RHI MAGNESITA

Leading the refractory industry in sustainability and technology

Annual Report 2021

We are RHI Magnesita

Contents

We offer refractory products, customised services and innovative solutions that help shape tomorrow's world. Our advanced products are essential for our customers in the steel, cement, metals and glass industries.

Our purpose

Our purpose is to master heat, enabling global industries to build sustainable modern life.

Our values

At RHI Magnesita, we believe in an ethical workplace which means performing our roles with integrity, honesty, reliability and in respectful collaboration with each other. Extending these ethical behaviours to interactions with all business partners is vital for the long term sustainable success of RHI Magnesita.

Investment case

Global market share

c.15%

01 Leadership in the refractory industry

- Market leader in refractory products and heat management solutions for industrial applications involving temperatures above 1,200°C. Significant scale benefits from having the largest global footprint, close proximity to customers and "local for local" strategy
- Market share of c.15% globally (30% excluding China and East Asia) in a c.€20 billion industry. Clear market leader in North and South America, Europe and the Middle East
- c.70% of revenue derived from the Steel Division and c.30% from Industrial. RHI Magnesita's customers serve end markets in the construction and infrastructure, automotive, machinery and heavy equipment industries

Magnesite raw material from own sources

c.70%

02 Strong competitive position with vertical integration

- Vertical integration with low-cost magnesite and dolomite raw material assets providing security of supply and contributing 3.2 percentage points of EBITA margin in 2021
- Leadership in innovation and digitalisation of refractory products and services. Annual R&D and Technical Marketing spend of €63 million, new products represented 16% of revenues in 2021
- Innovating to support sustainable development, leading the industry in low-CO_2 refractory technologies

Adjusted EBITA margin

11.0%

03 Margin resilience and significant growth opportunity

- Low-cost operations and essential nature of products underpin double digit EBITA margin performance through the cycle
- Cost saving initiatives to deliver €110 million EBITA contribution by 2023, further improving margins through plant consolidation, specialisation, modernisation and lower relative SG&A
- Growth opportunity in Flow Control, new geographic markets of China, India and Turkey, and through expansion of the business model into services, digital products and full heat management solutions

Capital expenditure

€252m

04 Investment driven value creation

- Maintained significant organic investment throughout 2020 and 2021, with capital expenditure of €252 million in 2021
- Disciplined focus on returns on capital
- High-returning projects are due to complete and ramp up from 2022, delivering material cash flow benefits
- Balanced and dynamic capital allocation through investment in organic growth, acquisitions, sustainability and shareholder returns

Use of secondary raw material, 2021

6.8%

05 Sustainability leadership

- Proprietary technology for increasing use of secondary raw material with equally good refractory performance. Reduces waste and eliminates CO_2 emissions from use of new raw material in short term
- Longer term investment in developing new technology solutions to capture and store or utilise CO_2 emitted in the refractory production process
- Strong market share in essential refractory products that are enablers for the decarbonisation of steel production through increased use of electric arc furnaces

Highlights

RHI Magnesita has successfully navigated another challenging year in 2021 whilst continuing to make further structural improvements to our business to strengthen our leadership position in the global refractory industry.

Herbert Cordt
Chairman

Financial highlights

Revenue
€2.6bn
2020: €2.3bn

Available liquidity
€1.2bn
31 December 2020: €1.2bn

Adjusted EBITA
€280m
2020: €260m

Adjusted earnings per share
€4.52
2020: €3.28

Adjusted EBITA margin
11.0%
2020: 11.5%

Dividend per share
€1.50
2020: €1.50

Strategic highlights

Capital expenditure
€252m
2020: €157m

Strategic initiatives EBITA (cumulative)
€84m
2020: €35m

ROIC
9.6%
2020: 11.5%

Shareholder returns
€167m
2020: €52m

Sustainability highlights

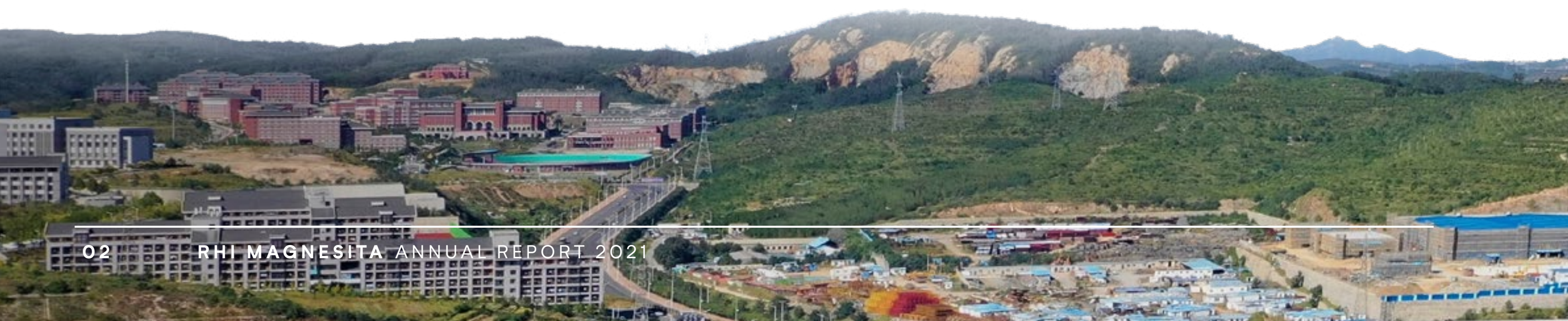
Recycling rate
6.8%
2020: 5.0%

Reduced CO2 emissions intensity
1.82 t CO_2/t
2020: 1.96 t CO_2/t

LTIFR (per 200,000 hours)
0.18
2020: 0.13

CDP rating
B
2020: B

Dalian, China



Our culture

Our corporate culture guides our strategy and day-to-day decision making.

customer focus

innovative
We live innovation to create value for our customers, by being bold and providing the best digital and sustainable solutions.

performing
Our high performance is rooted in accountability and responsibility. We are a reliable partner that decides and delivers based on our customers' needs.

open
Our open mindset and transparent way of working is flanked by a diverse, respectful and friendly business environment, where we care about our customers and colleagues.

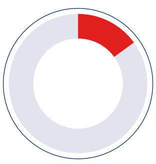
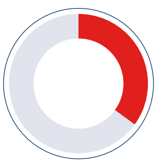
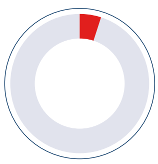
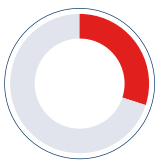
pragmatic
We act pragmatically to enable fast and simple collaboration across functions and regions to serve our customers best.

> The swift response of our management and employees to the supply chain challenges we encountered in 2021 demonstrated our customer focus, pragmatism and reliability as a business partner. Throughout the year, we prioritised keeping our customers supplied with refractories to avoid interruption to their operations during a period of high demand, using alternative sources of supply and new logistics solutions where necessary.

Refractory customers and end markets

We create the refractory products, customised services and innovative solutions that help shape tomorrow's world. By mastering heat, we enable global industries to build sustainable modern life.

Through our solutions business model, we provide a broad range of tailored services at customer sites such as refractory installation, recycling, digital and supply chain services. These drive process efficiencies, reduce costs and generate sustainable benefits, thereby creating value for our customers, as well as for the Group.

Customer industries	Steel	Cement	Glass & EEC	Non-ferrous metals
Refractories are specialist materials used in industrial processes which can withstand temperatures of up to 2,000 degrees. They are consumed during use at varying rates, for example up to 15 kg of refractories are required per tonne of steel production.	Refractory demand for 1 tonne: ~10 to 15 kg 1,760°C	~1 kg 1,500°C	~4 kg 1,650°C	Copper ~3 kg, 1,350°C Aluminium ~6 kg, 1,250°C
Refractories are classified as operating expenses for the steel industry where replacement cycles are between 20 minutes and two months. Other industries have longer replacement cycles, for example refractories in cement kilns are replaced annually, whereas in the glass industry refractory linings within furnaces are replaced up to every 10 years.	Lifetime: 20 minutes to 2 months	Annually	Glass: Up to 10 years EEC: 5 to 10 years	1–10 years (non-ferrous)
	% of customers' costs: c.3%	c.0.5%	Glass: c.1% EEC: c.1.5%	c.0.2%
Market shares RHI Magnesita serves thousands of industrial sites worldwide.	% market share by customer market:  c.15%	 c.35%	 c.5%	 c.25%

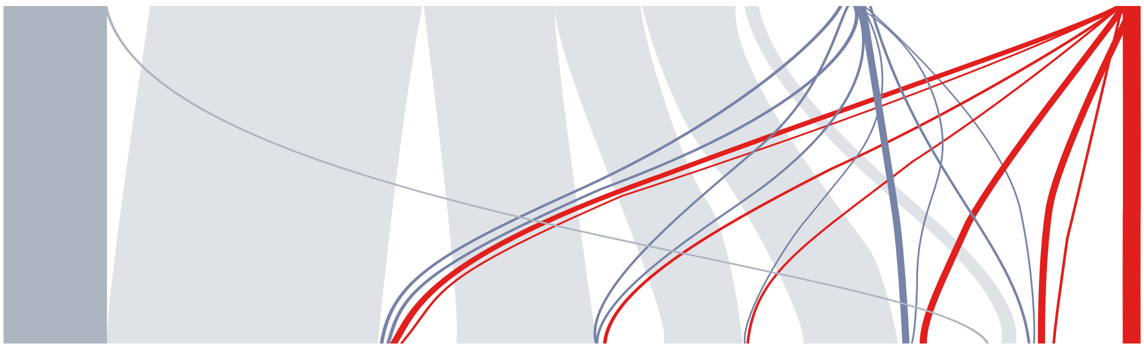
How our customer industries relate to end-user markets.

Demand for refractories is driven in the first instance by demand from industries requiring advanced heat-resistant materials for their production processes, being predominantly the steel, cement/lime, non-ferrous metals, glass, energy and chemicals industries. Over the long term, demand for refractories is linked to production volumes in these industries, which in turn are determined by the end markets for those materials. The most important end markets for the refractory industry are construction, automotive and transport, machinery and equipment, electronics and consumer goods and energy, oil and gas and petrochemicals.

Customer industries

% of 2021 revenue.

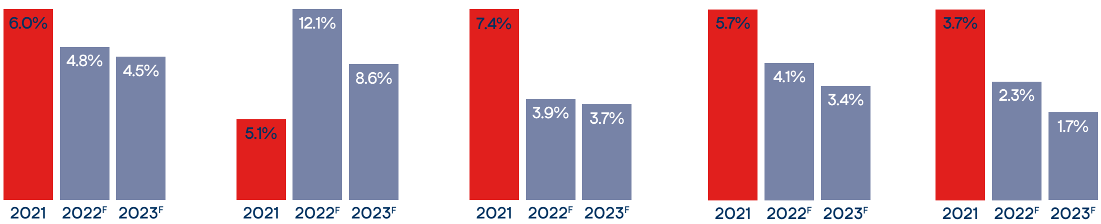
Cement	Steel	Glass & EEC	Metals
13%	71%	10%	6%



End markets outlook

Whilst previously high growth rates in construction and automotives during the initial recovery from the COVID-19 pandemic are not forecast to continue in 2022-23, strong growth in electrification and decarbonisation are expected to drive volumes in non-ferrous metals.

Construction	Automotive and transport	Machinery and equipment	Electronics and consumer goods	Other	Energy and petrochemicals
45%	17%	10%	15%		5%



Trends

We are agile and proactive in pursuing opportunities and managing risks posed by the rapidly changing global environment.

- Continued growth in Asia ex-China
- Green steel transition
- Connectivity
- Regionalisation
- Commoditisation

Global footprint with local for local strategy

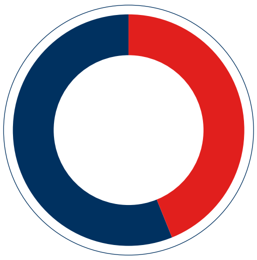
Our global network of raw material sites, refractory plants, sales offices and R&D centres enables us to be a trusted partner for our customers. RHI Magnesita can supply a full range of refractory products anywhere in the world.

Our global network has been optimised by the Production Optimisation Plan, progressing our "local for local" strategy. We aim to reduce movements of raw materials and finished goods, lowering costs and improving reliability and security of supply for our customers.

Steel Division Revenue split by geography

North America	28%
South America	15%
Europe/CIS/Turkey	26%
China and East Asia	11%
India, West Asia and Africa	20%

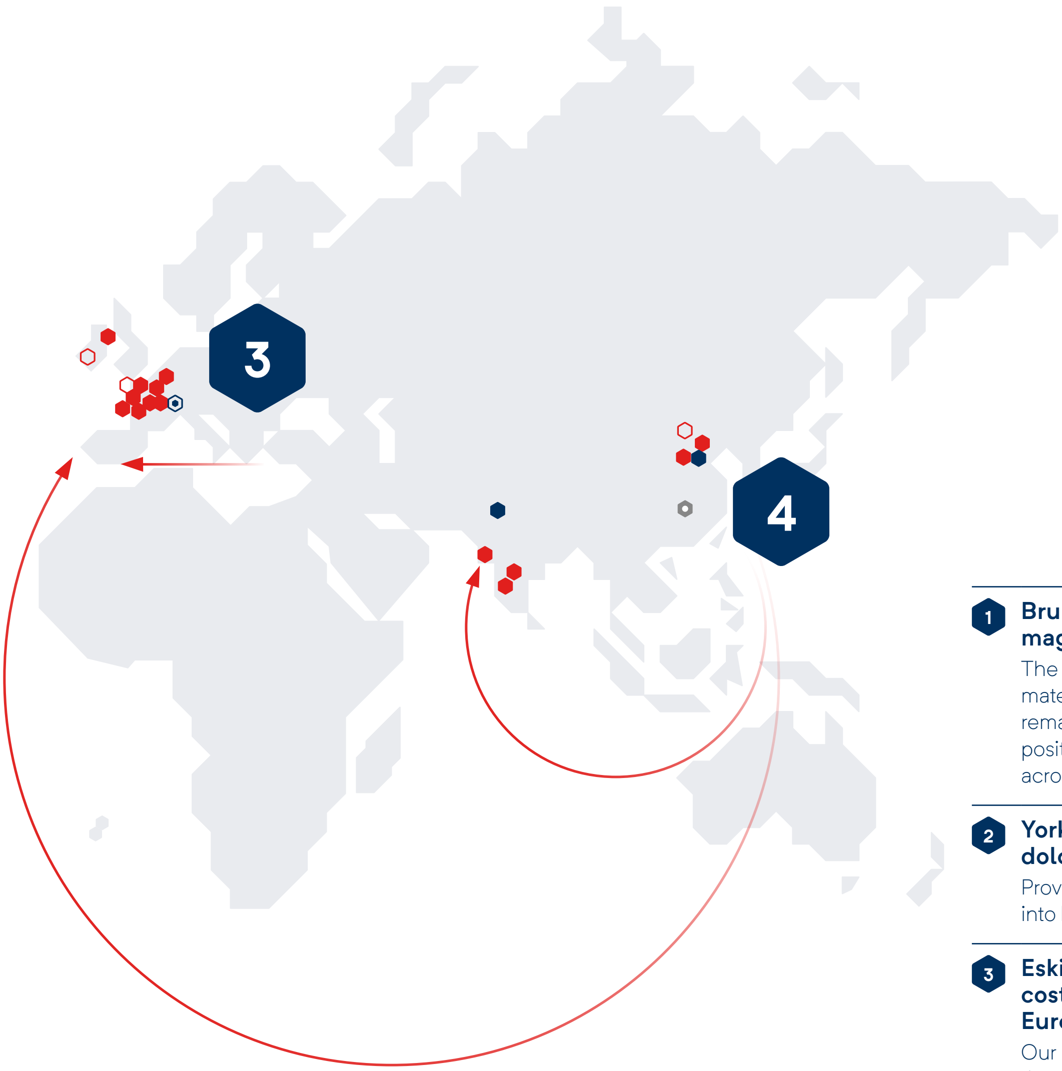
Industrial Division Revenue split by segment



Cement/Lime	44%
Industrial business	56%

Key raw material transport routes

- Headquarters
- Technology hubs
- Raw materials production
- Finished refractory products production
- Raw materials and finished refractory products production
- Key raw material export route



Note: Shipping routes shown are illustrative.

1 Brumado, Brazil, our Americas magnesite hub

The Group's largest magnesite raw material asset with over 100 years of remaining mine life and first quartile cost position, serving production facilities across the Americas.

2 York, United States, our Americas dolomite hub

Provides low cost, high-quality dolomite into North and South America.

3 Eskişehir, Turkey, supplies low cost Magnesite raw material to European production plants

Our local for local strategy is enhanced through the acquisition of SÖRMAŞ, agreed in 2021 (completion expected in H1 2022).

4 Externally sourced raw material partnerships

Externally sourced raw material from China provides Europe with low-cost magnesite and alumina based raw materials, including electro-fused material.

Investing in cleaner technologies

The future of steelmaking

Traditional steelmaking process

Globally, c.70% of steel production is carried out using a blast furnace ("BF") to reduce iron ore, combined with a Basic Oxygen Furnace ("BOF") for conversion of pig iron into steel. The steel industry accounts for around 8% of global CO_2 emissions and is classified as a "hard-to-abate" industry because of the high capital cost and technological challenges involved.

