.0
19.	Intermetal Engineers Private Limited, Mumbai, India	52.	99.9	-	-
20.	INTERSTOP (Shanghai) Co., Ltd., Shanghai, PR China	107.	100.0	107.	100.0
21.	Liaoning RHI Jinding Magnesia Co., Ltd., Dashiqiao City, PR China [1)]	55.	83.3	55.	83.3
22.	LLC "RHI Wostok Service", Moscow, Russia	55.,73.	100.0	55.,73.	100.0
23.	LLC "RHI Wostok", Moscow, Russia	55.,73.	100.0	55.,73.	100.0
24.	Lokalbahn Mixnitz-St. Erhard Aktien-Gesellschaft, Vienna, Austria	93.	100.0	93.	100.0

		31.12.2019		31.12.2018	
Ser. no.	Name and registered office of the company	Share-holder	Share in %	Share-holder	Share in %
25.	LWB Holding Company, Delaware, USA	56.	100.0	56.	100.0
26.	LWB Refractories Belgium S.A., Liège, Belgium	44.,113.	100.0	44.,113.	100.0
27.	LWB Refractories Beteiligungs GmbH & Co. KG, Hagen, Germany	34.,56.	100.0	34.,56.	100.0
28.	LWB Refractories Hagen GmbH, Hagen, Germany	113.	100.0	113.	100.0
29.	LWB Refractories Holding France S.A.S., Valenciennes, France	113.	100.0	113.	100.0
30.	M.E. Refractories Company FZE i. l., Dubai, United Arab Emirates	33.	100.0	33.	100.0
31.	Magnesit Anonim Sirketi, Eskisehir, Turkey [2)]	55.	100.0	55.	100.0
32.	Magnesita Asia Refractory Holding Ltd, Hong Kong, PR China	29.	100.0	29.	100.0
33.	Magnesita Finance S.A., Luxembourg, Luxembourg	49.	100.0	49.	100.0
34.	Magnesita Grundstücks-Beteiligungs GmbH, Hagen, Germany	49.	100.0	49.	100.0
35.	Magnesita International Limited, London, United Kingdom	49.	100.0	49.	100.0
36.	Magnesita Malta Finance Ltd., St. Julians, Malta	37.,113.	100.0	37.,113.	100.0
37.	Magnesita Malta Holding Ltd., St. Julians, Malta	44.,113.	100.0	44.,113.	100.0
38.	Magnesita Mineração S.A., Brumado, Brazil	33.,49.	100.0	33.,49.	100.0
39.	Magnesita NAM Insurance Company, Delaware, USA, i.l.	25.	100.0	25.	100.0
40.	Magnesita Refractories (Canada) Inc., Montreal, Canada	3.	100.0	3.	100.0
41.	Magnesita Refractories (Dalian) Co. Ltd., Dalian, PR China	33.	100.0	33.	100.0
42.	Magnesita Refractories Company, York, USA	25.	100.0	25.	100.0
43.	Magnesita Refractories Mexico S.A. de C.V., Monterrey, Mexico	3.,4.	100.0	3.,4.	100.0
44.	Magnesita Refractories GmbH, Hagen, Germany	113.	100.0	113.	100.0
45.	Magnesita Refractories Ltd., Dinnington, United Kingdom	3.	100.0	3.	100.0
46.	Magnesita Refractories Middle East FZE, Dubai, United Arab Emirates	33.	100.0	33.	100.0
47.	Magnesita Refractories S.C.S., Valenciennes, France	29.,113.	100.0	29.,113.	100.0
48.	Magnesita Refractories S.R.L., Milano, Italy	113.	100.0	113.	100.0
49.	Magnesita Refratários S.A., Contagem, Brazil	11.	100.0	11.	85.2
50.	Magnesita Resource (Anhui) Company. Ltd., Chizhou, PR China	32.	100.0	32.	100.0
51.	Mezubag AG, Freienbach, Switzerland	107.	100.0	107.	100.0
52.	Orient Refractories Limited, Mumbai, India	13.	66.5	13.	66.5
53.	Premier Periclase Limited, Drogheda, Ireland	13.	100.0	13.	100.0
54.	Producción RHI México, S. de R.L. de C.V., Ramos Arizpe, Mexico	86.,114.	100.0	86.,114.	100.0
55.	Radex Vertriebsgesellschaft m.b.H., Leoben, Austria	110.	100.0	110.	100.0
56.	Rearden G Holdings Eins GmbH, Hagen, Germany	33.	100.0	33.	100.0
57.	Refractarios Argentinos S.A.I.C.M., San Nicolás, Argentina	49.,59.	100.0	49.,59.	100.0
58.	Refractarios Magnesita Chile S/A, Santiago, Chile	49.,57.	100.0	49.,57.	100.0
59.	Refractarios Magnesita Colombia S/A, Sogamoso, Colombia	49.	100.0	49.	100.0
60.	Refractarios Magnesita del Perú S.A.C., Lima, Peru	49.,59.	100.0	49.,59.	100.0
61.	Refractory Intellectual Property GmbH & Co KG, Vienna, Austria	62.,73.	100.0	62.,73.	100.0
62.	Refractory Intellectual Property GmbH, Vienna, Austria	73.	100.0	73.	100.0
63.	Reframec Manutenção e Montagens de Refratários S.A., Matozinhos, Brazil	49.	100.0	49.	100.0
64.	RHI Argentina S.R.L., Buenos Aires, Argentina	13.,114.	100.0	13.,114.	100.0
65.	RHI Canada Inc., Burlington, Canada	114.	100.0	114.	100.0
66.	RHI Chile S.A., Santiago, Chile	17.,114.	100.0	17.,114.	100.0
67.	RHI Clasil Private Limited, Mumbai India [1)]	114.	53.7	114.	53.7
68.	RHI Dinaris GmbH, Wiesbaden, Germany	102.	100.0	102.	100.0