Reduction of iron ore in a blast furnace requires the burning of large quantities of coke (700kg) per tonne of steel produced. BOF emit a further 0.17 tonnes of CO_2 per tonne of steel produced, as oxygen is injected to remove carbon dissolved in the steel.

Electric arc furnaces

The first step to reduce CO_2 emissions in steelmaking is the adoption of electric arc furnaces ("EAF"), which can be powered using electricity sourced partially or wholly from renewable energy generation.

EAF use globally ex-China has grown significantly over the last 20 years, from 37 % of steel production in 2001 to 47% in 2021. EAF steelmaking requires a source of scrap steel and has therefore grown fastest in developed markets where scrap availability is high. EAF use is now growing fast in China, with current usage representing around 10% of output, forecast to grow to 23% by 2030 (Source: Internal Company estimates).

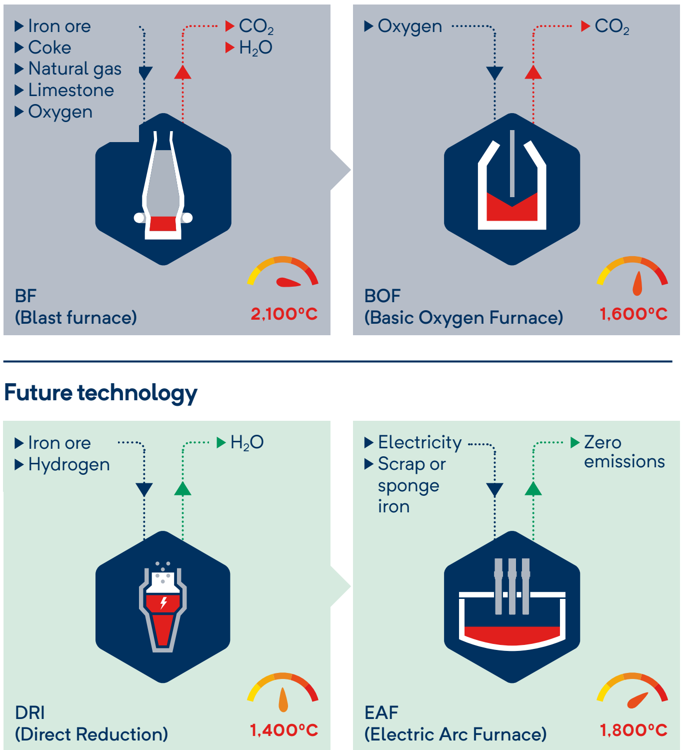
RHI Magnesita has a leading market position in EAF-specific refractories, services and heat management solutions and is ideally positioned to benefit from this ongoing transition. In 2021, 16% of the Group's revenues were derived from EAF refractories.

Direct reduction of iron ore

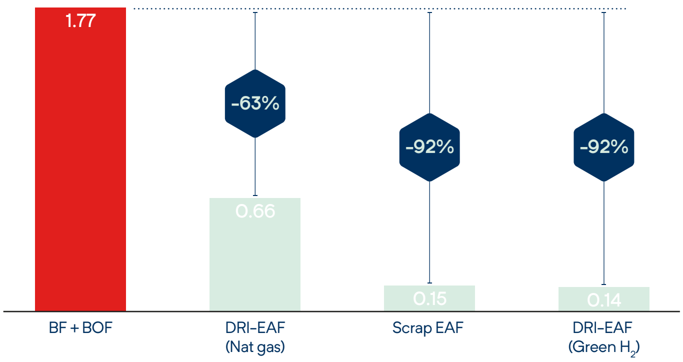
Direct reduction of iron ore ("DRI") using hydrogen is a new technology that seeks to eliminate CO_2 emissions from the reduction of iron ore in blast furnaces using coke. If sufficient quantities of hydrogen manufactured from renewable sources can be accessed and if a DRI furnace can be paired with an EAF for the second stage of the process that is also powered by renewable energy, CO_2 emissions from steel production can be largely eliminated.

An alternative pathway to reduce CO_2 emissions is the use of electrolysis. RHI Magnesita has partnered with Boston Metal to provide refractories for prototype molten salt facilities which operate at temperatures of around 1,850°.

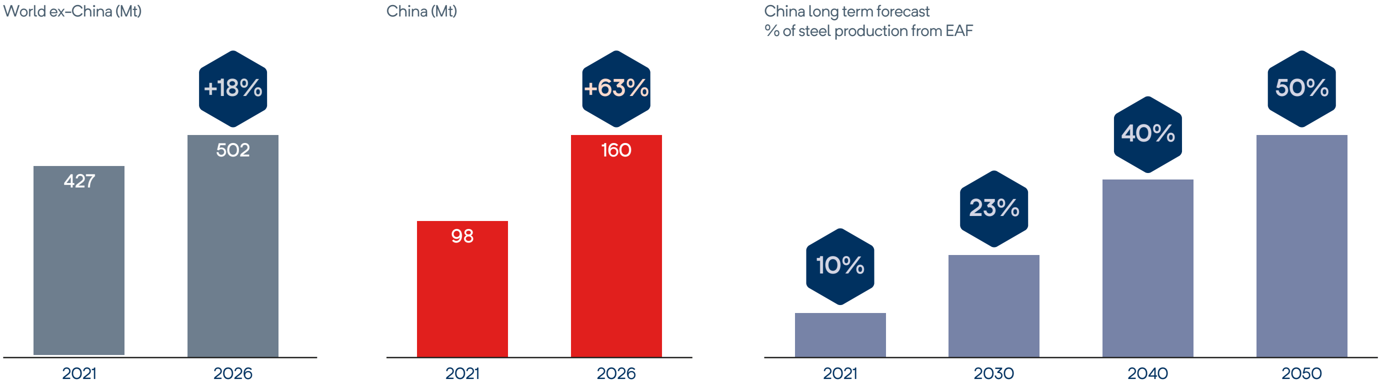
Existing process



Tonnes CO_2 per tonne of steel



EAF steelmaking by region



The future of refractories

Recycling

RHI Magnesita is leading the refractory industry in the use of secondary raw materials. For every tonne of waste refractory material that we re-use, we can save two tonnes of CO_2 emissions which would otherwise have been emitted in the extraction and processing of new raw material.

Historically, the use of secondary raw material in the industry has been limited because of the reduced effectiveness of refractories made with recycled material. RHI Magnesita has developed new technology for using secondary raw material without impacting performance.

The Group's recycling target is to increase use of secondary raw material to 10% of raw material by 2025 and in 2021 this increased to 6.8% (2020: 5.0%). Due to the geogenic CO_2 emissions and energy consumption involved in the processing of new raw material, increasing the recycling rate is an effective route for the Group to reduce its CO_2 emissions in the short term.

Carbon capture and utilisation

RHI Magnesita is investing €50 million over the next four years to develop new technologies for capture and then storage or utilisation of CO_2 emitted during the refractory production process. The majority of emissions are released in the raw material processing phase and are reported as Scope 1 emissions for material sourced from our own mines and Scope 2 emissions in respect of externally purchased raw material.

In 2021 the Group signed a memorandum of understanding with Australia based technology company, Calix Limited, to develop a Calix Flash Calciner at an RHI Magnesita site for the capture and storage of CO_2. This technology is one of a number of different routes that the Group is evaluating to capture geogenic CO_2 emissions.

RHI Magnesita is leading the refractory industry on this vital sustainability issue, which will be an increasingly important consideration for our customers in the future as they also seek to reduce the environmental impact of their activities.

Recycling rate

2021	6.8%
2020	5.0%
2019	4.6%
2018	3.8%

Industry leading recycling technology

Relative CO_2 emissions: (t CO_2/t)

2021	1.82
2020	1.96
2019	1.85
2018	1.89

Carbon capture and storage R&D projects

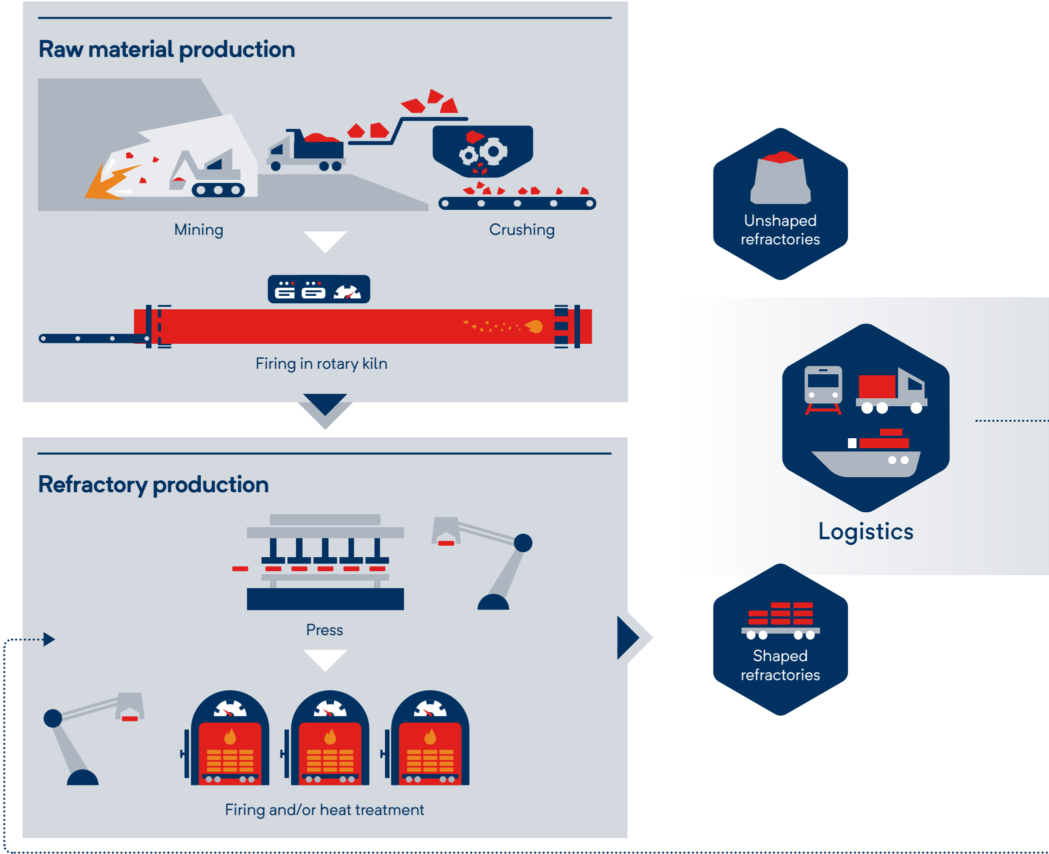
Business model

What we do

We offer our customers high-quality refractory products, supported by industry-leading R&D and underpinned by our vertically integrated structure which provides security of supply of low cost, high grade magnesite based raw material.

Our end-to-end value chain includes the mining and processing of raw materials, the mixing, pressing and firing of refractories, logistics, design, installation, monitoring, recycling and disposal. Our suite of digital products provides our customers with unrivalled intelligence and insights into the refractory lifecycle at their plants, improving productivity and driving efficiencies. Our comprehensive product range and expertise enables us to offer full heat management solutions to customers who are seeking to improve production efficiency and lower their costs and environmental impacts.

Refractory products are used in all high-temperature industrial processes. Without refractories, key industries such as steel, cement, metals, glass, energy and chemicals could not function. Refractories withstand hostile conditions including heat and chemical corrosion, maintaining their form and function at temperatures over 1,200 °C. They protect equipment such as furnaces and kilns against thermal, mechanical and chemical stress.



Our value chain

Innovation, research and development

One of the fundamental drivers of our business model is innovation and R&D, supported by strong internal expertise in materials technology and digitalisation. The Group continues to drive innovation, with significant opportunities identified in the fields of automation, robotics and sustainability, and aims to devote 2.2% of revenues per year to R&D and Technical Marketing. Investment in R&D and Technical Marketing in 2021 was c.€63 million, representing 2.5% of revenues.

High-quality raw materials sourcing, production, recycling

With the highest level of vertical integration in the industry, including significant self-sufficiency in key raw materials, we have a unique ability to cover and service every step of the value chain, and offer distinctive customer solutions based on our technological leadership, expertise and cost competitiveness.

Our low-cost raw material assets make a significant contribution to Group margins compared to the cost of acquiring equivalent raw materials from external suppliers.

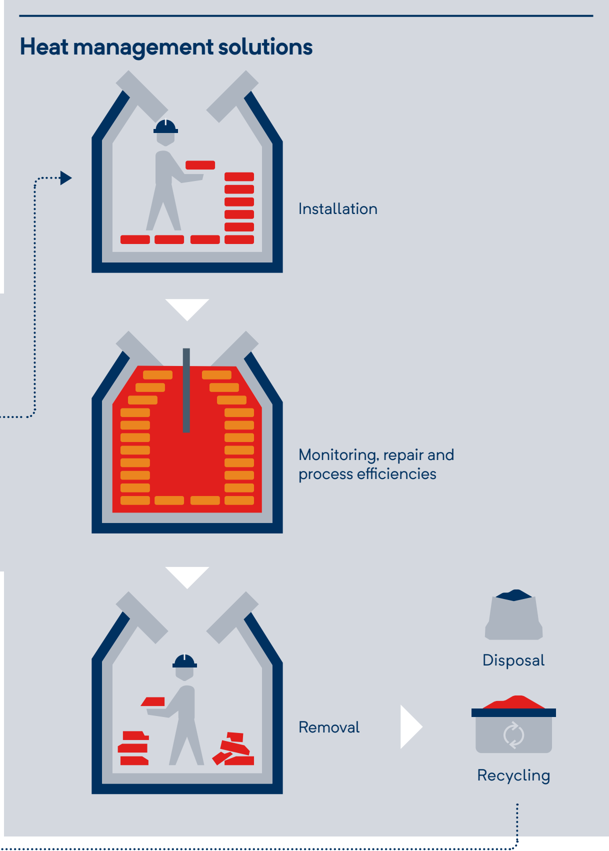
One of the most important raw materials for refractory production is magnesite, a mineral that we mine in both underground and surface mines. Magnesite ore is crushed and fired at 1,800°C in special kilns. During this process, CO_2 is released and density is increased.

Production of refractories

Raw materials are mixed and combined with technical additives to be sold as mixes or are further processed into shaped refractory products. Shaped refractory bricks are pressed into different sizes and shapes depending on the specific application, employing pressures of up to 3,200 tonnes.

After pressing, shaped refractory bricks undergo heat treatment at temperatures of up to 350°C and may be further subjected to firing at 1,800°C in tunnel kilns for a number of days.

Unfired products are primarily used in the steel industry, whilst the main applications for fired products are in the cement, non-ferrous metals, process and mineral industries.



How we generate revenue

We generate revenue from our global footprint spanning North and South America, Europe, China, India, the rest of Asia and the Middle East.

Around 70% of our revenue is generated from selling refractory products and solutions to our Steel customers, with the remaining 30% from the Industrial Division.

We sell a full suite of products tailored to customer requirements, with over 120,000 SKUs. Our main product groups include refractory bricks and mixes and flow control products such as slide gates, nozzles and plugs.

Our unique service offering is one of the key differentiators of RHI Magnesita. We are able to offer heat management solutions contracts which made up 29% of revenue in 2021 (2020: 27%). In our solutions business model, we partner with our customers to provide consultancy, engineering and technical capabilities, as well as other services such as installation and recycling, to drive efficiency gains for the customer.

Product marketing, sale and delivery

The Group has more than 70 sales offices worldwide and services customers in more than 100 countries. It has 28 main production hubs and 12 raw material sites, strategically located in order to serve its customers as efficiently as possible.

The closer we work with our customers, the greater the difference we can make for them.

Having a global network of offices, research centres and production sites is important to us, and to them.

We have differentiated scale, with a global customer base serving around 1,070 out of 1,300[1] steel plants.

1 Approximate number of plants worldwide excluding China, based on company estimates.

Installation, monitoring, and complex issue solving

A key component of RHI Magnesita's ability to add value lies in our solutions offering, which includes the installation, monitoring, repair and removal of refractory products at customer sites by experienced employees.

Digital monitoring products allow us to monitor refractory performance, safely extending the usable life of the refractory, whilst remote gunning solutions can carry out intermediate repairs during use.

After use in the customer's production process, residual refractory linings are removed and reused if possible as secondary raw materials in the production of new refractories. RHI Magnesita therefore operates across the entire cycle from raw material production to recycling of spent material into new finished products.

Stakeholder value creation in 2021

Shareholders
€1.50 per share paid as a dividend

—

Employees
€548 million in total gross employee pay

—

Customers
€745 million revenue generated in our solutions business model

—

Suppliers
€1.8 billion paid to suppliers

—

Communities
26% of committed community spend directed to emergency COVID-19 relief

—

Governments
€39 million direct cash taxes

Chairman's statement

The Board remains committed to the Group's three-pillared strategy to invest in improving its competitive position, expanding the business model and growing in new markets.

Herbert Cordt
Chairman

Leading the refractory industry

I am pleased to report that RHI Magnesita has successfully navigated another challenging year in 2021 whilst continuing to make the structural improvements which are necessary to grow our leadership position in the global refractory industry.