Ser. no.	Name and registered office of the company	31.12.2019 Share-holder	31.12.2019 Share in %	31.12.2018 Share-holder	31.12.2018 Share in %
69.	RHI Finance A/S, Hellerup, Denmark	73.	100.0	73.	100.0
70.	RHI GLAS GmbH, Wiesbaden, Germany	102.	100.0	102.	100.0
71.	RHI India Private Limited, Navi Mumbai, India	11.,114.	100.0	11.,114.	100.0
72.	RHI ITALIA S.R.L., Brescia, Italy	73.	100.0	73.	100.0
73.	RHI Magnesita GmbH, Vienna, Austria	1.	100.0	1.	100.0
74.	RHI Magnesita Distribution B.V., Rotterdam, Netherlands	75.	100.0	75.	100.0
75.	RHI Magnesita Trading B.V., Rotterdam, Netherlands	1.	100.0	1.	100.0
76.	RHI Marvo Feuerungs- und Industriebau GmbH, Gerbstedt, Germany	77.	100.0	77.	100.0
77.	RHI MARVO Feuerungs- und Industriebau GmbH, Kerpen, Germany	10.	100.0	10.	100.0
78.	RHI MARVO S.R.L., Ploiesti, Romania	55.,108.	100.0	55.,108.	100.0
79.	RHI Normag AS, Porsgrunn, Norway	55.	100.0	55.	100.0
80.	RHI Refractories (Dalian) Co., Ltd., Dalian, PR China	55.	100.0	55.	100.0
81.	RHI Refractories (Site Services) Ltd., Dinnington, United Kingdom	18.	100.0	18.	100.0
82.	RHI Refractories Africa (Pty) Ltd., Sandton, South Africa	55.,105.	100.0	55.,105.	100.0
83.	RHI Refractories Andino C.A., Puerto Ordaz, Venezuela	114.	100.0	114.	100.0
84.	RHI Refractories Asia Pacific Pte. Ltd., Singapore	73.	100.0	73.	100.0
85.	RHI Refractories Egypt LLC., Cairo, Egypt	55.,108.	100.0	55.,108.	100.0
86.	RHI Refractories España, S.L., Lugones, Spain	10.,12.	100.0	10.,12.	100.0
87.	RHI Refractories France SA, Valenciennes, France [3)]	106.	100.0	106.	100.0
88.	RHI Refractories Ibérica, S.L., Lugones, Spain	106.	100.0	106.	100.0
89.	RHI Refractories Italiana s.r.l., Brescia, Italy; i.l.	106.	100.0	106.	100.0
90.	RHI Refractories Liaoning Co., Ltd., Bayuquan, PR China [1)]	55.	66.0	55.	66.0
91.	RHI Refractories Mercosul Ltda., Sao Paulo, Brazil	108.,114.	100.0	108.,114.	100.0
92.	RHI Refractories Nord AB, Stockholm, Sweden	106.	100.0	106.	100.0
93.	RHI Refractories Raw Material GmbH, Vienna, Austria	1.,55.,73.	100.0	1.,55.,73.	100.0
94.	RHI Refractories Site Services GmbH, Wiesbaden, Germany	10.	100.0	10.	100.0
95.	RHI Refractories UK Limited, Bonnybridge, United Kingdom	10.	100.0	10.	100.0
96.	RHI Refratários Brasil Ltda, Contagem, Brazil; i.l.	13.,38.	100.0	13.,38.	100.0
97.	RHI Sales Europe West GmbH, Urmitz, Germany	10.,106.	100.0	10.,106.	100.0
98.	RHI Trading (Dalian) Co., Ltd., Dalian, PR China	55.	100.0	55.	100.0
99.	RHI Ukraina LLC, Dnepropetrovsk, Ukraine	55.,108.	100.0	55.,108.	100.0
100.	RHI United Offices America, S.A. de C.V., Monterrey, Mexico	86.,101.	100.0	86.,101.	100.0
101.	RHI United Offices Europe, S.L., Lugones, Spain	86.	100.0	86.	100.0
102.	RHI Urmitz AG & Co. KG, Mülheim-Kärlich, Germany	9.,10.	100.0	9.,10.	100.0
103.	RHI US Ltd., Delaware, USA	13.	100.0	13.	100.0
104.	RHI-Refmex, S.A. de C.V., Ramos Arizpe, Mexico	86.,114.	100.0	86.,114.	100.0
105.	RHISA Employee Trust, Sandton, South Africa [4)]	.	0.0	-	0.0
106.	SAPREF AG für feuerfestes Material, Basel, Switzerland	114.	100.0	114.	100.0
107.	Stopinc Aktiengesellschaft, Hünenberg, Switzerland	10.,55.	100.0	10.,55.	100.0
108.	Veitscher Vertriebsgesellschaft m.b.H., Vienna, Austria	73.	100.0	73.	100.0
109.	Veitsch-Radex America LLC., Delaware, USA	103.	100.0	103.	100.0
110.	Veitsch-Radex GmbH & Co OG, Vienna, Austria	73.,111.	100.0	73.,111.	100.0
111.	Veitsch-Radex GmbH, Vienna, Austria	73.	100.0	73.	100.0
112.	Veitsch-Radex Vertriebsgesellschaft m.b.H., Vienna, Austria	73.	100.0	73.	100.0

		31.12.2019		31.12.2018	
Ser. no.	Name and registered office of the company	Share-holder	Share in %	Share-holder	Share in %
113.	Vierte LWB Refractories Holding GmbH, Hagen, Germany	27.,56.	100.0	27.,56.	100.0
114.	VRD Americas B.V., Arnhem, Netherlands	55.,73.	100.0	55.,73.	100.0
115.	Zimmermann & Jansen GmbH, Wiesbaden, Germany	10.	100.0	10.	100.0
	Subsidiaries not consolidated due to minor significance			.	
116.	Dr.-Ing. Petri & Co. Unterstützungsgesellschaft m.b.H., Wiesbaden, Germany	10.	100.0	10.	100.0
117.	Grayhill MDMM Holding Ltda., São Paulo, Brazil	49.	100.0	49.	100.0
118.	Guapare S.A, Montevideo, Uruguay	49.	100.0	49.	100.0
119.	Magnesita Refractories A.B., Stocksund, Sweden	113.	100.0	113.	100.0
120.	Magnesita Refractories PVT Ltd, Mumbai, India	56.,113.	100.0	56.,113.	100.0
121.	Magnesita Refractories S.A. (Pty) Ltd., Sandton, South Africa	44.	100.0	44.	100.0
122.	MAG-Tec Participações Ltda. Ltda., Contagem, Brazil; i.l.	49.	98.7	49.	98.7
123.	Metal Data Participações Ltda., Contagem, Brazil, i.l.	49.	100.0	49.	61.3
124.	Metal Data S.A. – Mineração e Metalurgia, Contagem, Brazil; i.l.	49.,123.	100.0	49.,123.	100.0
125.	MMD Araçuaí Holding Ltda., São Paulo, Brazil, i.l.	49.	100.0	49.	100.0
126.	Refractarios Especiales Y Moliendas S.A., Buenos Aires, Argentina; i.l.	57.	100.0	57.	100.0
127.	Refractarios Magnesita Uruguay S/A, Montevideo, Uruguay	49.	100.0	49.	100.0
128.	RHI Réfractaires Algérie E.U.R.L., Sidi Amar, Algeria	87.	100.0	87.	100.0
	Equity-accounted joint ventures and associated companies			.	
129.	Krosaki Magnesita Refractories LLC, Delaware, USA, i.l.	42.	40.0	42.	40.0
130.	Magnesita Envoy Asia Ltd., Kaohsiung, Taiwan	3.	50.0	3.	50.0
131.	MAGNIFIN Magnesiaprodukte GmbH & Co KG, St. Jakob, Austria	108.,133.	50.0	108.,133.	50.0
132.	Sinterco S.A., Nameche, Belgium	56.	70.0	56.	70.0
	Other immaterial investments, measured at cost			.	
133.	MAGNIFIN Magnesiaprodukte GmbH, St. Jakob, Austria	108.	50.0	108.	50.0

1) In accordance with IAS 32, fixed-term or puttable non-controlling interests are shown under liabilities.
2) Further shareholders are VRD Americas B.V., Lokalbahn Mixnitz St. Erhard Aktien-Gesellschaft and Veitscher Vertriebsgesellschaft mbH.
3) Further shareholders are Didier-Werke AG, RHI Dinaris GmbH and RHI GLAS GmbH.
4) Controlling influence due to contractual terms and conditions.
i.l. in liquidation

Current assets
(B) Cash and cash equivalents
Cash and cash equivalents are at RHI Magnesita N.V.'s free disposal.

Equity
(C) Share capital
The Company's authorised share capital amounts to €100,000,000, comprising 100,000,000 ordinary shares, each of €1 nominal value. During 2019 the Company issued 1,140,658 new shares to the relevant shareholders of Magnesita Refratários S.A. as agreed in the terms of the Integrated Tender Offer. As at 31 December 2019, RHI Magnesita N.V.'s issued and fully paid-in share capital consists of 49,477,705 ordinary shares (31.12.2018: 48,337,047 ordinary shares).

(D) Additional paid-in capital
Additional paid-in capital comprises premiums on the issue of shares less issue costs by RHI Magnesita N.V.

(E) Legal and mandatory reserves
Cash flow hedges
The item cash flow hedges include gains and losses from the effective part of cash flow hedges less tax effects. Further information on hedge accounting is included in Note (56) of the Consolidated Financial Statements.

Currency translation
Currency translation includes the accumulated currency translation differences from translating the Financial Statements of foreign subsidiaries as well as unrealised currency translation differences from monetary items which are part of a net investment in a foreign operation, net of related income taxes. If foreign companies are deconsolidated, the currency translation differences are recognised in the Statement of Profit or Loss as part of the gain or loss from the sale of shares in subsidiaries. In addition, when monetary items cease to form part of a net investment in a foreign operation, the currency translation differences of these monetary items previously recognised in other comprehensive income are reclassified to profit or loss.

The cash flow hedges reserve and the currency translation reserve are legal reserves and are restricted for distribution.

Mandatory reserve
The articles of association stipulate a mandatory reserve of €288,699,230.59 which was created in connection with the merger.

No distributions, allocations or additions may be made, and no losses of the Company may be allocated to the mandatory reserve.

(F) Treasury shares
In year 2019 the Company repurchased 400,000 shares from the market for a total cash consideration of €18.8 million.

Current liabilities

(G) Other current liabilities

in € million	31.12.2019	31.12.2018
Trade payables	0.5	5.1
Payables to group companies	1.0	105.6
Dividend payable	24.5	0.0
Accrued liabilities	1.4	4.4
Total current liabilities	27.4	115.1

Accrued liabilities include two outstanding disputes relating to the delisting in Austria and the demerger to the Netherlands. As at 31 December 2019, the resulting liabilities are estimated at €0.5 million. The other current liabilities are due in less than one year. The fair value of other current liabilities approximates the book value, due to their short-term character.

(H) Net financial result

The 2019 net financial result mainly consists of €1.4 million interest expense from intercompany financing transactions.

(I) Net results from investments

In year 2019 the full year results of the investments amount to a profit of €147.8 million (€166.6 million) and are recognised in the Company Statement of Profit or Loss.

(J) Net result for the period

In 2019, there are no differences in the result between the Company Financial Statements and the Consolidated Financial Statements.

Proposed appropriation of result

It is proposed that pursuant to Article 27 clause 1 of the articles of association of the Company the result shown in RHI Magnesita N.V. income statement be appropriated as follows:

in € million	2019
Profit attributable to shareholders	139.0
In accordance with Article 27 clause 1 to be transferred to reserves	0.0
At the disposal of the General Meeting of Shareholders	139.0

For 2019, the Board of Directors has recommended not to pay a dividend for the shareholders of RHI Magnesita N.V., subject to shareholder approval at the Annual General Meeting, on 18 June 2020. This decision will be reviewed later in the year once the outlook becomes clearer.

(I) Treasury shares

In 2019, the Company repurchased 400,000 shares from the market for a total cash consideration of €18.8 million.

Other notes

Number of employees

The average number of employees of RHI Magnesita N.V. during 2019 amounts to nil (2018: nil).

Other information

Information regarding auditor's fees, number of employees of RHI Magnesita Group and the remuneration of the Board of Directors is included in Note (60) to (62) of the Consolidated Financial Statements.

Material events after the reporting date

In January 2020 the Company registered a branch office in Vienna. As of February 2020, the branch has 47 employees.

Information regarding the outbreak and the impact of COVID-19 is provided under Note (64) in the Consolidated Financial Statements.

After the reporting date on 31 December 2019, there were no other events of special significance which may have a material effect on the financial position and performance of the RHI Magnesita N.V.

Vienna, 31 March 2020

Board of Directors

Executive Directors

Stefan Borgas

Ian Botha

Non-Executive Directors

Herbert Cordt

Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg

Celia Baxter

Janet Ashdown

Andrew Hosty

Fiona Paulus

James Leng

David Schlaff

John Ramsay

Wolfgang Ruttenstorfer

Karl Sevelda

Employee Representative Directors

Franz Reiter

Michael Schwarz

Other information

Provisions of the articles of association on profit and distributions
The stipulations of Article 27 and 28 of the Articles of Association concerning profit and distributions are:

27 Profit and distributions
27.1 The Board may resolve that the profits realised during a financial year will fully or partially be appropriated to increase and/or form reserves. With due regard to Article 26.2, a deficit may only be offset against the reserves prescribed by law to the extent this is permitted by law.