Sustainability is a key priority for the Board and the Group is making considerable progress towards its 2025 sustainability goals, whilst investing in new recycling and carbon capture technologies which will make it possible to materially reduce CO_2 emissions in the longer term. The Remuneration Committee has linked management incentives to improving our sustainability performance and the Board is satisfied with the progress that has already been achieved. Transitioning to sustainable business practices will be the next "industrial revolution" and RHI Magnesita is committed to extending its leadership in this vital area.

Board changes

I am pleased to welcome five new Directors to the Board this year, comprising three independent Non-Executive Directors and two employee representatives: Jann Brown, Marie-Hélène Ametsreiter, Sigalia Heifetz, Karin Garcia and Dr. Martin Kowatsch. Ms. Garcia and Dr. Kowatsch were appointed by the works councils representing our employees in Spain and Austria, respectively. We have therefore taken positive steps forward in improving gender diversity in 2021, with 38% female representation at Board level at the year end and 22% in the Executive Management Team and direct reports.

The skills and expertise of these new Directors will be a valuable and complementary addition to the Board, bringing experience in finance, governance and sustainability combined with technology, innovation, digitalisation and relevant international experience in our target markets.

Following these changes in the year, the Board now has an optimum balance, representing the interests of our key stakeholders with employee representative directors, directors representing major shareholders, executive directors and independent non-executives. You can read more about the composition of the Board in the Corporate Governance Statement in the Annual Report.

Board review

Each year we carry out a review of Board effectiveness to assess our performance and make appropriate improvements, to maintain high standards of corporate governance. This exercise is a high priority for me personally and I am pleased to include the findings and recommendations from the review in the Corporate Governance section of this Annual Report.

Dividend

The Board has recommended a final dividend of 1.00 Euro per share in respect of the financial year to 31 December 2021. This level of dividend is aligned with our policy to maintain dividend cover of below three times adjusted earnings whilst taking into account the other funding requirements of the business as we manage capital expenditures, M&A spend and gearing levels through this important period in our strategic development.

Strategy and outlook

The Board remains committed to the Group's three-pillared strategy to invest in improving its competitive position, expanding the business model and growing in new markets where we are currently under-represented, in particular through M&A which has the Board's full support. The challenges posed by the COVID-19 pandemic in 2020 and the subsequent very significant and unexpected supply chain disruption in 2021 have not diverted us from these goals and we were pleased that the Group reached agreement on the acquisition of SÖRMAŞ in Turkey in October. The Board looks forward to demonstrating the benefits of the Group's investment programme from 2022 onwards, as the projects which make up the Production Optimisation Plan are completed and begin to deliver significant value to shareholders.

Read more about our Strategy
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CEO review

Stefan Borgas
CEO

Demand for refractory products and services was strong in 2021 as our customer industries began their recovery from the 2020 downturn caused by the COVID-19 pandemic much faster than was anticipated. This created an unprecedented strain on global supply chains, which led to a significant increase in costs and logistics lead times.

Our reaction to these challenges has been comprehensive and included the allocation of additional resources to planning and logistics, a significant increase in inventory levels, use of air freight where necessary and multiple price increases during the year to restore margins by passing on additional production and shipping costs to our customers.

People and culture

Our people and culture are the cornerstone of our achievements and without a strong team ethos and individual accountability we would not have been able to respond to the significant challenges we faced together in 2021. Our colleagues in logistics, planning, procurement, operations and sales functions deserve special praise for their efforts this year in responding to widespread disruption to global supply chains and prioritising the needs of our customers.

Delivering our strategic initiatives

Although some investment projects have been impacted by cost inflation and minor delays, logistical difficulties have not materially impacted on the delivery of our long-term strategy. We have improved our competitive position through SG&A savings and the Production Optimisation Plan, which is advancing our "local for local" production strategy whilst preserving scale benefits from our global footprint. We have delivered further growth in our solutions business, in Flow Control sales and in target markets where we are seeking to increase our market share. Progress has been accelerated through M&A, a key pillar of our growth ambitions, with the agreement to acquire SÖRMAŞ in Turkey and the establishment of a new joint venture in Chongqing, China to widen our product range for cement customers in the region.

Innovation and sustainability leadership

We have an excellent track record in health and safety, with a Lost Time Injury Frequency Rate of 0.18 (2020: 0.13), despite many of our employees working in environments with significant occupational hazards and as we have delivered close to record high production volumes. The safety of our people in the workplace will always be a core value for us.

RHI Magnesita is already the leading global supplier of high-performance refractory products, systems and solutions. We are increasingly adding digital products alongside our core offering which differentiate us from competitors and enable us to offer full heat management solutions. Solutions contracts grew to represent 29% of Group revenues in 2021 (2020: 27%).

We also lead the refractory industry in all areas of sustainability. No other refractory producer is taking the same steps as we are to increase the use of secondary raw materials and to reduce and capture CO_2 emissions. Our efforts to increase recycling of refractories offer major benefits through improved waste management and the avoidance of CO_2 emissions that would otherwise be released in the processing of new raw material. To make this possible, we have developed proprietary technology for achieving high levels of performance from recycled refractory material. We are also investing €50 million over the next four years in the research and development of new technologies to reduce and capture CO_2 emissions released during the materials manufacturing process chain.

Our product portfolio is uniquely positioned to benefit from the shift to lower CO_2 emitting processes in our customer industries. In steel, we are global leaders in the supply of specialised refractories for electric arc furnaces and stand to benefit from the ongoing transition towards this technology, which will be a key enabler of the decarbonisation of global steel production.

Our commitment to improving our sustainability performance was demonstrated this year by the linking of the margin on over €1 billion of new or existing debt facilities to our EcoVadis rating, which improved to "gold" from "silver" this year.

We are leading the industry on these issues because of the wider benefits for all stakeholders but we are also increasing the value of RHI Magnesita's products and services to our customers. We believe the value attached to sustainable business practices will translate into market share opportunities or pricing advantages in the future, as we extend our leadership position relative to our competitors.

Financial and operational performance

The Group delivered adjusted EBITA of €280 million in 2021, in line with the adjusted guidance range issued in October. Profitability improved materially during the fourth quarter as the Group benefited from multiple price increases offsetting over €150 million of additional costs, mainly from higher freight rates, logistics, purchased raw material and energy costs.

Sales volumes in 2021 were ahead of our initial expectations, reflecting strong demand from our customers and the strength of underlying end markets in construction and machinery. To meet this high demand we had to deliver additional volumes from our production facilities while deploying the largest investment programme in the Company's history at most of our key sites across the network.

Unplanned downtime at Radenthein in the third quarter impacted EBITA by around €8 million as customer shipments of high margin refractories for use in non-ferrous metals and steel applications were delayed. In these difficult circumstances, with local supply chain bottlenecks adding to planning complexity, it is a huge credit to our people that we nevertheless managed to deliver a 15% increase in shipped volumes versus 2020 and 1% above the volume achieved in 2019.

Key strengths and outlook

RHI Magnesita is uniquely positioned within the refractory industry as a leader in technology, including digitalisation and sustainability. A key differentiator of our business model is our vertical integration in the supply of magnesite based raw materials, with assets in the first quartile of the cost curve giving us security of supply over c.70% of the magnesite and dolomite that we consume and higher margins compared to non-integrated peers, especially during periods of elevated raw material prices.

In the fourth quarter, energy shortages in China significantly increased the cost of externally purchased refractory raw materials. Whilst this cost pressure has eased in the first months of 2022, magnesite, dolomite, alumina and fused raw material prices remain above 2021 averages and this has increased pricing for finished refractory products across the market. The higher raw material price environment supported refractory price increases of €127 million during 2021 and combined with initial savings from our cost optimisation initiatives to restore the Group's EBITA margin to 12.5% in Q4.

2021 was the peak year of capital expenditure on our Production Optimisation Plan and we have already completed works at our Hochfilzen, Urmitz and Vizag plants. As we move through 2022 we will complete plant upgrades, expansions and modernisation work at Veitsch, Radenthein, Contagem and Brumado which have been delayed slightly due to global supply chain problems and labour shortages. As the new facilities ramp up we will see material cash flow benefits from these fast-payback projects and establish a higher EBITA margin that we believe is sustainable in the long term.

Whilst uncertainty and volatility will remain ongoing features of global markets, we are well positioned to navigate any new challenges that 2022 will bring. This is mainly thanks to the commitment and dedication of our employees, as well as the major investments and restructurings we have undertaken to improve the cost position and efficiency of our business over the last three years.

Our strategic framework

RHI Magnesita's strategy is based on three pillars, supported by our people and culture. Our strategic goals are to improve competitiveness through cost reductions and network optimisation, to grow revenues and margins by expanding the business model and to increase market share in new geographies or product areas where the Group is currently under-represented.

Each strategic pillar represents an opportunity to deliver significant long-term value for shareholders, building on the Group's existing global footprint.

Our strategic priorities

Competitiveness

Reduce operating costs
The Group's cost saving initiatives are targeted to deliver €110 million of annualised EBITA contribution by 2023, which will largely comprise €30 million in SG&A savings and €65 million of annual benefit expected from the Production Optimisation Plan.

Business model

Expand the business model
RHI Magnesita aspires to lead the refractory industry through its extensive product offering, pioneering technology and leadership capabilities in research and development.

Markets

Grow market share in geographies and products where we are under-represented
The Group has c.15% market share (c.30% ex-China and East Asia) within a c.€20 billion global market. The Group is actively seeking out strategic new organic growth and consolidation opportunities in target geographies and product groups such as flow control.

People and culture

Enablers of our strategy
Hire, retain and motivate talent and nurture an innovative, open, pragmatic and performance-driven culture.

Sustainability

Sustainability leadership
Sustainability is integral to the accomplishment of the Company's strategic priorities.

Progress	Outlook	
The Production Optimisation Plan progressed well in 2021, with projects largely on-time and on-budget. In Brazil, the Contagem and Brumado project capex estimates have increased, largely due to capex inflation, and there has been a slight delay to the forecast completion date of Brumado, nevertheless the project economics remain attractive. A cumulative EBITA contribution of €22 million from projects already completed was recognised in 2021 — The Group achieved its SG&A reduction target in 2021, realising an EBITA run rate saving of €29 million per annum	Complete the Production Optimisation Plan by the end of 2023 to deliver €65 million of annual savings, and €45 million in 2022 — Maintain low-cost position of raw material assets to capture additional value from vertical integration in a higher raw material price environment	See **Page 16**
Expanded the business model through increased solutions contract revenues — Increased sales of digital products and services — Increased recycling of waste refractories	Continue to grow our service offering and new products — Deliver €40 — 60 million of EBITA contribution from sales strategies in 2023 with c.€30 million in 2022	See **Page 18**
Maintained strong market share in core markets North America, South America and Europe — Organic growth in new markets China, India and Flow Control — "Local for local" strategy progressed, through decentralising global functions and creating regional production hubs — Strengthened market position in under-represented business segments — Acquisitions in Turkey and China	Continue to grow the Group's position as the global leader in refractories through maintaining core market share and through actively pursuing value accretive M&A opportunities, supported by organic growth in target markets	See **Page 20**
Strong cross-functional collaboration efforts to overcome supply chain challenges — Supported an innovative, open, pragmatic and performance-driven culture within the organisation	Continue to develop a workforce of tomorrow at RHI Magnesita, equipping our people with the necessary skills required to face digital disruption, decarbonisation and external market volatility	See **Page 22**
CO_2 capture R&D ongoing — Recycling rate now at 6.8% — Market leader in EAF refractories, essential for steel emissions reduction	Further increase in Group recycling rates towards 10% goal, with associated CO_2 emissions savings — Work with our customers to reduce their CO_2 emissions by applying our leading digital solutions and advanced refractory products — Improve gender diversity in senior roles	Read more in Sustainability **Page 56** Read more in An industry leader in addressing carbon emissions **Page 9**

Strategic progress in action

Competitiveness

Execute cost reductions

Cost-competitive global producer of technologically advanced refractory materials with safe production network and a focus on sustainable value generation

EBITA run rate cost savings by 2023

€110m

EBITA margin

11.0%

2020: 11.5%

Refractory production and raw material optimisation

In 2019, the Group announced its Production Optimisation Plan to address the challenges such as transferring capacity from high-cost locations to lower cost locations, ensure production close to raw materials and customers and to upgrade and specialise the plants through creating centres of excellence. The Group achieves this through three focal areas: consolidation of existing capacity, plant specialisation by investing in automation and digitalisation and raw material optimisation.

Investments to upgrade the production network are progressing with slight delays, with full benefits being realised in 2023 rather than 2022. Once complete, it will improve the Group's cost position and delivery capabilities significantly, as new facilities start ramping up in 2022. The Group's capital allocation policy underpins its investment programmes, and each of these individual projects within the programme of work delivers very demanding internal rates of return. These investments will improve Group operating margin and contribute €45 million of run rate EBITA savings by 2022, and €65 million by 2023. EBITA run rate benefit will now be fully realised in 2023 given the project delays at Brumado and the decision to extend the operation of Mainzlar through 2022. When complete, it will provide a strong platform for 2023 and beyond through its unrivalled production network. The production facility investments will contribute to refractory margin accretion, geared towards the Group target of a mid-teen EBITA margin over the medium term. Its raw material optimisation should drive efficiencies in its raw material assets, increasing the vertical integration margin to 3-4 ppts by 2023.

In 2021, we completed the investment project at Hochfilzen site, Austria. The investment at Hochfilzen will consolidate European dolomite production into a single low-cost site which will supply a new portfolio of internally sourced dolomitic raw material, following the decision to exit our partnership with Joint Venture, Lhoist, Belgium. The Group's vertical integration in Hochfilzen will deliver an alternative supply of high quality, low cost dolomite whilst increasing the output of raw material and extending asset life. The Group commenced dolomitic raw material production in Q4 2021, and construction of the new rotary kiln at the site completed in Q4 2021 and will continue to ramp up output in 2022.

At the plant in Valenciennes, France, the Group made progress towards expanding and upgrading the Company's only European plant to produce fired dolomite bricks. This plant investment includes the installation of an additional press and a technical upgrade of the powerful tunnel kiln, inaugurated in September 2021.

We endeavour to achieve cost leadership in every regional market by optimising our global portfolio of low-cost raw material assets.

Rajah Jayendran
Chief Operations Officer

During 2021 the Group continued to advance its fully automated production facility at its Radenthein site, Austria, a flagship digital and automated plant. In June 2021, the new tunnel kiln at Radenthein was fired and inaugurated by Peter Kaiser, Governor of Carinthia. Additional automated presses and unmanned vehicles were installed which will drive efficiency savings and lower production costs, and together with the high performance of the new kiln, the plant production is expected to increase by 30%. In 2022, the Group will complete its capacity expansion of magnesia-based finished products, as well as its programme of reduced conversion costs.

At Brumado, Brazil, the Group's largest magnesite raw material asset, we have commissioned a project to replace eight vertical kilns with one rotary kiln, which will facilitate the development of new raw material sinters as well as considerably extending mine life, by more than double and enable the production of various dead-burned magnesia grades annually. The Brumado site is the lowest cost, highest quality producer of magnesite, and this project will further increase its competitiveness of magnesia-based products in the Americas and other regions. The Group has developed a new innovative method during the extraction process to maximise the magnesite output through using the tailings, which would have previously been discarded as waste. The site is well-positioned for ramping up raw material production in H2 2022, following a delay to the project due to COVID-19 restrictions.

At Contagem, Brazil, we are automating the production of magnesite based finished products, as well as increasing capacity by c.45%. Contagem will be well positioned to serve its customer base in the entire Americas region by the end of 2022. Across 2021, two new hydraulic presses were commissioned which will increase production efficiency and capacity, serving the steel, cement and glass markets. Civil works were concluded towards the completion of the new comminution line, with the installation due to complete in 2022. The Group is commissioning new grinding lines, where Contagem will be able to grind electric-fused magnesia, as well as the magnesia raw material it currently processes from its raw material asset, Brumado. This will increase productivity, product quality and stability, whilst lowering operating costs.

In Urmitz, Germany, the Group is modernising and expanding the plant to create a new hub for non-basic refractory products, as well as creating a flagship site for improved energy efficiency and recycling. In 2021, the Group advanced the installation of its tunnel kiln and is on track to ramp up production in 2022.

In 2021, the Group took the decision to delay the closure of its Mainzlar site in Germany, given an unprecedented strength of underlying demand in 2021, to ensure that the Group can continue to serve its European customer base as efficiently as possible. The decision was taken in order to maintain production capacity in Europe, whilst Radenthein underwent its planned plant maintenance as part of the Production Optimisation Plan, as well as unplanned schedule maintenance in Q3 2021. The Group consulted the appropriate unions during its decision making processes and has agreed to delay the closure until the end of 2022.

Mainly due to the high inflationary environment for project construction materials, some of the individual projects are expected to require higher capital expenditure during 2022 and 2023, however other parameters of the project have moved favourably, and the additional returns offset the higher capex such that the economics of the projects remain attractive. Therefore, in 2023 we expect to achieve €65 million of EBITA run rate benefit from the Production Optimisation Plan, an increase of €10 million from the original 2022 EBITA run rate target of €55 million.

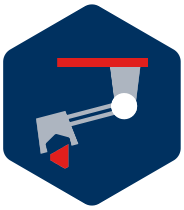
SG&A savings

In addition to the cost savings identified through the Production Optimisation Plan, the Group identified a further €30 million of SG&A savings during 2020, of which €29 million have been realised in 2021. We are enhancing regionalisation and decentralisation of managerial decision making, and restructured 540 head office roles into the regional areas, increasing accountability and accelerating decision making as well as reducing the cost base by relocating managerial roles to lower cost locations. This will enable us to direct SG&A expenses towards growth and innovation areas of the business as we continue to execute our strategy.