27.2 The allocation of profits remaining after application of Article 27.1 shall be determined by the General Meeting. The Board shall make a proposal for that purpose. A proposal to make a distribution of profits shall be dealt with as a separate agenda item at the General Meeting.

27.3 Distribution of profits shall be made after adoption of the annual accounts if permitted under the law given the contents of the annual accounts.

27.4 The Board may resolve to make interim distributions and/or to make distributions at the expense of any reserve of the Company, other than the Mandatory Reserve.

27.5 Distributions on shares may be made only up to an amount which does not exceed the amount of the Distributable Equity. If it concerns an interim distribution, the compliance with this requirement must be evidenced by an interim statement of assets and liabilities as referred to in Section 2:105 paragraph 4 of the Dutch Civil Code. The Company shall deposit the statement of assets and liabilities at the Dutch Trade Register within eight days after the day on which the resolution to make the distribution is published.

27.6 Distributions on shares payable in cash shall be paid in euro, unless the Board determines that payment shall be made in another currency.

27.7 The Board is authorised to determine that a distribution on shares will not be made in cash but in kind or in the form of shares, or to determine that shareholders may choose to accept the distribution in cash and/or in the form of shares, all this out of the profits and/or at the expense of reserves, other than the Mandatory Reserve, and all this if and in so far the Board has been designated by the General Meeting in accordance with Article 6.1. The Board shall set the conditions under which such a choice may be made.

28 Release for payment
Distributions of profits and other distributions shall be made payable four weeks after adoption of the relevant resolution, unless the Board or the General Meeting at the proposal of the Board determine another date.

Independent auditor’s report

To: the general meeting and the board of directors of RHI Magnesita N.V.

Report on the financial statements 2019

Our opinion

In our opinion, the financial statements of RHI Magnesita N.V. (‘the Company’) give a true and fair view of the financial position of the Company and the Group (the company together with its subsidiaries) as at 31 December 2019, and of its result and its cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and with Part 9 of Book 2 of the Dutch Civil Code.

What we have audited

We have audited the accompanying financial statements 2019 of RHI Magnesita N.V., Arnhem, the Netherlands. The financial statements include the consolidated financial statements of the Group and the company financial statements.

The consolidated financial statements comprise:

- the Consolidated Statement of Financial Position as at 31 December 2019;
- the following statements for 2019: the Consolidated Statement of Profit or Loss and the Consolidated Statement of Comprehensive Income, Cash Flows and Changes in Equity; and
- the Notes to the Consolidated Financial Statements 2019, comprising significant accounting policies and other explanatory information.

The company financial statements comprise:

- the Company Balance Sheet as at 31 December 2019;
- the Company Statement of Profit or Loss for the period 1 January to 31 December 2019, and
- the Notes, comprising significant accounting policies applied and other explanatory information.

The financial reporting framework applied in the preparation of the financial statements is EU-IFRS and the relevant provisions of Part 9 of Book 2 of the Dutch Civil Code.

The basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. We have further described our responsibilities under those standards in the section ‘Our responsibilities for the audit of the financial statements’ of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of RHI Magnesita N.V. in accordance with the European Union Regulation on specific requirements regarding statutory audit of public-interest entities, the ‘Wet toezicht accountantsorganisaties’ (Wta, Audit firms supervision act), the ‘Verordening inzake de onafhankelijkheid van accountants bij assuranceopdrachten’ (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence requirements in the Netherlands. Furthermore, we have complied with the ‘Verordening gedrags- en beroepsregels accountants’ (VGBA, Dutch Code of Ethics).

Our audit approach

Overview and context

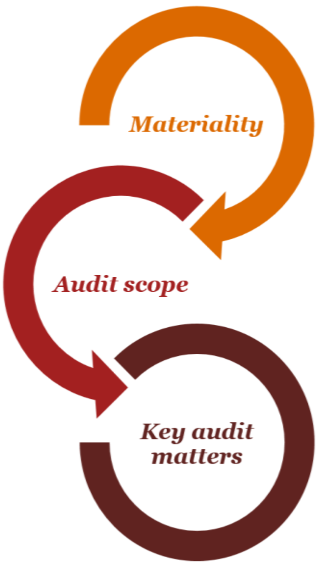
RHI Magnesita N.V. is a worldwide producer of refractory products. Refractory products are used in all the world’s high-temperature industrial processes. The Group is comprised of several components and therefore we considered our group audit scope and approach as set out in the section ‘The scope of our group audit’. We paid specific attention to the areas of focus driven by the operations of the Group, as set out below.

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where the board of directors made important judgements, for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. In Note (10) of the consolidated financial statements the Company describes the areas of judgement in applying accounting policies and the key sources of estimation uncertainty. Given the significant estimation uncertainty and the related higher inherent risks of material misstatement in the impairment assessment of goodwill and other intangible assets, the recoverability of deferred tax assets and the accounting for the plant rationalisation programme, we considered these matters as key audit matters as set out in the section 'Key audit matters' of this report. Furthermore, we identified the implementation of IFRS 16, the new leasing standard, a key audit matter.

Other areas of focus, that were not considered key audit matters, were the migration to a single instance of SAP, which mainly relates to the migration of legacy Magnesita SAP instance to the former RHI SAP instance as well as the implementation of a target operating model which consists of the transfer of functions in local entities to centralised Global Business Support ("GBS") centres.

We ensured that the audit teams at both group and component level included the appropriate skills and competences which are needed for the audit of an international industrial products company. We therefore included experts and specialists in the areas of amongst others forensics, IT and corporate income tax, as well as experts in the areas of valuation and employee benefits, in our team.

The outline of our audit approach was as follows:



Materiality
• Overall materiality: €14.0 million.

Audit scope
• We conducted audit work in 15 locations.

• Site visits were conducted to 9 countries – Brazil, the Netherlands, United States, China, Spain, Germany, Switzerland, Argentina and Austria.

• Audit coverage: 85% of consolidated revenue, 85% of consolidated total assets and 81% of consolidated profit before tax.

Key audit matters
• Recoverability of deferred tax assets

• Accounting for the plant rationalisation programme

• Valuation of goodwill and other intangible assets

• Implementation of IFRS 16, leasing

Materiality
The scope of our audit is influenced by the application of materiality, which is further explained in the section 'Our responsibilities for the audit of the financial statements'.

Based on our professional judgement we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and to evaluate the effect of identified misstatements, both individually and in aggregate, on the financial statements as a whole and on our opinion.

Overall group materiality	€14.0 million (2018: €13.8 million).
Basis for determining materiality	We used our professional judgement to determine overall materiality. As a basis for our judgement we used 5% of adjusted profit before tax. We adjusted profit before tax for impairment and restructuring changes which were considered unusual or infrequently occurring items.
Rationale for benchmark applied	We used profit before tax adjusted for unusual or infrequently occurring items as the primary benchmark, a generally accepted auditing practice, based on our analysis of the common information needs of users of the financial statements. On this basis, we believe that profit before tax adjusted for unusual or infrequently occurring items is an important metric for the financial performance of the Company. In prior year we used earnings before interest, taxes depreciation and amortisation (EBITDA) as materiality benchmark due to the high number of non-recurring items and the former Magnesita business not being fully integrated yet. In 2019, the non-recurring items are mainly limited to asset write downs and restructuring costs and those were factored in, in our benchmark.
Component materiality	To each component in our audit scope, we, based on our judgement, allocate materiality that is less than our overall group materiality. The range of materiality allocated across components was between € 1,1 million and € 8,3 million.

We also take misstatements and/or possible misstatements into account that, in our judgement, are material for qualitative reasons.

We agreed with the audit committee of the board of directors that we would report to them misstatements identified during our audit above €0.7 million (2018: €0.7 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

The scope of our group audit

RHI Magnesita N.V. is the parent company of a group of entities. The financial information of this group is included in the consolidated financial statements of RHI Magnesita N.V.

We tailored the scope of our audit to ensure that we, in aggregate, provide sufficient coverage of the financial statements for us to be able to give an opinion on the financial statements as a whole, taking into account the management structure of the Group, the nature of operations of its components, the accounting processes and controls, and the markets in which the components of the Group operate. In establishing the overall group audit strategy and plan, we determined the type of work required to be performed at component level by the Group engagement team and by each component auditor.

We have audited the complete financial information of 15 components, of which 3 components are individually financially significant to the Group:

- RHI Magnesita GmbH, Austria;
- RHI US, USA and;
- Magnesita Refratários S.A., Brazil.

The remaining 12 components, of which we conducted audits on the complete financial information, were selected to achieve appropriate coverage. We also selected 13 components to achieve appropriate coverage on financial line items in the consolidated financial statements and to build an element of unpredictability in our audit.

In total, in performing these procedures, we achieved the following coverage on the financial line items:

Revenue	85%
Total assets	85%
EBIT	84%
EBITDA	86%
Profit before tax	81%

None of the remaining components represented more than 3% of total group revenue or total group assets. For those remaining components we performed, among other things, analytical procedures to corroborate our assessment that there were no significant risks of material misstatements within those components.

The group engagement team performed the audit work for the parent company RHI Magnesita N.V. as well as the GBS office activities in Spain on areas such as fixed assets, cash and cash equivalents and aspects of accounts receivable and accounts payable. In addition, the group engagement team performed the audit work over the headquarter related activities in Vienna. This includes group consolidation, inventory valuation, the adoption of IFRS 16, financial statement disclosures, remuneration disclosures and a number of complex items, such as goodwill impairment testing, share based compensation and compliance of accounting positions taken by the Group in accordance with EU IFRS.

Where component auditors performed the work, we determined the level of involvement we needed to have in their audit work to be able to conclude whether we had obtained sufficient and appropriate audit evidence as a basis for our opinion on the consolidated financial statements as a whole.

We issued instructions to the component audit teams in our audit scope. These instructions included amongst others our risk analysis, materiality and scope of the work. We explained to the component audit teams the structure of the Group, the main developments that are relevant for the component auditors, the risks identified, the materiality levels to be applied and our global audit approach. We had individual meetings and/or calls with each of the in-scope component audit teams during the year including upon conclusion of their work. During these calls and meetings, we discussed the significant accounting and audit issues identified by the component auditors, the reports of the component auditors, the findings of their procedures and other matters, which could be of relevance for the consolidated financial statements.

The group engagement team visits the component teams and local management partly on a rotational basis. In the current year, the group audit team visited the RHI Magnesita finance functions in Austria, the Netherlands, Spain, Brazil, China and the U.S. given the size of these operating locations. We also visited the locations in Switzerland, Germany, Spain and Argentina. We reviewed selected working papers of the component auditors. Our component auditors in Austria visited one of the group's German locations.

By performing the procedures above at components, combined with additional procedures at group level, we have been able to obtain sufficient and appropriate audit evidence on the Group's financial information, as a whole, to provide a basis for our opinion on the financial statements.

Our focus on the risk of fraud and non-compliance with laws and regulations

Our objectives

The objectives of our audit are:

In respect to fraud:

- to identify and assess the risks of material misstatement of the financial statements due to fraud;
- to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, through designing and implementing appropriate audit responses; and
- to respond appropriately to fraud or suspected fraud identified during the audit.

In respect to non-compliance with laws and regulations:

- to identify and assess the risk of material misstatement of the financial statements due to non-compliance with laws and regulations; and
- to obtain reasonable assurance that the financial statements, taken as a whole, are free from material misstatement, whether due to fraud or error when considering the applicable legal and regulatory framework.

The primary responsibility for the prevention and detection of fraud and non-compliance with laws and regulations lies with executive directors with the oversight of the board of directors.

Our risk assessment

As part of our process of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption. We evaluated the fraud risk factors to consider whether those factors indicated a risk of material misstatement due to fraud.

In addition, we performed procedures to obtain an understanding of the legal and regulatory frameworks that are applicable for the Group. We identified provisions of those laws and regulations, generally recognised to have a direct effect on the determination of material amounts and disclosures in the financial statements such as the financial reporting framework and tax, environmental and labour related laws and regulations.

As in all of our audits, we addressed the risk of management override of internal controls, including evaluating whether there was evidence of bias by board of directors that may represent a risk of material misstatement due to fraud. We refer to the key audit matters for examples of our approach related to areas of higher risk due to accounting estimates where management makes significant judgments.

Our response to the risks identified
We performed the following audit procedures to respond to the assessed risks:

- We performed data analysis of high-risk journal entries and evaluated key estimates and judgements for bias by RHI Magnesita N.V., including retrospective reviews of prior year's estimates. Where we identified instances of unexpected journal entries or other risks through our data analytics, we performed additional audit procedures to address each identified risk. These procedures also included testing of transactions back to source information.
- We inquired with executive directors, other members of management and the board of directors as to whether they have any knowledge of (suspected) fraud, their views on overall fraud risks within the Group and their perspectives on the Groups mitigating controls addressing the risk of fraud.
- We assessed the matters reported on the Group's whistleblowing and complaints procedures with the entity and results of management's investigation of such matters.
- With respect to the risk of fraud in revenue we performed testing over the existence of recorded revenue transactions and, where applicable addressed the risk for improperly shifting revenues to an earlier or later period.
- With respect to the risk of bribery and corruption across various countries, we performed specific inquiries with (local) management in order to identify higher risk areas.
- We incorporated an element of unpredictability in our audit.
- We considered the outcome of our other audit procedures and evaluated whether any findings or misstatements were indicative of fraud.
- We obtained audit evidence regarding compliance with the provisions of those laws and regulations generally recognised to have a direct effect on the determination of material amounts and disclosures in the financial statements.
- As to the other laws and regulations, we inquired with executive directors and/or the board of directors as to whether the entity is in compliance with such laws and regulations and inspected correspondence, if any, with relevant licensing and regulatory authorities.