Vertical integration advantage

The Group continues to benefit from its vertical integration in basic raw material, and in 2021 the total EBITA contribution from its raw material assets was 3.2%. The Group's vertical integration is vital to its competitiveness, with c.70% of the Group's total magnesite consumption from its own internally sourced raw material, and c.50% of its total raw material by value. The Group strategically benefits from its certainty of supply and high-quality raw material at low cost. It benefits from its strategically positioned production sites, close to its raw material assets, which underpin the Group's "local for local" strategy. Its raw material assets in some cases provide unique products for specific applications in the market, with a bespoke blend of recipes unrivalled by its competitors given its portfolio of basic raw material sinters.

The raw material required for an electric arc furnace uses magnesite-based ore and RHI Magnesita is vertically integrated in this raw material. The AnkerHearth product series is used for the hearth of the electric-arc furnace, and uses the Group's unique alpine sinter, which is mined at Hochfilzen, its raw material asset in Austria. The product has proven to be the clear market leader given the excellent specifications of the sinter, positioning RHI Magnesita as a leading refractory partner of choice in the green transition of the steel industry.



Enhance business model

The leading service and solutions provider in the refractory industry, with an extensive portfolio based on innovative technologies and digitalisation — the building blocks for a strong and sustainable future.

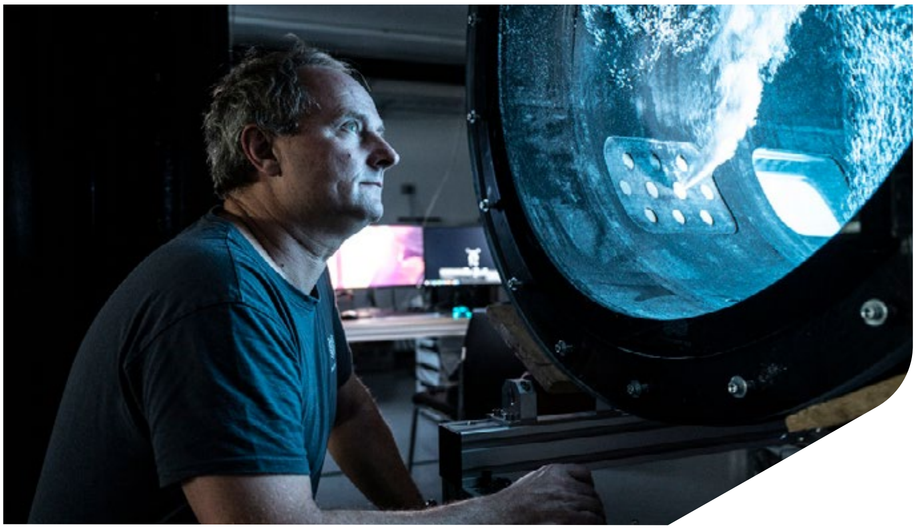
Sales strategies EBITA run rate savings by 2023

€40-60m

Revenue from solutions contracts

29%

27% in 2020



Solutions business model

The Group's solutions business model is a key component of the Group's sales initiatives, which will deliver c.€30 million of additional EBITA by 2022, and €40-60 million by 2023 given delays related to COVID-19 restrictions. In the solutions business model, we partner with our customers, providing consultancy, engineering and technical capabilities, as well as other services such as installation and recycling, to drive efficiency gains for the customer. The Group then benefits from higher margin solutions packages over the medium term as well as capturing market share. We are committed to derive 40% of all revenue from the solutions business model by 2025, and in 2021, the Group made good progress towards this target with 29% of all revenue derived from solutions contracts (2020: 27%).

Digitalisation at our customer sites

The solutions business model is augmented by RHI Magnesita's range of digital products, which increases our sales effectiveness through allowing an increasing level of transparency for the sales team as well as providing greater insights for the customer into their operations. This innovative approach enables a data driven and holistic sales method, disrupting the way the industry has traditionally done business. Increased use of digital tools at our customer sites also improves our customers' process efficiency and quality. These digital products are proving to drive greater market penetration in new markets, as well as defend market share in core markets with existing customers.

Following the successful roll out of the Automated Process Optimisation ("APO") tool (used in the steel and non-ferrous metals ("NFM") industries), used to improve predictability of lining wear rates, we developed a similar tool for the cement industry in 2021. In 2021, we successfully rolled out the APO tool to 20 customers, which is double that of 2020. We also successfully trialled the APO tool for cement at one major customer site. The APO tool is used by the customer to measure the wear rates of the refractory lining using lasers and infra-red thermo cameras. This creates a digital twin which can in turn predict maintenance cycles and lining durability, which enhances safety and reduces downtime. In 2021, we also celebrated the first installation of the Quick Check ("QCK") in USA, innovative image processing technology which can be used to monitor the lining wear measurements. In 2021 the Group also introduced to its digital product portfolio the Mechanical Kiln Audit, a novel way to evaluate the mechanical condition of a rotary kiln. This enables the customer to improve maintenance measures and to optimise the refractory layout as well as installation procedures. The audit supports early detection of upcoming issues so that cost-effective preventative maintenance can be carried out.

We introduced the ladle slag model in 2021, where RHI Magnesita, working with its customers, discovered a novel solution whereby customers can perform adjustments of the slag within the ladle furnace. The ladle slag model provides more accurate calculations that allow for faster decision making.

We are constantly innovating to find new ways of supporting our customers and being the partner of choice in the refractory industry.

Luis Bittencourt
Chief Technology Officer

To ensure a seamless customer experience we have recently introduced connected machinery. Through connected machinery, our customers have end-to-end oversight of the refractory lifecycle in their plant through both data driven predictive maintenance and machine-driven warehouse management, based on measured refractory consumption and prediction of future consumption. Connected machinery can independently trigger material orders and maintenance cycles, and subsequently, Radio frequency identification ("RFID") technology can be applied to record and track all material movements.

Virtual reality has supported our ability to work effectively throughout the pandemic, and RHI Magnesita was able to conduct a virtual plant tour and audit using "Smart Glasses" from its ISO plant at Bonnybridge, Scotland, at the request of a customer in April 2021. The customer's representatives were afforded the opportunity to observe and ask questions about Bonnybridge remotely from their sites in Finland and Sweden. The outcome of the audit was positive, with the customer ordering a trial product from the plant.

Our sales teams are able to access their customer data holistically through the new CRM tool, which provides valuable information to the sales team through profiling the customer, based on historic data points, and they can then use this data to predict future customer requirements. Data obtained through our digital applications installed within the customer plants are then accessible through the portal, providing the sales team with a myriad of data points to support their decision making to drive profitability as well as generate efficiency savings for the customer.

Digital transformation in operations

In partnership with Rockwell Automation, the Manufacturing Execution System ("MES") was developed, which comprises computerised systems that are installed to track and document manufacturing processes from the raw material to the finished product. By fostering comprehensive real-time visibility, we will gradually optimise our production network and processes across the organisation. Radenthein, Austria and Dalian, China, our flagship digitalisation and automation plants are pilot plants to be transformed into "Smart Factories". Both of these plants started the implementation phase of the process in Q3 2021.

The underlying technology connects multiple locations, integrating machinery, equipment, quality management systems and other essential components of the manufacturing process. The MES will automate production planning, collect real-time data, increase overall manufacturing performance and speed up digital transformation and execution. The MES is scheduled to be complete in the two pilot plants by integrating with other automation and planning solutions in Q4 2022, and upon successful completion, will be rolled out more widely across the production network.

Recycling

Recycling and our circular economy approach are key to achieving our ambitious emissions reduction targets. The Group is targeting to increase its recycling rate to 10% by 2025 from 2018, which will be a significant driver of the Group's wider CO_2 emission reduction target of 15% by 2025. In 2021, we continued to focus on circular contracts with customers, and build technology leadership through our own R&D developments. In South America we made substantial progress, registering a record collection of spent refractories, thanks to the combined efforts of our dedicated circular economy team, partnering with the sales teams to provide waste disposal solutions for our customers. We signed a circular contract with Ternium CSA to dispose of 100% of the plant's spent refractory; we've collected more than 80% of the spent refractory produced by all cement companies in Brazil; and recently we purchased refractory waste for the first time in the glass industry, to better understand recycling technology from this product segment. The region achieved an 8% recycling rate in 2021.

The spent refractory material can then be used in new products as secondary raw materials, such as in the low-carbon product ANKRAL LC series. By including secondary raw material, these products then have a significantly lower CO_2 footprint whilst maintaining the technical specification and high performance of a product made using virgin raw material.

Innovation and R&D

Underpinning the business model is the Group's ability to innovate and adapt its products and services to best serve its customers' evolving needs and requirements. Our industry-leading R&D team is fundamental to the strategy and long-term aspirations of the Group, with a 563 workforce which includes a combined total of 148 PhDs and masters, across five technology centres.

The Group committed 2.5% revenue to R&D and Technical Marketing in 2021 and achieved 16% of total revenue from new products in the last three years (2020: 16%). We are committed to protecting the integrity of our expanding intellectual property, and currently have 1572 active patents and 1,707 active trademarks globally.

The Technical Advisory Committee (TAC) was established in 2018 and includes representation from senior external professionals, R&D and technical marketing teams. Board directors have also attended TAC meetings on occasion to learn more about areas of innovation. In 2021, the TAC considered the topic of high temperature sensors for harsh environments and external experts were invited to evaluate how we could utilise technologies from extreme environment applications for supporting the development of our future sensor technologies.

We are constantly innovating and pioneering the production of both raw materials and refractories. An example of this is the Spinosphere technology used in our ANKRAL-X series, with its unique characteristics in terms of clinker-melt resistance and flexibility for rotary kiln bricks. In March 2021, we celebrated the opening of the new Spinosphere Tower at our Veitsch site in Austria, which is fully integrated into the already existing fully automated mixing plant in Veitsch to maximise capacity, increasing the competitive advantage of the plant.

We recognise the importance of adapting to a changing world, which involves more digitalisation, increased connectivity, disruptive technologies and a requirement for more sustainable products and processes. For this reason, we have developed a 15-year innovation roadmap, ensuring that we continue to lead the industry through pioneering technology. We have identified eight innovation fields and areas which will be of focus, including recycling, pioneering production routes, hydrogen compatibility, new refractory solutions, new flow control solutions, new mining and carbon capture and utilisation. The carbon capture and utilisation project was launched in 2021, and we aim to have the technology solution by 2025 which will create the path for a full decarbonisation of the Company.

Read more on our Climate strategy
Page 61

Strategic progress in action

Markets

Drive market leadership

The Group has c.15% global market share (c.30% ex-China and East Asia) within a c.€20 billion industry, worldwide presence with strong local organisations and solid positions in all major markets.

Revenue from India and China in 2021

18%

2020: 16%

Enhancing regionalisation

RHI Magnesita's refractories business is driven by our core customer markets; Steel, Cement & Lime and a variety of other industries like non-ferrous metals, glass, foundry, energy, environment and chemicals and aluminium. Their demand is driven by construction (45%), automotive (17%), electronics and consumer goods (15%), machinery and equipment (10%), energy, oil and gas (5%), and others (8%). Currently, RHI Magnesita has a c.15% market share globally (c.30% ex-China and East Asia) within a €20 billion industry; it commands worldwide presence within strong local organisations and solid positions in all major markets.

Underpinning our strategy within these markets are key megatrends, which will influence the strategy and ultimately shape the Company in the future. The trends shaping our industry today include continued growth in Asia (ex-China), the decarbonisation of industry and transport, connectivity and digitalisation, automation and artificial intelligence, volatility and regionalisation.

The Steel Division contributes c.70% of Group revenue, and demand for refractory products correlates with steel volumes. In 2021, global steel production increased by 4-5% driven by the strong economic rebound following the impact of the pandemic during 2020, with the V-shaped recovery in steel demand exceeding expectations, especially in emerging economies. Strong demand was driven by global fiscal stimuli of over $20 trillion as part of worldwide COVID-19 response. Fiscal stimuli packages will particularly benefit construction projects globally, main drivers for our Steel and Cement businesses, and consumer demand for durable goods, a key consuming sector for Steel, Stainless Steel and NFM. However, the sharp rebound of demand has led to supply chain disruption in logistical costs including freight, raw material availability and labour shortages, leading to unpredictability in our value chain and longer production lead times. The supply chain issues materially impacted both RHI Magnesita and also its end markets, particularly automotive. Automotive experienced a surge in customer demand during 2021; however, given the tight supply of semiconductor microchips, steel and other key inputs, production of Automotive materially softened in H2 2021.

By decentralising decision making to the regions, we aim to become more flexible, adaptable and responsive to evolving customer needs.

Gustavo Franco
Chief Sales Officer

Growth markets

RHI Magnesita's end market growth rates excluding China are between 1-2%. The Group has therefore identified pockets of growth which represent a strategic opportunity in market regions such as India, China and Turkey, as well as in the product segment, Flow Control and non-basic. The Group's approach to M&A is to capture value-adding consolidation opportunities in under-represented markets. The Group has a disciplined approach to M&A and identifies targets with compelling synergies and a hurdle rate of 15% return on invested capital.

In China, the Group continued to make good progress in expanding its presence in both Steel and Industrial, with 20% revenue increase compared to 2020. With China being the unrivalled largest steel producer in the world, this market represents a significant growth opportunity for the Group. Despite total Chinese steel output being capped by government policies to 2020 levels, many new Electric Arc Furnaces are currently in the pipeline to start transitioning the Chinese steel industry to a modern CO_2 efficient state. These projects represent a major growth opportunity. The Group leverages its unique capabilities through its solution offering and digital applications compared to its regional competitors which generally have a more commoditised approach. In 2021 the Group successfully agreed two new solutions contracts. On 30 December 2021 the Group acquired a 51% ownership stake in "Chongqing Boliang Refractory Materials Co. Ltd." for a cash consideration of €5 million and an investment of c.€12 million in new production capacity, to be deployed in 2022 and 2023 with an IRR of over 25%. The acquisition and joint venture investment will establish output of non-basic refractories alongside a recently constructed and fully automated plant in Chongqing, China, that will complement the Group's existing magnesite-based operations in Dalian and deliver a full range of refractory products for cement customers in China and Southeast Asia.

The Group has agreed to acquire a 85% stake in Söğüt Refrakter Malzemeleri Anonim Şirketi ("SÖRMAŞ"), a producer of refractories for the cement, steel, glass and other industries in Turkey, for a consideration of €39 million in cash. The asset recorded €6 million EBITDA in 2020 and we expect to benefit from at least 30% EBITDA synergies. The acquisition will significantly expand the Group's locally manufactured product portfolio and serve as a production hub and platform for business growth in Turkey and the wider region. With an enlarged product portfolio, further potential stems from the opportunity to deliver full-line service solutions to customers in Turkey.

India continues to be a very attractive growth opportunity for the Group, maintaining second position as the world's largest steel producer in 2021, driven by domestic availability of raw material such as iron ore and competitive labour costs. The World Steel Association short range outlook forecasts that steel in India is going to grow significantly by 6.8% in 2022 given India's comparatively low per capita steel consumption which is expected to rise. This will be driven by increased infrastructure construction and the thriving automotive and transportation sectors. The creation of the single RHI Magnesita entity in India, following the merger of three separate entities, has created a strong platform in the India market, primed to benefit from the strong growth opportunity. Of production, 35% is supplied to customers in international markets, whilst 65% is consumed in India's domestic market. In October 2021 a new tunnel kiln was commissioned at the Vizag plant, India. The new tunnel kiln will increase the capacity of non-basic high alumina content refractory bricks by almost 20%. The Group also invested in capacity expansion of magnesia-based refractory products at its Cuttack plant, increasing production significantly, and freeing up local capacity in China. The Group will fully start to realise the benefits from its investments in its Vizag and Cuttack plants in 2022, in alignment with the market's considerable growth trajectory.

Core markets

RHI Magnesita is focused on defending and subsequently expanding its market share in core markets, Europe and the Americas, and is committed to further strengthening its position in these markets though its unrivalled solutions product offering, augmented by its advanced digital product portfolio. We remain the clear market leaders in the Americas, with approximate market share of c.65% in South America and market share of c.40% in North and Central America, thanks to the success of the solutions business model, and through its leading position in supplying electric arc furnaces. Market share in Europe is around 20% where we focus on our value optimisation strategy, delivering our suite of products as cost effectively as possible.

Flow control

Flow control systems play a crucial role on the continuous casting floor, as they ensure an uninterrupted and highly precise flow regulation from the ladle to the tundish and from the tundish to the mould. Our holistic approach in Flow Control reaches from ladle to mould, comprising all relevant aspects of the Flow Control process from systems, to refractories, to metallurgy. Our innovative solutions ensure the highest possible safety standards, whilst delivering better metallurgical results for our customers.

In 2021, we launched our first global, multi-channel Flow Control marketing campaign "Beyond Refractories". Starting in South America and Mexico, the campaign informs existing and potential customers about our Flow Control solutions packages for clean steel, safety, productivity, and green steel. It addresses key challenges in Flow Control and showcases how to master them by using RHI Magnesita's customised solutions. Thus, the campaign builds customer awareness and demonstrates ways to achieve steel of the highest possible quality, maximise safety in challenging working environments, drive process efficiencies and reduce their carbon footprint.