Identified (indications) of fraud
During our audit, the Company disclosed to us instances of (indications of) fraud, which we followed up with our forensic specialists. We communicated those (indications of) fraud to the relevant local audit teams who performed sufficient and appropriate audit procedures supplemented by audit procedures performed at the group level. These procedures include amongst others obtaining an understanding of Company's assessments and validating aspects of the investigations performed by the Company. Where appropriate, we consulted our forensic specialists.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the financial statements. We have communicated the key audit matters to the audit committee of the board of directors. The key audit matters are not a comprehensive reflection of all matters identified by our audit and that we discussed. In this section, we described the key audit matters and included a summary of the audit procedures we performed on those matters.

We addressed the key audit matters in the context of our audit of the financial statements as a whole, and in forming our opinion thereon. We do not provide separate opinions on these matters or on specific elements of the financial statements. Any comment or observation we made on the results of our procedures should be read in this context.

Given the non-recurring nature of the key audit matters related to the finalisation of the Purchase Price Allocation in respect of the acquisition of Magnesita Refratários S.A. and the Implementation of IFRS 15, the new revenue standard as considered in the 2018 auditor's report, these have not been disclosed as key audit matters in 2019.

Key audit matter	***Our audit work and observations***
Recoverability of deferred tax assets *Refer to Note (8), (10), (17) and (45) of the consolidated financial statements* The Group capitalised deferred tax assets on tax loss carry-forwards and deductible temporary differences arising on various items for the amount of €181.9 million. Reference is made to Note (17) of the financial statements. Deferred tax assets are capitalised based on the assumption that sufficient taxable income will be generated against which loss carry-forwards and other deductible temporary differences can be offset. This assumption is based on estimates of the current and the estimated taxable results, and any future measures implemented by the company in several jurisdictions concerned that will have an effect on income tax. The Group also has losses and other temporary differences for which no deferred tax asset has been recognised in these consolidated financial statements. Due to the inherent level of uncertainty, the potential limitations in the recoverability of deferred tax assets and the significant judgement involved, we considered the recoverability of deferred tax assets to be a key audit matter for our audit.	We have requested and obtained evidence for the existence and accuracy of the tax loss carry-forwards and assessed the expiration dates per jurisdiction. In addition, together with local tax specialists, we have assessed per tax jurisdiction the level of potential offsetting of the deferred tax assets with the deferred tax liabilities. Furthermore, we have critically assessed the underlying assumptions of the forecasted taxable income through agreeing the forecasted future taxable profits with approved business plans in a tax jurisdiction. We also assessed the past performance against the expected future tax profits in the business plans used by the Group, by using our knowledge of the Group and the industry in which it operates. In addition, we have considered the local expiry period together with any applicable restrictions in recovery for each individual jurisdiction. We assessed and corroborated the adequacy and appropriateness of the disclosure made in the consolidated financial statements. Based on the audit procedures performed, we found the Group's estimates and judgment used in the recoverability assessment of the deferred tax assets to be supported by the available evidence.
Accounting for the plant rationalisation programme *Refer to Note (8), (34) and (39) of the consolidated financial statements* The Group incurred €46.7 million of restructuring expenses and €65.4 million of asset write-downs in 2019, primarily related to the plant rationalisation programme. Reference is made to Note (34) of the financial statements. These amounts are reported as adjusted items in the Group's alternative performance measures. In the second half of 2019, the Board of Directors approved a plant rationalisation programme resulting in the plant closure in Hagen, Germany and partial shut-down of the plant in Trieben, Austria. This resulted in restructuring and asset write down cost of €69.0 million. In addition, restructuring and write-down expenses amounting to €20.0 million are related to the Porsgrunn plant in Norway. The declining Fused magnesia prices in the fourth quarter of 2019 resulted in a trigger to reassess the provision for onerous contracts as well as in write-down expenses of non-current assets. Our key audit matter was focused on the recognition of the restructuring cost and the expected cost to be incurred (see Note	We performed enquiries of management and inspected the latest strategic plans and minutes of meetings of the Board of Directors. We evaluated the appropriateness of the Group's judgements regarding the preconditions of IAS 37 with regard to restructuring provisions and asset impairment in accordance with IAS 36. We tested the mechanical accuracy of the provisions and assessed the integrity of key inputs, for example through recalculating the amounts recorded for severance based on agreed upon social plans and or other (publicly available) evidence. For the amounts recorded we reconciled the amounts calculated to the booking entries. With regard to the asset impairments we have assessed the appropriateness of the calculations made by the company and reconciled the recorded asset write-downs to the general and sub ledger accounts. For assets to be transferred to alternative locations we validated management's assumptions based on the nature of the asset.