To find more information on the individual solutions, visit the campaign website www.beyond-refractories.com

Flow Control contributed €430 million of revenue in 2021 from (€380 million in 2020), and was broadly in line with 2019 revenue. Flow Control contributed 16.9% of Group revenues in 2021, broadly stable compared to 2020 (16.9%). However, 2021 revenue contribution from Flow Control was a marked improvement on 2019 (15.3%). We are delayed by one year in the Flow Control segment, given lack of access to customer sites during the COVID-19 restrictions. It is therefore well positioned to reach its target contribution towards the sales initiatives in 2023, rather than, as previously guided, in 2022. The sales initiatives will contribute a combined total EBITA run rate of €30 million by 2022, and €40 — 60 million in 2023.

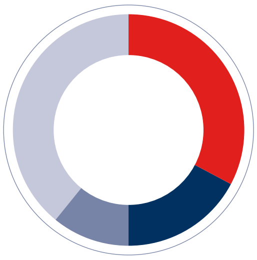
Strategic progress in action

People and Culture

The driving force of our strategy

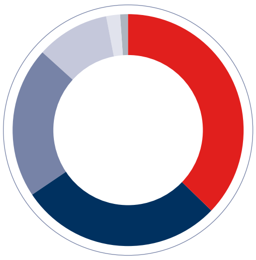
Our skilled, motivated people, our customer-centric culture and our strong stakeholder partnerships are critical to the long-term success of the Group.

Tenure



Up to 3 years	33%
From 4 to 6 years	17%
From 7 to 9 years	11%
Over 10 years	39%

Workforce



South America	37%
Western Europe	28%
Asia Pacific	21%
North America	10%
Near and Middle East	2%
Eastern Europe	1%
Africa	0%

Our purpose and culture support our strategy

Our purpose is to master heat, enabling global industries to build sustainable modern life.

Our culture has underpinned our foundations in supporting our business through another challenging year in 2021, where our workforce has continued to demonstrate the powerful elements of our culture, such as customer-focused pragmatism and performance, a philosophy at the heart of everything we do.

The culture is based on four segments. We boldly innovate to create value for our customers, by providing the best digital and sustainable solutions. Our open mindset and transparent way of working is centred around a diverse and inclusive business environment. We act pragmatically to enable fast and simple collaboration across functions and regions to serve our customers best. Our high performance is rooted in accountability and responsibility. We are a reliable and resilient partner that decides and delivers based on our customers' needs.

To reinforce our culture, we regularly host regional and functional townhalls, encouraging collaboration and an open dialogue between employees and senior leadership. Our three employee representatives directors provide an effective, direct voice in the boardroom on a range of issues, in particular those which directly impact the workforce, such as remuneration and any issues arising as part of the plant changes and closures from the Production Optimisation Plan.

Read more on how we engage with our employees
Pages 52 and 53

Creating the leaders of tomorrow

We foster employee development and recognise the unparalleled importance of creating the leaders of tomorrow in order to execute the strategy. We have improved our readiness in the workforce for more volatility, unexpected market changes and long-term disruption. Through various initiatives, we are equipping ourselves with the necessary skills required to prosper in a net-zero industry, grow our digital capabilities to create an increasingly data-driven platform and lastly, thrive in growth markets such as India and China.

In 2021, we rolled out the digital sales transformation programme, designed to enhance the digital analytics culture of the sales organisation across the globe through the CRM tool. This will equip the sales team with new ways to sell our solutions to customers. To be successful, digital mindset needs to be embedded into every aspect of business.

Our digital hub in Vienna, Austria, is dedicated to leading the refractory industry, from big data to blockchain in refractory applications, providing our customers with a market-leading digital offering to support our suite of products and services. Radenthein, Austria, is the most technologically

In order to progress our goal of digitalisation, we need the skills and pioneering culture to support technology.

Simone Oremovic
Executive VP People, Project and Value Chain

advanced plant in the global refractory industry and now serves as the new apprentice hub in Austria. The plant enjoyed its first full year of apprentice training in process technology in 2021, to supplement its core training programme and also launched its new training facility.

At the training centre in Leoben, Austria, we launched an academy to provide our employees and our customers with training in the installation of refractory bricks within the lime kiln. The trainings are based on the proven fundamentals from the highly successful cement courses at the centre but adapted to Lime specific elements. The training centre for cement at Leoben, celebrated its 10-year anniversary in 2021, offering state-of-the-art training, and over that time has shared specialist knowledge and experience with more than 550 customers from the cement sector, specialists from related industries and in-house professionals from various countries with over 50 courses having been held.

Supporting our workforce through a challenging year

During 2021, the Group's first priority in its COVID-19 response was to protect the safety and wellbeing of our employees and others that work alongside us. Our regional taskforces established in 2020 continued to work tirelessly during 2021, responding to challenges throughout the year on a regional basis and taking guidance from the World Health Organization ("WHO"), Centres for Disease Control and Prevention ("CDC"), local governments and other sources. We implemented a remote working strategy where possible in the corporate offices. We continued to implement safety protocols at our production facilities and offices worldwide, including the provision of personal protective equipment ("PPE"), infra-red camera temperature checks, increased cleaning, testing strategies and a global vaccination drive. In response to the devastating second wave in India throughout spring 2021, we deployed a focused vaccination drive in the region. The vaccination drive has meant that every employee of any age, their families and residents of communities nearby have been offered at least one dose of the vaccine, and in October 2021, 100% of employees in the Indian plants including contractual workforce, had received at least one dose. By December 2021, more than half had received two doses. The plant management and safety teams conducted vaccination initiatives at the plants including vaccination registration and support, helping to achieve its vaccination success rate.

We ensure that our employees are as protected as possible during the pandemic and we made a concerted effort in our vaccination drive in certain regions that were most affected and had less access to healthcare, like South America. By 31 December 2021, a total of 99% of the entire workforce in South America had received their first dose of a COVID-19 vaccine, and 81% of employees had received two doses.

Throughout this past challenging year, it has been more important than ever to make sure that our employees are offered support for mental health and wellbeing. To help support employees during this extraordinary time, we launched the Head Office (Vienna) based employee assistance programme, "Consentiv", which offers anonymous face-to-face services including counselling, coaching, mediation and conflict intervention for all Vienna based employees and their families. Outside of Vienna, we have partnered with local external providers around the world in order to offer support to our employees internationally. We believe in creating an organisation where everyone has someone to turn to for support with both professional and personal issues.

Building a diverse, equitable and inclusive workforce

The Group launched its first ever global graduate trainee programme in 2020, the "Refractory Factory", with our first intake now approaching the end of their 18-24 month leadership journey. Graduate trainees have worked on rotational assignments across Finance, Sales or R&D, participated in strategic growth projects and worked in at least two locations. The trainee programme is designed to bring young talent into our business, helping us to build a multi-generational workforce. Our latest graduate intake recruited during 2021 for 2022 included 21 trainees across 11 nationalities and with 57% female representation.

The Group is committed to increasing its gender diversity at leadership level, and in 2021 welcomed five new Directors to the Board, including three independent Non-Executive Directors and two employee representatives. Following these new appointments, Board female representation is now 38%. Currently, 22% of all senior leadership positions are held by females which includes the EMT and their direct reports. RHI Magnesita's goal is to increase the share of female leaders to 33% by 2025.

To help us succeed in the future we require the broadest range of talent and perspectives from a varied workforce, especially in terms of gender diversity, international representation and generation management. At RHI Magnesita, we are committed to offering inclusion to everyone, and discrimination has no place at our Company. To increase our efforts to expand diversity within our workforce, a dedicated Global Diversity Steering Committee was established in June 2021, followed by Regional Diversity Steering Committees in the regions. The purpose of the committees is to promote global and regional measures to increase diversity, keep track of progress and coordinate rollout with line functions. In December 2021, the Executive Management Team committed to executing a new and impactful diversity strategy with a greater focus on gender diversity in 2022.

Read more on diversity and inclusion
Page 65

Key performance indicators

The Board and management have identified the following indicators which it believes reflect the financial and non-financial performance of the business.

The non-financial information, as presented within the Director's Report, which in this document comprises the Strategic report and Governance section of this Annual Report, complies with the Dutch Disclosure of Non-Financial Information.

Link to strategy

- Business model
- Competitiveness
- Markets

Safety: LTIF

2021	0.18
2020	0.13
2019	0.28
2018	0.43

KPI relevance

Safety is paramount to the successful running of our business. Lost Time Injury Frequency ("LTIF") is the main indicator used to measure safety performance. The Group's goal is zero accidents.

How it is measured

The number of accidents resulting in lost time of more than eight hours, per 200,000 working hours, determined on a monthly basis.

2021 performance

LTIF was 0.18 in 2021 (2020: 0.13) and TRIF (Total Recordable Injury Frequency) increased slightly to 0.60 (2020: 0.45), broadly in line with industry averages. The rate of occupational injuries increased slightly compared to the prior year as staff returned to workplaces following the COVID-19 pandemic, production volumes increased and as the Group progressed construction projects at several of its sites as part of its network optimisation.

Relative CO_2 emissions (t CO_2/t)

2021	1.82
2020	1.96
2019	1.85
2018	1.89

KPI relevance

Climate change poses strategic and operational risks to our business, as well as opportunities. The Group's target is to reduce Scope 1, 2, 3 (raw materials) by 15% per tonne of product by 2025 (vs 2018).

How it is measured

Tonnes of total Scope 1, 2, 3 (raw materials) carbon emissions per tonne of product. Scope 1 emissions consist of on-site emissions, Scope 2 comprise purchased electricity, and Scope 3 are measured from raw materials production.

2021 performance

CO_2 emissions intensity reduced to 1.82 tCO_2 per tonne of product, compared to 1.96 in 2020. Higher Scope 3 emissions from externally purchased raw materials were offset by efficiencies from high plant utilisation, increased purchases of electricity from renewable sources, improved energy efficiency, higher use of secondary raw material and an increase in production of fused magnesia at the Group's Contagem site in Brazil using renewable electricity.

Use of secondary raw materials[1]

2021	6.8%
2020	5.0%
2019	4.6%[2]
2018	3.8%

KPI relevance

Recycling plays a critical role in achieving our 2025 emissions reduction target while also developing the circularity of our business. Our target is to reach 10% secondary raw material ("SRM") content in refractories by 2025[3]

How it is measured

Share of SRM content as a percentage of total raw materials.

2021 performance

SRM accounted for 6.8% in 2021, compared with 5.0% in 2021. The strong progress made during the year was due to new initiatives to increase collection and processing of material from customer sites combined with an internal incentive scheme designed to reward sales of refractories with higher recycling content.

1 A change in production volume reporting system has led to an adjustment to the 2018 baseline and KPI.

2 The value for the recycling rate for 2019 has been revised since the publication of the 2019 Annual Report.

3 Use of SRM has been added as a remuneration performance measure from 2021 — see page 121.

Voluntary employee turnover

2021	6.8%
2020	5.1%
2019	6.2%[1]
2018	6.6%

KPI relevance

Voluntary turnover is one way of measuring the Group's success in retaining its employees.

How it is measured

The percentage of employees who voluntarily left the Company during the year and were replaced by new employees.

2021 performance

Voluntary employee turnover was 6.8% for 2021, in line with historic averages but an increase on the rate of 5.1% recorded in 2020, when staff turnover was temporarily lower due to the COVID-19 pandemic and associated uncertainty in the global economic environment.

1 The 2019 figure has been restated due to a retrospective change to the basis of analysis.

Gender diversity in leadership

2021	22%
2020	25%
2019	17%
2018	12%

KPI relevance

Diversity is important in terms of maintaining our competitiveness and economic success, and gender diversity is our first priority. Our target is to increase female representation in senior leadership to 33% by 2025.

How it is measured

Number of women as a percentage of all those in leadership positions (CEO, EMT and EMT direct reports).

2021 performance

Female representation at leadership level decreased to 22% from 25%. The Group is pursuing a number of initiatives to increase female representation toward target level.

Revenue

2021	€2,551m
2020	€2,259m
2019	€2,922m
2018	€3,081m

KPI relevance

This demonstrates the growth of the business. By increasing our global refractory market share, continually enhancing our product and service offering, the Company is focused on achieving revenue growth and aims to outperform the refractories market on an annual basis.

How it is measured

Total Group revenue, as reported in the financial statements.

2021 performance

Revenue for 2021 amounted to €2,551 million, 13% higher than 2020 given increased customer demand driven by the rebound of end market activity, following the adverse impact of the COVID-19 pandemic in 2020.

Adjusted EBITA margin

2021	11.0%
2020	11.5%
2019	14.0%
2018[1]	13.9%

KPI relevance

EBITA margin provides a measure of profitability and demonstrates the successful execution of the Company's strategy.

How it is measured

Adjusted EBITA divided by revenue, as reported in the financial statements.

2021 performance

The Group delivered a double-digit adjusted EBITA margin of 11.0%, 50bps lower than 2020 due to increases in freight, externally purchased raw material and energy costs that were not fully passed on to customers during 2021.

Adjusted EPS

2021	€4.52
2020	€3.28
2019	€5.57
2018	€5.31

KPI relevance

Reflecting the income statement in a clear way and taking the equity structure into account, the Board believes Adjusted EPS to be one of the indicators which demonstrates shareholder value.

How it is measured

Earnings per share, excluding other financial income and expenses.

2021 performance

Adjusted EPS of €4.52 (2020: €3.28) reflected higher operating profits and a reduced share count due to the €98 million share buyback programme (thereof €96 million share buyback in 2021 and €2 million share buyback in 2020).

Leverage

2021	2.6x
2020	1.5x
2019	1.2x
2018[1]	1.3x

KPI relevance

Appropriate leverage provides the business with headroom for compelling investment opportunities but also enables shareholder distribution. The Board has defined a long-term leverage target range of 0.5 to 1.5x across the cycle.

How it is measured

Net debt to adjusted EBITDA.

2021 performance

Net debt to adjusted EBITDA was 2.6x at the year end, above Group's target range of 0.5-1.5x due to a material increase in inventory levels during 2021 to mitigate supply chain disruptions and high capital expenditure on strategic initiatives.

1 2018 was adjusted to include the impact of IFRS 16.

ROIC

2021	9.6%
2020	11.5%
2019	15.3%
2018	16.5%

KPI relevance

Return on invested capital (ROIC) is used to assess the Group's efficiency in executing its capital allocation strategy, which is aimed at enabling organic growth, disciplined M&A and shareholder returns.

How it is measured

Calculated as net operating profit after tax, divided by total invested capital[1] for the year.

2021 performance

ROIC decreased from 11.5% in 2020 to 9.6%, due to lower underlying profitability against comparative invested capital.

1 Invested capital is: total assets less cash and cash equivalents, other current and non-current financial assets and non-interest-bearing current liabilities.

R&D and Technical Marketing spend

2021	€63m
2020	€62m
2019	€64m
2018	€63m

KPI relevance

Excellence in R&D and strong Technical Marketing capabilities are key contributors to our competitiveness. This demonstrates our commitment to driving innovation and to being the leading provider of services and solutions within the refractories industries. The Company aims to invest 2.2% per annum of revenue in R&D and Technical Marketing.

How it is measured

Annual spend on research and development, before subsidies and including opex and capex.

2021 performance

€63 million was committed to R&D and Technical Marketing in 2021, equating to 2.5% of revenues, exceeding the Group's annual commitment of 2.2%.

Operational review

Strategic initiatives are progressing in building a strong and sustainable platform, despite a challenging supply chain environment.

- Revenue increased year on year by 13% to €2,551 million (2020: €2,259 million) and by 16% in constant currency terms, with shipped volumes now above 2019 levels
- €127 million price increase programme realised largely in Q4, to mitigate unprecedented supply chain disruption including higher freight, energy and purchased raw material costs
- Cost saving initiatives now expected to deliver c.€90 million of EBITA benefit from cost optimisations in 2022 and €110 million in 2023
- Sales strategies now targeting €40–€60 million in 2023 as Flow Control trials and solutions contracts delayed by lack of access to customer sites during pandemic
- Maintained strong market share in Electric Arc Furnace refractories, which generated 16.2% of Group revenues
- Digital products support growth in solutions contracts, now representing 29% of revenue

Steel Division

Steel revenue

€1,823m

2020: €1,570m

Steel gross margin

21.6%

2020: 23.4%

Revenue breakdown by geography in Steel Division

North America	28%
South America	15%
Europe/CIS/Turkey	26%
China and East Asia	11%
India, West Asia and Africa	20%

The Steel Division accounts for roughly 70% of Group revenues, and demand is driven by global steel production volumes.

Refractory products are used to line steel applications in the plant, to protect against the extreme temperatures of liquid steel of up to 1,800 degrees C. RHI Magnesita offers a complete product and service portfolio for all steel applications, including primary steelmaking such as basic oxygen furnace (BOF), electric arc furnace (EAF) and ladles as well as ingot and continuous casting. Refractories have a finite lifetime of between 20 minutes and two months in steel applications. They are consumable items and therefore treated as an operating expense by steel producers, accounting for between 2–3% of the cost of steel production, on average. The Division serves over 1,000 customer sites worldwide, with a global market share of c.15%, or c.30% excluding China and East Asia.