Key audit matter	Our audit work and observations
(34) to the financial statements) as well as the accuracy of the asset write-downs and impairment charges. When calculating the exit costs, management has estimated future settlement and exit costs where these are not yet known. We consider this to represent a key audit matter reflecting the level of judgement applied by management in the assumptions used to determine the extent of provisioning required and the magnitude of the recorded cost.	We assessed the completeness and accuracy of disclosures within the financial statements in accordance with IFRSs. Based on the audit procedures performed, we found the Group's estimates and judgement used in the accounting for the plant rationalisation programme be supported by the available evidence.
Valuation of goodwill and other intangible assets *Refer to Note (8), (10), (11), and (12) of the consolidated financial statements* The Group capitalised goodwill for €117.5 million, mainly related to the acquisition of Magnesita Group. In addition, the company capitalised intangible assets for €319.0 million. These assets form part of cash-generating units ('CGUs') to the extent that they independently generate cash inflows. If and to the extent to which these CGUs include goodwill or intangible assets with indefinite useful lives or show sign for impairment, the recoverable amount is assessed. Annual planning process data is used to make assumptions on the discount rates, profitability as well as growth rates, and sensitivity analyses are carried out with regard to any accounting effects. The assessment did not result in an impairment. We identified the impairment assessment as a key audit matter due to significant estimates and assumptions about the discount rates, profitability as well as growth rates.	As part of our audit procedures, we have evaluated and challenged the composition of management's future cash flow forecast and process applied to identify and define cash-generating units, calculate the recoverable amount, test for impairment, calculate the capital cost rate and the growth rate as well as the calculation model. We have reconciled the assumed future cash flows used in the budget planning with the information included in the forecast made by the directors. With the support of our valuation specialists, we have evaluated management's assumptions such as revenue and margin, the discount rate, terminal value, operational and capital expenditure. We have obtained corroborative evidence for these assumptions. We performed analyses to assess the reasonableness of forecasted revenues, margins and expenditures in line with the level of activity forecasted and corroboration to contracted revenue for the coming years and price trends and obtained further explanations when considered necessary. We compared the long-term growth rates used in determining the terminal value with economic and industry forecasts. We have re-performed calculations, compared the methodology applied with generally accepted valuation techniques, assessed appropriateness of the cost of capital for the company and comparable assets, as well as considered territory specific factors and assessed appropriateness of disclosure of the key assumptions and sensitivities underlying the tests. Based on the audit procedures performed, we found the assumptions to be reasonable and supported by the available evidence.

Key audit matter	*Our audit work and observations*
Implementation of IFRS 16, Leases *Refer to Note (2) and (13) of the consolidated financial statements*	
As described in Note (2) and (13) of the consolidated financial statements the Group has adopted IFRS 16, Leases. The disclosures on the effects of initial application and reconciliations can be found in Note (2) to the Consolidated Financial Statements. As of December 31, 2019, Right-of-use assets and lease liabilities in the amount of €62.0 million were recognised by the Group. The Group has applied the modified retrospective approach. According to this method the lease liability is measured at the present value of the remaining lease payments, discounted at using the incremental borrowing rate at initial application. The recognised amount of the right-of-use asset equals the lease liability. The Group applies several practical expedients in its implementation. The calculation of the lease term and the incremental borrowing rates used as discount rates can be discretionary and based on estimates. In addition, extensive data from the leases must be recorded to calculate the initial effects of IFRS 16 and the development of lease liabilities and Right-of-use assets in accordance with the standard. This data is the basis for the measurement and recognition of the lease liabilities and Right-of-use assets. As a result, we consider the adoption and implementation of IFRS 16 a key audit matter.	We performed inquiries of management to obtain an understanding of the IFRS 16 implementation process. We have obtained a schedule of all lease contracts in the scope of IFRS 16, as identified by the Group. We evaluated the accuracy and completeness of this schedule by reconciling this to previously disclosed future lease commitments and based on our knowledge of the Group and experience of the industry in which it operates. For a sample of selected leases, we validated whether the relevant data was recorded correctly and in full. To the extent that discretionary decisions were made regarding the lease term, we reviewed whether, in light of the market conditions and risks in the industry, the underlying assumptions are plausible and consistent with other assumptions made in the consolidated financial statements. We compared the assumptions and parameters underlying the incremental borrowing rates with our own assumptions and publicly available data. Furthermore, we have assessed the adequacy of the related (IFRS 16) disclosures in the financial statements. Based on the audit procedures performed, we found no material exceptions with respect to the application of IFRS 16 and disclosures thereto.

Emphasis of matter related to the uncertainty related to the effects of the COVID-19 virus

We draw attention to Note (1) of the consolidated financial statements, the section ‘going concern and the implications of the COVID-19 (Corona) virus’ in which management has described the possible impact and consequences of the COVID-19 virus on the entity and the environment in which the entity operates as well as the measures taken and planned to deal with these events or circumstances. This note also indicates that uncertainties remain and that currently it is not reasonably possible to estimate the future impact. Our opinion is not modified in respect of this matter.

Report on the other information included in the annual report

In addition to the financial statements and our auditor's report thereon, the annual report contains other information that consists of:

• the section strategic report on pages 1 to 71 of the annual report;
• the section governance, which includes the Remuneration Report on pages 74 to 120 of the annual report;
• the other information pursuant to Part 9 of Book 2 of the Dutch Civil Code.

Based on the procedures performed as set out below, we conclude that the other information:

• is consistent with the financial statements and does not contain material misstatements;
• contains the information that is required by Part 9 of Book 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and understanding obtained in our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements.

By performing our procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of such procedures was substantially less than the scope of those performed in our audit of the financial statements.

The directors are responsible for the preparation of the other information, including the directors' report and the other information in accordance with Part 9 of Book 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements

Our appointment

We were appointed as auditors of RHI Magnesita N.V. by the audit committee of the board of directors following the passing of a resolution by the shareholders at the annual meeting held on 4 October 2017. Our appointment has been renewed annually by shareholders representing a total period of uninterrupted engagement appointment of 3 years.

No prohibited non-audit services

To the best of our knowledge and belief, we have not provided prohibited non-audit services as referred to in Article 5(1) of the European Regulation on specific requirements regarding statutory audit of public-interest entities.

Services rendered

The services, in addition to the audit, that we have provided to the Company and its controlled entities, for the period to which our statutory audit relates, are disclosed in Note (60) to the financial statements.

Responsibilities for the financial statements and the audit

Responsibilities of executive directors and board of directors for the financial statements

Executive directors are responsible for:

• the preparation and fair presentation of the financial statements in accordance with EU-IFRS and with Part 9 of Book 2 of the Dutch Civil Code; and for
• such internal control as executive directors determine is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, executive directors are responsible for assessing the Company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, executive directors should prepare the financial statements using the going-concern basis of accounting unless executive directors either intend to liquidate the Company or to cease operations, or has no realistic alternative but to do so. Executive directors should disclose events and circumstances that may cast significant doubt on the Company's ability to continue as a going concern in the financial statements.

The board of directors is responsible for overseeing the Company's financial reporting process.

Our responsibilities for the audit of the financial statements

Our responsibility is to plan and perform an audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence to provide a basis for our opinion. Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error and to issue an auditor's report that includes our opinion. Reasonable assurance is a high but not absolute level of assurance, which makes it possible that we may not detect all material misstatements. Misstatements may arise due to fraud or error. They are considered to be material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

A more detailed description of our responsibilities is set out in the appendix to our report.

Amsterdam, 31 March 2020
PricewaterhouseCoopers Accountants N.V.
Original has been signed by E.M.W.H. van der Vleuten RA MSc

Appendix to our auditor's report on the financial statements 2019 of RHI Magnesita N.V.