Steel Division revenues increased by 16% in 2021, to €1,823 million (2020: €1,570 million) reflecting the strong economic rebound globally following the impact of COVID-19 on demand in 2020. World Steel Association recorded an increase in global steel production of 4% in 2021 compared to 2020, and by 4% in 2021 compared to 2019. Comparatively, Steel Division revenues were down by 10% on 2019 (2019: €2,018 million). Gross profit for the Division was €394 million, 7% higher than 2020 (2020: €368 million). However, gross margin declined over the same period by 180bps, predominantly due to the adverse impact of supply chain disruptions which increased the cost of sales, and the timing of passing through cost increases to higher product prices into H1 2022.

Refractory production increased in 2021, in response to increased end market demand as economies started to re-open. However, plant production capacity was hampered by the construction work at some of our key plants, as part of the Production Optimisation Plan, which was further exacerbated by the supply chain disruption. Freight availability remained poor for the majority of the year, containerised shipping remained disrupted and tightness in this market is expected to continue into 2022. This heavily impacted the supply chain for both shipping raw material to production plants and finished goods to customer sites. Regions which rely heavily on raw material imports for refractory production and finished goods were impacted more severely by the supply chain issues, such as the India and West Asia steel region.

From Q2 2021, the Group implemented price increases across all business areas totalling €130 million to mitigate the increasingly inflationary environment and was successful in achieving 98% of these planned price increases in 2021, with further benefit expected in 2022. The price increase negotiations were supported by a generally higher product pricing environment during Q4, including raw material price increases.

Europe, CIS, Turkey

Total revenue for the year in Europe, CIS and Turkey amounted to €474 million, up 9% on 2020 (2020: €437 million). On a constant currency basis, revenues increased by 9% from €434 million in 2020. The Group's overall performance in the combined region was positively impacted by the recovery of the European steel market, as well as increases in market share and higher finished goods pricing given higher raw material prices in Q4. World Steel Association data recorded a 11% increase in steel production in the region compared to 2020.

The Group is making good progress in Europe in its strategy to consolidate its production footprint and drive efficiencies through automation and modernisation of plants. The Group invested €27 million at Hochfilzen, Austria in 2021 to transform it into a European hub for dolomite-based materials. In 2021, the new mine and automated conveyor systems were successfully commissioned, and the new rotary kiln became operational in Q4 2021. Production from the newly installed facilities is expected to ramp up over the first half of 2022.

Read more about our Production Optimisation Plan progress in the strategy section on pages 16 and 17.

As part of its digitalisation initiative, the Group signed its first Automated Process Optimisation ("APO") digital service contract, a cloud based real-time monitoring and maintenance system, with a central European customer on the operational performance of the RH degasser application, with security standards based on blockchain technology.

The Group made good progress in growing its solution business model in the region during 2021. The Group renewed a solutions contract with a longstanding customer in Poland for an additional five years, following an existing 10-year relationship. The Group also secured a large solution contract for a CIS customer, in joint collaboration with an OEM partner, for a BOF application, enhancing the Group's growth trajectory in this strategic market.

Aligned to the Group's strategy of growth in currently under-represented regions, the Group agreed to acquire in October 2021 an 85.2% ownership stake in Söğüt Refrakter Malzemeleri Anonim Şirketi ("SÖRMAŞ"), a producer of refractories for the cement, steel, glass and other industries in Turkey, for a consideration of €38.8 million in cash. The acquisition will significantly expand the Group's locally manufactured product portfolio and serve as a production hub and platform for business growth in Turkey and the wider region. With an enlarged product portfolio, further potential exists from the opportunity to deliver full-line service solutions to customers in Turkey.

In 2021, the Group also signed and implemented its first on-site recycling contract with Arcelor Mittal, France. The contract includes the sorting and re-use of spent refractories at the customer site. The on-site recycling facility will have the ability to sort more than 20,000 tonnes of material per year, with approximately a third of that expected to be eligible for reuse as secondary raw material, allowing the Group to both expand its solutions portfolio as well as driving its sustainability efforts. RHI Magnesita commits to help its partners to reduce landfill costs by increasing the share of secondary raw material into its own production, underpinned by applied R&D.

Operational review
continued

Americas

Total revenues for the year of €784 million in North and South America represented a 15% increase on 2020 (2020: €681 million), as domestic steel production enjoyed a strong rebound and steel production returned to, and in some cases exceeded, pre-pandemic levels. Strong demand for steel in the Americas is expected to continue into 2022 and beyond, following the announcement of a $1 trillion infrastructure bill in the United States that is expected to be directed towards new road and bridge construction. World Steel Association data recorded a 17% increase in production over 2020 in North America and 18% increase in South America.

On a constant currency basis, revenues increased by 21%, from €645 million in 2020. The Group experienced a FX revenues headwind, given BRL and USD weakened in 2021.

During 2021, the Group advanced its investment projects in Brazil, which are part of the Group's Production Optimisation Programme. At the Brumado mine in Brazil, the installation of a rotary kiln for magnesite production is due to complete in H2 2022. The investment will increase the life of the mine from 47 years to 120 years, and further improve the cost competitiveness of the mine which is already in the first quartile of the global cost curve for DBM raw material. The Group also continued its investment in the modernisation and automation of the Contagem plant, which will increase productivity and reduce costs, creating a magnesite hub for the Americas. This project is expected to complete in H2 2022. A new primary crusher in York, Pennsylvania, United States, (Americas dolomite hub), was installed and commissioned in 2021 after a multi-year €7 million investment. The new crusher will increase efficiency, reduce waste and extend the life of the dolomitic mine.

RHI Magnesita continues to expand its solutions contracts in the Americas, which accounts for approximately 41% of total revenues. In 2021, the Group secured a new full line solution contract with a major steel customer in Texas, United States, over a time period of two years, with 14 people on-site dedicated to refractory installation.

In 2021 the Group expanded its market position in Flow Control, with five projects commissioned over the year for slide gates and a further four confirmed for 2022. Production capacity in Flow Control was increased with an investment at York, United States, in a tundish working linings, as well as a new alumina-based production line and pre-cast nozzle line at Tlalnepantla, Mexico.

The Americas region demonstrated excellent traction in expanding its digital offering, a key part of the Group's overall sales strategy. Seven projects for laser measurement technology were successfully implemented, with a further three in the pipeline.

Initiatives to increase the percentage of recycled raw materials in our production chain have gained momentum in the Americas. In the month of March 2021, for the first time, we achieved a record 10.3% recycling rate at Ramos Arizpe, Mexico. R&D success enabled a change in the composition to include higher secondary raw material in the products of the basic and aluminous lines, without affecting performance. The Group has committed €1 million over 2022 with a two-year payback period towards developing Ramos Arizpe, Mexico, into the Group's first recycling plant in North America. This transformation will include a dedicated refractory waste purchasing team and new refractory waste crushing line.

China and East Asia

The China and East Asia region recorded revenues of €206 million in 2021, an increase of 23% on 2020 (2020: €167 million). On a constant currency basis, the Group recorded revenues of €164 million in 2020. World Steel Association data recorded a 1% decrease in production over 2020 in the combined region, where production in China decreased by 3%.

The Group performed especially well in the East Asia region, where revenues increased by 33% to €132 million from 2020 (2020: €99 million) reflecting the strength of the economic rebound in the region, especially within South Korea, Taiwan and Vietnam. China revenues increased to €74 million (2020: €67 million), as the Group continued to execute its strategy in developing new business and increasing market share. However, steel production in China was adversely impacted by the Chinese government's steel reduction policy implemented in H2 2021, environmental restrictions imposed ahead of the Beijing Winter Olympics and power shortages in Q4, which impeded production and reduced local refractory demand. China revenues increased by 10% to €74 million, from €67 million in 2020.

We are immensely proud of our newly established R&D centre in Bhiwadi, India, which will become our flagship R&D centre for flow control.

Parmod Sagar
President of India, Africa & West Asia

Over the next four years a key focus area for the Group will be to grow its market share in EAF plants, with an additional 75Mt of capacity in China expected by 2023. In 2021, the Group completed the start up of its first Quantum-EAF project in China with Pinggang. It also achieved a new record number of heats for the EAF plant at SJZ steel, driving efficiencies for the customer and contributing to the establishment of a new solutions contract.

As part of the Group's ongoing Production Optimisation Plan, a new temper furnace was installed at Dalian, China, which will approximately double capacity at that site. Additionally, the production plant installed a new Flow Control production line for purge plugs.

Dalian, China, is home to one of the Group's first Manufacturing Execution Systems ("MES"), a flagship site for the Group's digitalisation initiatives. The MES project was initiated in August 2021 and is due to complete during H2 2022, which will optimise operation of machinery, improve safety and reduce costs. The Group also implemented a new RFID-enabled warehouse in Chongqing, China. RFID technology allows customers to achieve real-time, virtual inventory management of consignment stock.

The Group initiated an on-site recycling solutions contract with a major Chinese steel customer in 2020, and following strong performance during 2021, will now commission the project as a global pilot given its efficient and cost-effective sorting, treatment and recycling processes.

India, Africa and West Asia

Total revenues recorded for the year in India, Africa and West Asia was €359 million, an increase of 26% compared to 2020 (2020: €285 million). The combined region recorded significant volume growth in 2021, with sales volumes higher than in 2019. On a constant currency basis, revenues increased by 30% (2020: €275 million). By comparison, India, Africa and West Asia steel production increased by 15% in the period according to the World Steel Association data. The strong revenues performance was due to a robust economic rebound in the combined region, despite the strict COVID-19 lockdown in India in H1 2021.This was supported by the financial stimulus programme in India for infrastructure development. Demand for steel exports from India have also increased, increasing refractory demand in the region, as production in China slowed. This trend is expected to continue into 2022.

Outside of India, the Group continued to partner with its solutions customers in Bahrain and Oman, helping to drive production efficiencies. The Group won market share in Iraq and Algeria and expanded its business in Egypt.

In India, the region has expanded capacity in non-basic shaped products at the Vizag plant as part of the Production Optimisation Plan. A new tunnel kiln was commissioned in October 2021 which will increase capacity of alumina brick production and a new shuttle kiln at the plant was installed during 2021, ready for production in Q1 2022. In line with the Indian government's "Made in India" policy, which encourages companies to on-shore manufacturing in India for domestic customers, the Group is gaining competitive advantage from manufacturing products for the Indian market locally. 65% of the plant's production is supplied to customers in the domestic market. The Group also announced a €42 million investment to expand its production capacity in India and increase automation of existing plants in Bhiwadi, Vizag and Cuttack, to be completed by 2025.

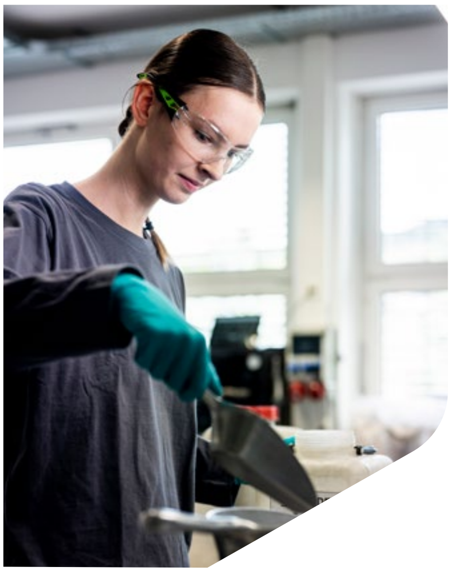
The combined region celebrated the first installation of the APO tool in 2021 at a BOF operated by a major steel customer. The India region also won its first contract in the country for electro-magnetic level indicators ("EMLI") for a tundish application of a major steel customer. Other new products and services installed during the year to improve steel quality at customer sites include Purgebeam and Magfilter, which have been designed by RHI Magnesita's R&D and innovation departments using flow simulation to imitate the flow of molten steel in moulds and in the tundish.

As part of the Group's efforts to drive its solutions business, the Group won a solutions contract in October 2021 to partner with a major steel customer which has recently commissioned the largest brownfield expansion in India, creating the largest plant capacity in India. RHI Magnesita will provide refractory products for applications such as the BOF, Ladle and RH degasser as well as flow control applications.

In November 2021, the Group opened a new regional R&D centre in India to facilitate a greater understanding of local markets and enable more unified technology transfer in the region, driving cost efficiencies. Focus areas will be local raw material development, providing solutions support for customer performance improvement projects and supporting local content and manufacturing in each of the Group's three plants in India.

Over the year the Group progressed its flow control strategy in this region, increasing market share in both slide gates and ladle purging and remains the market leaders in the region for the long segment of tundish and ISO products.

India has historically recorded high rates of secondary raw material usage, given the lack of virgin raw material availability in the region, and in 2021 it recorded a high recycling rate of 16%. In West Asia and Africa, the Group consistently increased the amount of secondary raw material content in products sold to EAF and ladle applications and increased efforts to collect spent refractory material from customer sites.



Operational review
continued

Industrial Division

Industrial revenue

€729m

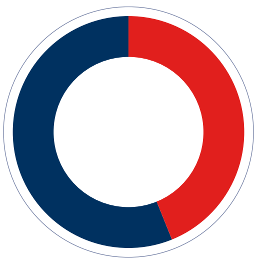
2020: €689m

Industrial gross margin

26.1%

2020: 26.4%

Revenue breakdown by segment in Industrial Division



The Industrial Division accounts for c.30% of Group revenues and provides refractory solutions to customers across cement and lime and industrial projects (non-ferrous metals ('NFM'), glass, environment, energy and chemicals ('EEC'), foundry and mineral sales).

The Industrial Division segments are subject to longer replacement cycles as the lifetime of a refractory product in these industries ranges from one year to 20 years. Refractories used in the Industrial Division are treated as capital expenditure at our customer sites, given the long replacement cycles of over a year. They account for between 0.2% to 1.5% of the customer cost base and consume less refractory material per tonne of production than steel, on average. The Industrial Division serves approximately 2,800 customers worldwide, with a significant global market share of c.35% in Cement and Lime and c.25% in NFM and c.5% in Glass, EEC and Foundry.

Read more in Our markets
Page 20

Industrial Division revenues increased by 6% in 2021 to €729 million (2020: €689 million), led by a strong recovery in the Cement and Lime business which increased by 18% following a record year of volumes. On a constant currency basis, revenues increased by 7%, from €679 million in 2020.

Gross profit for the Division was €190 million, up from €182 million in 2020 and gross margin declined over the same period by 30bps to 26.1% as the impact from supply chain disruption increased costs, especially for the project business.

Cement and Lime

Revenue for the year was €322 million, up by 18% on 2020 (2020: €273 million), and on a constant currency basis by 20% (2020: €267 million). Cement and Lime accounted for 44% of total Industrial Division revenues in 2021 and 13% of Group revenues. The Cement and Lime segment recorded a record year for volumes attributed to both new orders and from a carry-over of delayed orders during 2020. End-user demand remained strong throughout 2021 and this trend is expected to continue into 2022 with full order books for repair activity in Q1 2022. Stimulus packages, initiating new infrastructure projects, were implemented globally to help stimulate slowed economies over 2020, boosting cement demand internationally.

The raw materials required for the portfolio of refractory products for the Cement and Lime segment were in tight supply at the start of the year, which was exacerbated by global freight disruption from Q2 onwards. Raw material inventory levels have since been restored ahead of the high seasonal demand expected during the 2021-2022 northern hemisphere winter months, when the annual industry repair cycle takes place.

Pricing was softer in the first half of the year, resulting in a lower average price per tonne compared to 2020. Pricing was established at the start of Q3 2020 for H1 2021, when refractory raw material prices were at their lowest levels for five years. Price increases implemented during 2021 in response to inflationary pressures started to come through during Q4 2021 and will be fully realised in 2022. The higher raw material price environment towards the end of 2021 supported customer pricing negotiations for 2022.

> A state-of-the-art fired alumina brick plant will be built in 2022 which underlines our alumina strategy and opens lots of new opportunities in all industrial sectors.

Marco Olszewsky
President of China & East Asia

On 30 December 2021 the Group acquired a 51% ownership stake in "Chongqing Boliang Refractory Materials Co. Ltd." for a cash consideration of €5 million. The joint venture investment will establish production of non-basic refractories alongside an existing fully automated plant that will complement the Group's magnesite-based production in Dalian and deliver a full range of refractory products for cement customers in China and Southeast Asia.

In 2021 the Group continued to make considerable traction in its ANKRAL Low Carbon ("LC") product in Europe based on the circular economy approach and sustainable technology. The Group approximately doubled revenues contribution from these products compared to 2020 and increased the number of customers served from 13 to 22. In 2021 the production of the ANKRAL LC series was also extended from Europe to China, at the Dalian site, which will further increase our market share in sustainable products in Asia.

The Group also expanded its digitalisation solutions in 2021, launching the "LaserScan" preview for cement customers. LaserScan uses high speed 3D lasers to measure the remaining thickness of rotary kiln linings ahead of any repair work, optimising refractory performance and kiln availability.

Industrial Projects

Industrial Projects, comprising NFM, process industries (glass, EEC and foundry) and mineral sales reported revenues of €407 million in 2021, 2% below revenues recorded in 2020 (€416 million) and below expectations for the year. On a constant currency basis, 2021 revenue was 1% lower than 2020 (2020: €410 million). The Industrial Projects business experienced significant demand throughout the year for both NFM and process industries, from new orders as well as carry-over from project postponements in 2020. Demand in the non-ferrous metals sector strengthened in H1 2021, as commodity prices rallied in the first five months of 2021.