In addition to what is included in our auditor's report, we have further set out in this appendix our responsibilities for the audit of the financial statements and explained what an audit involves.

The auditor's responsibilities for the audit of the financial statements

We have exercised professional judgement and have maintained professional scepticism throughout the audit in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. Our audit consisted, among other things of the following:

- Identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud or error, designing and performing audit procedures responsive to those risks, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the intentional override of internal control.
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by executive directors.
- Concluding on the appropriateness of executive directors' use of the going-concern basis of accounting, and based on the audit evidence obtained, concluding whether a material uncertainty exists related to events and/or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report and are made in the context of our opinion on the financial statements as a whole. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures, and evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Considering our ultimate responsibility for the opinion on the consolidated financial statements, we are responsible for the direction, supervision and performance of the group audit. In this context, we have determined the nature and extent of the audit procedures for components of the Group to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole. Determining factors are the geographic structure of the Group, the significance and/or risk profile of group entities or activities, the accounting processes and controls, and the industry in which the Group operates. On this basis, we selected group entities for which an audit or review of financial information or specific balances was considered necessary.

We communicate with the audit committee of the board of directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit. In this respect, we also issue an additional report to the audit committee in accordance with Article 11 of the EU Regulation on specific requirements regarding statutory audit of public-interest entities. The information included in this additional report is consistent with our audit opinion in this auditor's report.

We provide the audit committee of the board of directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the audit committee of the board of directors, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

Alternative performance measures (“APMs”)

APMs used by the Group are reviewed below to provide a definition from each non-IFRS APM to its IFRS equivalent, and to explain the purpose and usefulness of each APM.

In general, APMs are presented externally to meet investors' requirements for further clarity and transparency of the Group's underlying financial performance. The APMs are also used internally in the management of our business performance, budgeting and forecasting.

APMs are non-IFRS measures. As a result, APMs allow investors and other readers to review different kinds of revenue, profits and costs and should not be used in isolation. Commentary within the Half Year Results, including the Financial Review, as well as the Consolidated Financial Statements and the accompanying notes, should be referred to in order to fully appreciate all the factors that affect our business. We strongly encourage readers not to rely on any single financial measure, but to carefully review our reporting in its entirety.

Adjusted pro-forma results at a constant currency

Adjusted and Adjusted results at constant currency The H1 2018 Adjusted results are, where appropriate, adjusted to reflect the purchase price allocation ("PPA") related to the acquisition of Magnesita and other adjustments. This measure provides an estimation of the historical financial performance of the current Group structure. H1 2018 figures presented at constant currency represent H1 2018 reported figures translated at average H1 2019 exchange rates.

EBITA

EBIT, as presented in Consolidated Statement of Profit and Loss, excluding amortisation and impairments.

EBITDA

EBIT, as presented in Consolidated Statement of Profit and Loss, excluding depreciation, amortisation and impairments.

Adjusted EBITDA and EBITA

To provide further transparency and clarity to the ongoing, underlying financial performance of the Group, adjusted EBITDA and EBITA are used. Both measures exclude other income and expenses as presented in Consolidated Statement of Profit and Loss.

Adjusted earnings per share (“EPS”)

Adjusted EPS is used to assess the Company's operational performance per ordinary share outstanding. It is calculated using adjusted EBITA (as described above) and removes the impact of certain foreign exchange effects, amortisation, one-off restructuring expenses and impairments, other non-cash financial income and expenses, that are not directly related to operational performance. Effective tax rate for adjusted EPS is calculated by applying the effective tax rate normalised for restructuring expenses and impairments.

Operating cash flow and free cash flow

Alternative measures for cash flow are presented to reflect net cash inflow from operating activities before certain items. Free cash flow is considered relevant to reflect the cash performance of business operations after meeting the usual obligations of financing and tax. It is therefore measured before all other remaining cash flows, being those related to acquisitions and disposals, other equity-related and debt-related funding movements, and foreign exchange impacts on financing and investing activities.

Working capital

Working capital and intensity provides a measure how efficient the Company is in managing operating cash conversion cycles. Working capital is the sum of manageable working capital, composed of inventories, trade receivables and trade payables and other receivables and payables. Working capital intensity is measured as a percentage of last three months annualised revenue.

Net debt

We present an alternative measure to bring together the various funding sources that are included in the Consolidated Balance Sheet and the accompanying notes. Net debt is a measure defined in the Group’s principal financing arrangements and reflects the net indebtedness of the Group and includes all cash, cash equivalents and marketable securities; and any debt or debt-like items.

Shareholder information

RHI Magnesita N.V. is a public company with limited liability under Dutch law and was incorporated on 20 June 2017. It has its corporate seat in Arnhem, the Netherlands, its administrative seat in Vienna, Austria and its registered office at Kranichberggasse 6, 1120 Vienna, Austria.

The telephone number of the Issuer is +43 50 2136200.

The shares of RHI Magnesita N.V, are listed on the Premium Segment of the Offical List on the Main Market of the London Stock Exchange.

Ticker symbol: RHIM
ISIN Code:NL0012650360

Investor information

The Company's website www.rhimagnesita.com provides information for shareholder and should be the first port of call for general queries. The investors section contains details on the current and historical share price. Annual and Interim Reports, analyst presentations, shareholder meetings as well as a 'Shareholders FAQ' section.

You can also subscribe to an email alert service to automatically receive an email when significant announcements are made.

Shareholding information

Please contact our Registrar, Computershare, for all administrative enquiries about your shareholding, such as the loss of a share certificate, dividend payments, or a change of address:

Computershare Investor Services PLC
The Pavilions,
Bridgwater Road
Bristol BS99 6ZZ
United Kingdom

Website: https://www-uk.computershare.com
T: +44 (0) 370 707 1402

Financial calendar

Q1 Trading Update	May 2020
Annual General Meeting	18 June 2020
Half Year Results	August 2020
Q3 Trading Update	November 2020

Investor relations department

7th Floor, 125 Old Broad Street
London EC2N 1AR
United Kingdom

T: +44 20 7292 6171
Email: investor.relations@rhimagnesita.com

Corporate brokers

Peel Hunt LLP
Moor House
120 London Wall
London EC2Y 5ET
United Kingdom

T: +44 20 74188900
www.peelhunt.com

Barclays
10 The North Colonnade
Canary Wharf
London E14 4BB
United Kingdom

T: +44 20 7623 2323
www.barclays.com

Auditor

PricewaterhouseCoopers Accountants N.V,
Thomas R. Malthusstraat 5
1066 JR Amsterdam
P.O. Box 90357

T: +31 88 792 00 20
www.pwc.nl

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