NFM recorded revenues of €145 million, 2% higher than the prior year (2020: €142 million). Process industries revenues declined by 4% to €262 million (2020: €274 million) as the production capability in the business and deliveries to customers were impacted by insufficient production capacity, given the Production Optimisation Plan work at Radenthein, Austria, which was then aggravated by the global supply chain disruption.

Disruption across the Industrial Projects business was exacerbated by unplanned maintenance at Radenthein, the Group's main production facility for the projects business. An unscheduled shutdown during Q3 2021 adversely impacted Group EBITA by €8 million. The plant was repaired and fully operational in Q4 2021.

In response to higher inflationary costs, the Group implemented price increases in its Industrial Projects business for new orders, as well as for previously negotiated contracts. The response from our customers has been largely successful, however the long lead-time characteristic of projects with replacement cycles of over one year means that a significant portion of these price increases will only be realised in 2022.

Radenthein, Austria, is the Group's main production plant for Industrial Projects. The Group is modernising and automating the plant, as well as investing in new infrastructure, centred around a new tunnel kiln, which was inaugurated in May 2021. A further investment towards new presses at the site will increase the plant's production capacity by 30%, with the investment project due to complete in H2 2022.

The Group strengthened its sustainable market share in 2021 and broadened its solution offering, signing a consortium agreement with Russia's ZiO-Podolsk to supply refractory engineering, materials and installation services. The initiative will construct four new waste-to-energy plants in the Moscow area, which is due to commence in 2023. The plants will process around 2.8 million tonnes of waste annually, supplying up to 1.5 million people with a renewable source of electricity.

The Group's AGELLIS® systems increase yield, improve quality, reduce maintenance, greatly enhance safety and are used in our customer operations for NFM, as well as steel. Sensor technology monitors process critical parameters within our customers' furnaces using electromagnetic and optical sensors. AGELLIS® systems are gaining significant market share within the non-ferrous metals segment.

Outlook

In the Steel Division there is a strong order book and visibility for the first half of 2022, although the high customer demand recovery experienced in 2021 is expected to normalise in the second half. The industrial division order book covers most of 2022 and lead times, in some cases, exceed 12 months. Industrials Division margins will continue to benefit, in the first quarter of 2022, from the stronger pricing environment for cement customers compared to the prior year.

Cost pressures from freight, energy and raw materials are continuing in 2022 with significant labour inflation now also expected in both local currency and Euro terms, as high inflation leads to wage demands. Further price increases have become effective in January and more price increases are under negotiation to preserve margins in response to ongoing cost inflation.

Financial review

Ian Botha
CFO

We delivered a robust financial performance in spite of the challenging macro environment, and continued to make good progress on the 2022 investment programme.

Read more on APMs on
Page 211

Revenue

The Group recorded revenue of €2,551 million in 2021, an increase against the prior year of 13% (2020: €2,259 million). The Group benefited from increased customer demand driven by the rebound of end-market activity, following the adverse impact of the COVID-19 pandemic in 2020. The higher raw material price environment in 2021 compared to 2020 supported higher refractory pricing across all businesses.

In 2021 the Group negotiated price increases totalling €130 million in response to significant cost inflation driven by higher freight and energy costs. The Group was successful in realising 98% of planned price increases in 2021, with further benefit expected in 2022 from the restoration of margins to higher levels. Price increases restored gross margin to 26% in December 2021, establishing a run rate into 2022.

Raw material prices

Raw material prices increased and then held broadly stable levels for eight months of the year before increasing in the fourth quarter as Chinese suppliers reduced production due to power shortages, energy rationing and high energy costs.

Read more on raw material pricing in the Markets section on
Page 20

Steel Division

The Group's Steel Division delivered revenue of €1,823 million in 2021, 16% higher than 2020 (2020: €1,570 million). On a constant currency basis, Steel Division revenue increased by 20% (2020: €1,522 million). Global economies started to recover in 2021 with the most notable impact in India, West Asia and Africa where revenues were 26% higher than in 2020. The China & East Asia region also performed well in 2021, recording an 23% increase in year-on-year revenues attributed mostly to East Asia. The Americas and Europe, CIS and Turkey regions contributed 15% and 9% year-on-year growth, respectively. The Americas enjoyed a strong rebound in steel demand, with steel demand outweighing production throughout the year as steel producers constrained production focusing on price rather than volumes. On a constant currency basis, the Americas region recorded revenue increase of 21%, impacted by currency devaluations particularly from Brazilian Reais and US Dollar against the Euro. The Europe, CIS and Turkey region was positively impacted by the recovery of the European steel market, as well as an increase in market share.

Industrial Division

Industrial Division revenue increased by 6% to €729 million (2020: €689 million) largely due to the strong recovery in volumes in the Cement and Lime business which increased by 18% year-on-year to €322 million (2020: €273 million), recording a very strong Q1 and Q4, characteristic of strong seasonal demand during the northern hemisphere winter months. However, prices for the Cement repair season in Q1 2021 were set in the summer of 2020 when prices were low, ahead of raw material price increases, contributing to lower product pricing. The Industrial projects business was broadly flat against 2020, recording revenue of €407 million (2020: €416 million), as production capability in the business was impacted by global supply chain disruption and unscheduled tunnel kiln maintenance at Radenthein, Austria. Revenue recovery across the project business was further impacted by the delay in implementing Group-wide price increases across the segment, given longer lead times on orders with replacement cycles of greater than one year.

Read more on divisional performance in the Operational review
Pages 26 to 29

Cost of goods sold

The Group cost of goods sold over the period amounted to €1,967 million, an increase of 15% compared to the same period last year. Higher freight costs were partially offset by favourable currency movements, and on a constant currency basis cost of goods sold was 19% higher than in 2020.

Inbound and outbound freight costs accounted for 12% of COGS in 2021, compared to 8% in 2020 and amounted to €236 million (2020: €137 million). The Shanghai Containerized Freight Index increased by 81% since the beginning of the year. Supply chain delays caused by low freight reliability impacted production schedules and deliveries and there was continued use of air freight when necessary to ensure customer supply.

Reporting approach

The Company uses a number of alternative performance measures (APMs), in addition to those reported in accordance with IFRS, which reflect the way in which the Board and the Executive Management Team 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 used internally in the management of our business performance, budgeting and forecasting. A reconciliation of key metrics to the reported financials is presented in the section titled APMs.

In January 2021, the Foundry Division was reclassified into the Industrial Division from the Steel Division. In 2021, the Foundry Division contributed €13 million to Group revenue. 2020 divisional revenues have been restated accordingly.

All references to comparative 2020 numbers in this review are on a reported basis, unless stated otherwise. Figures presented at constant currency represent 2020 translated to average 2021 exchange rates as disclosed in Note 6 to the Financial Statements.

In June 2021, the Group implemented a dedicated taskforce to mitigate the impact of supply chain disruption, including real-time logistics monitoring to help plan around shipment delays. In December 2021, the Group launched the first phase of its Transport Management System ("TMS") in China, ahead of its planned global roll out. The TMS will provide end-to-end transport management control covering planning, execution, monitoring and auditing, allowing enhanced visibility of freight status and location.

The Group purchased €906 million of raw materials from external sources in 2021, compared to spending of €807 million in 2020. The cost impact in the 2021 profit and loss statement was €(69) million. Elevated raw material prices in Q4 2021 were mainly due to higher costs of production and transportation costs for raw material suppliers, as energy costs increased significantly. The Group restocked its raw material inventory over the course of the year prior to expected tighter supply from China during Q4 2021 ahead of the Beijing Winter Olympics.

Energy costs significantly increased in Q4 2021, as post-pandemic demand returned whilst supply remained constrained. Natural gas and power in Europe and Asia were most impacted. The Group purchased European natural gas and power contracts in advance for Q4 2021 and Q1 2021, significantly below where spot prices subsequently moved to. The Group was also impacted by higher costs of CO_2 credits in Europe, mainly due to higher production volumes in our raw material plants. During the year, the Group implemented a rolling five-year hedging programme to reduce its exposure to spot CO_2 contract prices.

Gross profit

The Group recorded a 6% increase in gross profit to €584 million in 2021 (2020: €550 million) due to higher sales volumes, pricing and revenues, offset by increased freight and energy costs and higher prices for externally sourced raw material. Gross margins declined to 22.9% (2020: 24.4%) as price increases realised during the year did not fully offset the significant increase in costs from supply chain disruption and higher energy costs.

On a divisional basis, gross profit in the Steel Division of €394 million represented an increase of 7% against the previous year (2020: €368 million), while gross margin reduced by 180bps to 21.6%, (2020: 23.4%). Gross profit in the Industrial Division amounted to €190 million (2020: €182 million), up 4% against the prior year, with gross margin declining by 30bps to 26.1% (2020: 26.4%).

Steel	**2021**	2020	Change
Revenue (€m)	**1,823**	1,570	16%
Gross profit (€m)	**394**	368	7%
Gross margin	**21.6%**	23.4%	(180)bps

Industrial	**2021**	2020	Change
Revenue (€m)	**729**	689	6%
Gross profit (€m)	**190**	182	4%
Gross margin	**26.1%**	26.4%	(30)bps

SG&A

The Group completed its permanent SG&A cost saving programme in 2021, achieving €29 million in annual EBITA savings, through the decentralisation of 540 managerial positions into lower cost locations and driving increased regionalisation in order to localise decision making, closer to customers and plants.

At the height of the COVID-19 pandemic in 2020, €50 million of temporary cost saving measures were implemented, including short time work arrangements and plant suspensions. In 2021, €43 million of these temporary savings returned to the cost base as expected, with €7 million to be captured as a permanent cost reduction in the form of lower depreciation.

Total selling, general and administrative expenses, before R&D related expenses, were €297 million, representing a 7% increase against the prior year given inflation and additional expenditure on strategic initiatives, notably digitalisation (2020: €279 million).

Depreciation and amortisation

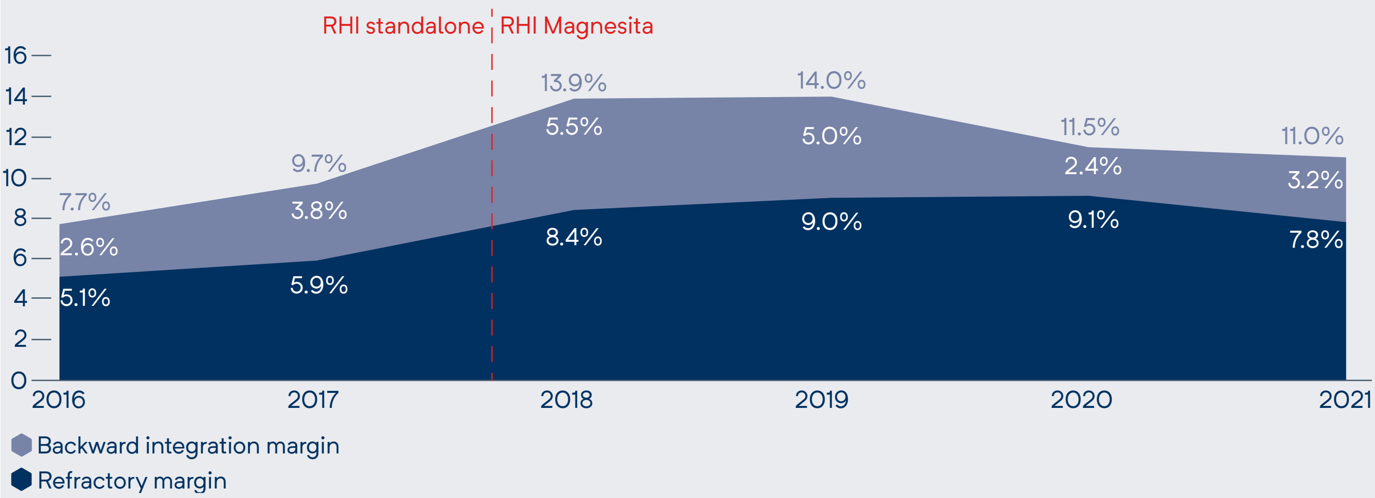
Depreciation for 2021 amounted to €109 million (2020: €120 million), 9% lower than 2020 given the short-term cost measures taken in 2020 which lowered depreciation by €7 million and the reduction of assets due to the closure of plants from the Production Optimisation Plan. Depreciation in 2022 is expected to be around €125 million.

Amortisation of intangible assets amounted to €22 million in 2021 (2020: €19 million).

Adjusted EBITDA

Adjusted EBITDA amounted to €389 million, up by 2% compared to 2020 (2020: €380 million). The adjusted EBITDA margin for 2021 was 15.2%, compared to 16.8% over the same period last year, a decrease of 160bps.

Adjusted EBITA margin %



Financial review continued

Adjusted EBITA

The Group delivered adjusted EBITA in 2021 of €280 million, an increase of 8% compared to 2020 (2020: €260 million), as the €292 million increase in revenues was offset by c.€150 million of supply chain, raw material and energy related cost headwinds. The Group realised an incremental €49 million in 2021 from its strategic initiative programmes, with cost saving initiatives contributing €36 million and sales strategies €13 million. €43 million of temporary cost savings made in 2020 to preserve liquidity were reintroduced to the cost base in 2021.

(€m)	2021	2020 reported	2020 at constant currency	% change reported	% change at constant currency
Revenue	**2,551**	**2,259**	**2,201**	**12.9%**	**15.9%**
Cost of sales	(1,967)	(1,709)	(1,658)	15.1%	18.6%
Gross profit	**584**	**550**	**543**	**6.2%**	**7.6%**
SG&A	(297)	(279)	(275)	6.8%	8.4%
R&D expenses	(28)	(30)	(30)	(6.7)%	(6.7)%
OIE	(44)	(120)	(120)	63.3%	63.3%
EBIT	**214**	**121**	**118**	**76.9%**	**81.4%**
Amortisation	(22)	(19)	(19)	15.8%	15.8%
EBITA	**236**	**140**	**137**	**68.6%**	**72.3%**
Adjusted items	44	120	120	(63.3)%	(63.3)%
Adjusted EBITA	**280**	**260**	**257**	**7.7%**	**8.9%**
Refractory EBITA	**199**	**205**		**(2.4)%**	
Vertical integration EBITA	**81**	**55**		**49.1%**	

Adjusted EBITA

€280m

2020: €260m

Adjusted EBITA margin

11.0%

2020: 11.5%

Impacted by significant supply chain headwinds in 2021, the Group's price increase programme and other cost reduction initiatives delivered an adjusted EBITA margin of 11.0% (2020: 11.5%). The Group's refractory margin was directly impacted by higher supply chain, energy and raw material costs and declined to 7.8% (2020: 9.1%). However, the Group's vertical integration margin on the production of raw materials for internal consumption increased to 3.2% (2020: 2.4%), reflecting the higher raw material price environment and the low-cost position of the Group's raw material assets. The EBITA contribution of the Group's raw material assets increased to €81 million (2020: €55 million), based on external market price benchmarks for the raw materials produced.

Net finance costs

Net finance costs in 2021, including gains and losses relating to foreign exchange, amounted to €(25) million (2020: €(87) million).

Net interest expense amounted to €(7) million in 2021 (2020: €(14)million), with interest expenses on borrowings of €(21) million (2020: €(20) million) and interest income of €14 million (2020: €6 million). Foreign exchange gains of €3 million were incurred, compared to a €(43) million in 2020, mainly due to the significant depreciation of the Brazilian Real and US Dollar against the Euro, resulting in an increased effect of foreign currency translation on the P&L in 2020.

Items excluded from adjusted performance

In order to accurately assess the performance of the business, the Group excludes certain non-recurring items from its adjusted figures. In 2021, these adjustments comprise:

- €91 million recorded in share of joint ventures and associates following the proceeds from the sale of the Group's 50% stake in the Magnifin Joint Venture;
- €(44) million recorded in "restructurings, other income and expenses", relating mainly to the cost reduction initiatives, including €16 million relating to the plant closure at Trieben, Austria, and €31 million for impairment of Dashiqiao, China. These included severance costs of €1 million and non-cash impairments of €41 million;
- €22 million amortisation of intangible assets created at the time of the merger between RHI and Magnesita;
- €6 million non-cash other net financial expenses, these include €6 million non-cash present value adjustment of the provision for the unfavourable contract required to satisfy EU remedies at the time of the combination of RHI and Magnesita to form RHI Magnesita; and
- One-time charges excluded from the effective tax rate ("ETR"), largely the restructuring, impairment expenses and a tax depreciation.

Taxation

Total tax for 2021 in the income statement amounted to €39 million (2020: €14 million), representing a 14% effective tax rate (2020: 33%). The effective tax rate in 2021 decreased as a result of restructuring expenses.

Reported profit before tax amounted to €289 million (2020: €42 million). Adjusted profit before tax amounted to €270 million (2020: €197 million), with an adjusted effective tax rate of 18.0% (2020: 16.7%). The adjusted ETR guidance is between 20%-22% for 2022.

Profit after tax

On a reported basis, the Group recorded a profit after tax of €250 million (2020: €28 million) and earnings per share of €5.10 in 2021 (2020: €0.51). Adjusted earnings per share for 2021 were €4.52 (2020: €3.28).

(€m)	2021 reported	Items excluded from adjusted performance	2021 adjusted
EBITA	**236**	**44**	**280**
Amortisation	(22)	22	—
Net financial expenses	(25)	6	(19)
Result of profit in joint ventures	100	(91)	9
Profit before tax	**289**	**(19)**	**270**
Income tax	(39)	(10)	(49)
Profit after tax	**250**	**(28)**	**222**
Non-controlling interest	7	—	7
Profit attributable to shareholders	243	(28)	215
Shares outstanding[1]	47.6	—	47.6
Earnings per share (€ per share)	**5.10**	**(0.58)**	**4.52**

1 Total issued and outstanding share capital as at 31 December 2021 was 46,999,019. The Company held 2,478,686 ordinary shares in treasury. Weighted average number of shares used for basic earnings per share 47,629,647.

2 EBITA reconciled to revenue on page 34.

Other assets and liabilities

€(90) million of other assets and liabilities includes €19 million in pension contributions and €20 million from a change in bonus provision relative to 2020. €53 million of indirect and other tax, temporary timing differences includes €43 million refundable VAT paid on increased raw material purchases, recognition of a refund of revenue-based taxes previously overpaid in Brazil, energy taxes and research incentives. The Group has recognised €14 million of other revenue and €11 million of interest income following a Brazilian Supreme Court ruling resulting in a refund of revenue-based taxes previously overpaid in the period 2005-2020.

Working capital

Working capital increased to €677 million (31 December 2020: €369 million) as supply chain delays increased the value of material in transit and as inventories of raw materials and finished goods were intentionally increased to ensure sufficient levels of product availability for customers. Cash outflow from increased working capital was €283 million compared with an inflow of €97 million in 2020. Favourable foreign exchange effects reduced working capital cash outflow by €25 million. Working capital intensity, measured as percentage of the last three months' annualised revenue (€2,911 million), increased to 23.3% in 2021 (2020: 15.9%), outside of the targeted range of 15-18%. Working capital intensity levels were higher than guided given the higher raw material prices, and intentional build-up of raw material given concerns on lower availability. An improvement in the Group's working capital intensity is dependent on improved supply chain reliability. If supply chain disruption continues in 2022 and returning to within the targeted range may not occur until 2023.

Working and raw material availability improves following energy shortages in China in the fourth quarter and the impact of the Beijing Winter Olympics in Q1 2022. Improvement in working capital intensity is also expected to be supported by the implementation of a new Integrated Business Planning system in 2021, which supports Group-wide decision making and financial planning.

Inventories increased to €977 million (31 December 2020: €477 million), accounts receivable increased to €349 million (31 December 2020: €210 million) and accounts payable increased to €649 million (31 December 2020: €319 million).

The decision to increase inventory levels across both raw materials and finished products was taken in response to global supply chain issues with raw material availability significantly disrupted by poor freight availability and in anticipation of shortages ahead of the Beijing Winter Olympics in Q1 2022. The Group spent a total of €906 million on externally sourced raw material in 2021, compared to €807 million in 2020. Raw material coverage ratios in 2021 increased from 1.3 months in 2020 to 2.3 months in 2021, and finished goods from 1.9 months to 2.4 months, given the higher costs of raw materials and longer delivery times.

Accounts receivable increased by €139 million, to €349 million, given the higher level of business activity. The accounts receivable intensity level increased by 300 bps to 12.0% (31 December 2020: 9.0%), as the prior year comparative benefited from high revenue in the fourth quarter in 2020. Accounts receivable is calculated as trade receivables plus contract assets less contract liabilities, as per the financial statements.

Accounts payable increased by €330 million, to €649 million, largely due to payables relating to the material increase in externally purchased raw material over the year. Accounts payable intensity increased to 22.3%, by 860bps (31 December 2020: 13.7%). Accounts payable refers to trade payables, as per the financial statements.

Working capital financing, used to provide low-cost liquidity and support the Group's commercial offering to customers, stood at €320 million at the end of the year (31 December 2020: €221 million). This comprised €178 million of accounts receivable financing (factoring) and €142 million of accounts payable financing (forfeiting). Working capital financing levels vary according to business activity, and the Group targets a medium-term level below €320 million. As business activity levels increased over 2021 from 2020, working capital financing has helped to moderate the cash outflow from working capital increases.

Capital expenditure

Capital expenditure in 2021 was €252 million (2020: €157 million), comprising €75 million of maintenance capex (2020: €71 million) and €177 million of project capex (2020: €86 million). In 2021, the Group increased its capital expenditure on capital projects, as guided.

The project capital spent in 2021 was slightly below the guidance of €180 million, largely due to capital project delays at Contagem and Brumado in Brazil. Mainly given the high inflationary environment, the individual projects are expected to require higher capital expenditure during 2022 and 2023, however other parameters of the project have moved favourably, and the additional returns offset the higher capex such that the economics of the projects remain attractive.

In 2022 guidance for capital expenditure is approximately €190 million, comprising €85 million of maintenance capex and €105 million of project capex, increasing by €20 million due to €12 million to be invested at Chongqing, €5 million increase at Contagem and Brumado and €3 million underspend in 2021 carried forward.

In 2023, capital expenditure is expected to increase to approximately €150 million, of which €85 million will be directed towards maintenance expenditure and €65 million towards projects. In 2024, the Group anticipates approximately €130 million of capital expenditure, of which €85 million will be on maintenance expenditure and €45 million on projects.

In 2021, the Group invested €61 million (2020: €35 million) in its raw material assets, including maintenance capex of €13 million (2020: €14 million[1]) and project capex of €48 million (2020: €21 million).

1 Restated from €6 million given an internal change in methodology.

Adjusted earnings per share

€4.52

2020: €3.28

Capital expenditure

€252m

2020: €157m

Financial review continued

Return on invested capital

9.6%

2020: 11.5%

ESG linked financing

€1.2bn

Cost saving initiatives

€110m

Annualised EBITA run rate by 2023

Sales strategies

€40-60m

Annualised EBITA run rate by 2023

Cash flow

The Group generated operating cash flow of €(236) million in 2021 (2020: €290 million), representing cash flow conversion of (84)% (2020: 112%). Free cash flow was adversely impacted by high capital expenditure in 2021 on the Group's strategic initiatives as previously guided, combined with higher than usual working capital requirements due to supply chain disruptions. Free cash flow decreased to €(427) million (2020: €101 million).

Cash flow €m	2021	2020[1]
Adjusted EBITA	280	260
Working capital	(283)	97
Changes in other assets/liabilities	(90)	(31)
Capital expenditure (including pre-payments)	(252)	(157)
Depreciation	109	120
Operating cash flow[2]	**(236)**	**290**
Cash tax	(39)	(48)
Net financial expenses	(25)	(26)
Restructuring/transaction costs	(56)	(52)
Magnifin disposal proceeds	100	—
Dividend payments	(71)	(50)
Share buyback	(96)	(3)
Dividends from associates	—	11
MORCO acquisition	—	(9)
Sale of PPE[3]	8	11
Right-of-use assets acquisition	(13)	(25)
Derivative gains	1	2
Free cash flow	**(427)**	**101**

1 Reported basis.

2 Operating free cash flow is presented to reflect the net cash flow from operating activities before certain items such as restructuring costs. Full details are shown in the APM section on page 211.

3 Including the sale of the Burlington site (Canada) in 2020, cash inflow of €8 million.

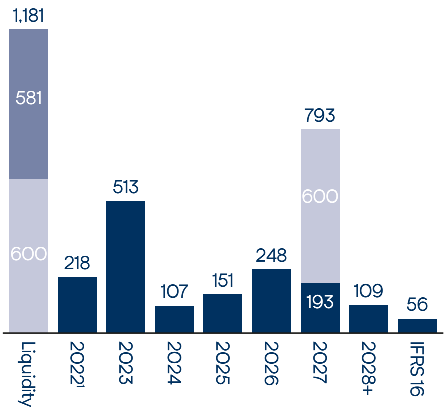
Net debt

Net debt at the end of 2021 was €1,014 million, comprising total debt of €1,595 million including IFRS 16 leases of €56 million, cash and cash equivalents of €581 million, this compares to net debt at the end of 2020 of €583 million including IFRS 16 leases of €57 million. Net debt to EBITDA at the year-end was 2.6x, 1.1x higher than 2020 (2020: 1.5x) and above the Group's target range of 0.5x-1.5x, mainly due to inventory build. Supported by lower capital expenditure and earnings growth from organic and inorganic sources, the Group expects to reduce its gearing level towards its targeted range during 2022, before considering M&A.

Additional refinancing was conducted in 2021 to maintain liquidity levels, extend debt maturities and establish links to the Group's sustainability performance. On 30 November 2021, the Company entered into a €150 million ESG linked Bilateral facility with ING, and successfully placed a €250 million ESG-linked Schuldschein bond with investors, with maturities ranging from 5.5 years to 10 years and a weighted average interest rate on issuance of 0.80%.

Total liquidity for the Group at year end was €1,181 million, including undrawn committed facilities of €600 million.

Amortisation schedule (€m as at 31 December 2021)



Return on invested capital

Return on invested capital ("ROIC") is used to assess the Group's efficiency in executing its capital allocation strategy, which is aimed at enabling organic growth, disciplined M&A and shareholder returns. The Group ROIC in 2021 was 9.6% (2020: 11.5%), from a total of €2,296 million of invested capital (2020: €1,754 million) and €219 million net operating profit after tax ("NOPAT") (2020: €201 million). Raw material ROIC was 16.2% (2020: 13.5%), from a total of €377 million of invested capital (2020: €385 million) and €61 million NOPAT (2020: €52 million).

Strategic initiatives

The Group is progressing two significant strategic programmes to sustainably increase earnings:

- Cost savings initiatives representing €110 million of incremental EBITA by 2023. In 2021, the cost reduction initiatives delivered EBITA benefit of €66 million, representing an increase of €36 million on 2020. The programme targets to achieve an additional €44 million in EBITA run rate savings in 2023, achieving its total EBITA benefit of €110 million, (€90 million in 2022). The Production Optimisation Plan benefits will increase its total target to €110 million, although with one year delay than previous guidance given the project delays at Brumado and the decision to extend the operation of Mainzlar through 2022.

- Sales strategies representing c.€40-60 million of incremental EBITA benefit by 2023. The sales strategies delivered €18 million of cumulative EBITA in 2021. The Group is targeting to achieve c.€40 — 60 million in 2023, and €30 million in 2022. The restrictions from the pandemic and global supply chain issues resulted in delays in accessing customer sites, impacting the revenue benefit from Flow Control and the Solutions business. New markets continue to deliver attractive revenue growth, with strong organic and inorganic revenue contribution expected in 2022 from the JV with Chongqing and acquisition of SÖRMAŞ.

Cost savings initiatives

In 2021 the Group started to gain material benefits from its strategic initiatives, with an incremental EBITA improvement in 2021 of €36 million from its ongoing cost initiatives, including €17 million from the Production Optimisation Plan and a €19 million benefit from the SG&A Reduction programme.

The Production Optimisation Plan seeks to rationalise the Group's global production footprint through the closure of up to 10 sites (with a focus on Europe and South America) and investments in remaining facilities to increase plant scale and specialisation, reduce raw material costs and implement new technologies.

During 2021, the Group invested in its Hochfilzen site, Austria, to consolidate European dolomite production into a single low-cost site. The Group is creating its flagship digital and automated plant at Radenthein, Austria, including the installation and commissioning of a new tunnel kiln. At Contagem, Brazil, the Group's largest production facility in the Americas, the Group is automating the production of Magnesite finished products. Key project milestones at Contagem included the commissioning of two new automated presses which will increase production efficiency and capacity and the installation of new grinding lines. At Urmitz, Germany, the Group is modernising and expanding the plant to create a new hub for non-basic refractory products and the installation of a new tunnel kiln which was commissioned in November 2021.

The closure of Mainzlar, Germany, was delayed until the end of 2022 in response to high demand from European customers, supply chain related delays affecting the rest of the Group's network, the investment project work taking place at Radenthein reducing capacity and the temporary closure of Radenthein in Q3 for unscheduled maintenance.

The Group completed its SG&A cost saving programme in 2021, achieving €29 million in annual EBITA savings, through the decentralisation of 540 managerial positions into lower cost locations and driving increased regionalisation in order to localise decision making, closer to customers and plants.

The extension of the closure of the Mainzlar site in 2022, combined with the continued investment in the production optimisation plan, will enable additional run rate savings of €10 million in 2023, achieving a total cumulative run rate benefit from the cost savings of €110 million in 2023 (€90 million in 2022).

Sales strategies

The Group's sales strategies seek to grow RHI Magnesita's presence in new markets including India and China, increase market share in the flow control product range and expand the solutions business targeting 40% by 2025, supported by investment in digitalisation.

The Group increased percentage of Group revenue to 29% from solutions contracts (2020: 27%). It agreed to acquire two assets in new markets. Flow Control as a percentage of revenue remained stable, at 16.9% (2020: 16.9%).

M&A

In October 2021 the Group agreed to acquire an 85% ownership stake in Söğüt Refrakter Malzemeleri Anonim Şirketi ("SÖRMAŞ"), a producer of refractories for the cement, steel, glass and other industries in Turkey, for a consideration of €39 million in cash. The asset recorded €6.4 million EBITDA in 2020 and we expect to benefit from at least 30% EBITDA synergies.

The Group completed its disposal of its stake in the Magnifin joint venture in December 2021, a non-core asset producing high grade magnesium hydroxide for use in flame retardancy, for a cash consideration of €100 million. The asset is held as a financial investment and is not consolidated into the Group's reported EBITDA. In the year to 31 December 2021, the Group's share of profit before tax from the Magnifin joint venture was €9 million and the Magnifin joint venture recorded EBITDA of €19 million.

In December 2021, the Group acquired a 51% ownership stake in "Chongqing Boliang Refractory Materials" in return for initial consideration of €5 million and an investment of €15 million in new production capacity, to be deployed in 2022 and 2023.

In December 2020 the Group entered into an agreement to sell its two high-cost raw material plants, Porsgrunn, Norway, and Drogheda, Ireland. The sale of both plants completed on 1 February 2021, realising a loss of €6 million. Further provisions for restructuring costs amounting to €4 million have been recognised during 2021 for the exposure to environmental risks, unfavourable contracts and dismantling costs.

Read more in the strategic review
Pages 16 to 21

Returns to shareholders

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 midterm. These opportunities will be considered against a framework of strategic fit, risk profile, rates of return, synergy potential and balance sheet strength.

2021 was the peak capital expenditure year for spending on strategic initiatives, including the substantial completion of the Production Optimisation Plan. In 2021 the Group incurred capital expenditure of €252 million, of which €75 million was maintenance capital expenditure and €177 million was expansionary capital expenditure related to project investments.

Given the resilient performance of the business and positive outlook into 2022, the Board has recommended a final dividend of €1.00 per share for the full financial year, and €47 million in aggregate. This represents a dividend cover of 3.0x adjusted earnings per share. Subject to approval at the AGM on 25 May 2022, the final dividend will be payable on 14 June 2022 to shareholders on the register at the close of trading on 27 May 2022. The ex-dividend date is 26 May 2022. This represents a full year dividend of €1.50 per share.

The Board's dividend policy remains to target a dividend cover of below 3.0x adjusted earnings over the medium term. Dividends will be paid on a semi-annual basis with one third of the prior year's full year dividend being paid at the interim.

In December 2020, the Group commenced a share buyback programme, to return value to shareholders, of up to €50 million, which completed in April 2021, with €45 million of expenditure falling in 2021 and €3 million in 2020. The buyback programme was extended in May 2021, and the Company purchased a further €50 million. In total across 2020 and 2021, the buyback programme repurchased a total of 2,078,686 shares for a total consideration of €98 million[1]. As at 31 December 2021, the Company held a total of 2,478,686 ordinary shares in Treasury which represent 5.01% of the issued share capital at the date of acquisition of the shares.

1 The price paid and value of shares purchased by the Company on 8 April 2021 overstated the value of shares bought by €1.5 million. The total value of shares purchased during the first buyback, completed on 13 April 2021, was €48,450,082 at an average price of 3,946 pence per share and not the previously disclosed value of €49,998,930 at an average price of 4,071 pence per share. The number of shares repurchased in the first buyback and the shares in issue and held in treasury are unchanged as a result of this correction.

Effective risk management

The Group has an established risk management approach with the objective of identifying, assessing and controlling uncertainties and risks which could impact the delivery of RHI Magnesita's strategy.

Herbert Cordt
Chairman of the Board of Directors

During the year, the continuing COVID-19 crisis and the consequential disruptions to global logistics challenged the Group's risk management capabilities. However, management's proactive approach to risk management enabled RHI Magnesita to gain insights into risks across our end-to-end value chain. Risk based mitigating actions supported RHI Magnesita in continuing to deliver products and services to our customers, returns to our investors and a healthy working environment for our employees.

See Principal risks on
Pages 44 to 49

Our approach to risk management

Our risk management efficiency and effectiveness were further improved in 2021 by enhancing the Group-wide integrated risk management approach established in 2020. During this second year, the Group focused on maturing the risk management framework by further embedding the risk tools, culture and awareness into key areas of the Company. A regionalised risk management approach was developed with the purpose of providing the Regional Leadership Teams with insights into current and emerging risks and a comprehensive regional risk profile, which is fully integrated within the Group-wide risk management approach.

The risk management approach combines top-down, bottom-up and deep-dive risk assessments. The top-down risk assessment is performed by the Executive Management Team ("EMT") and reviewed by the Audit Committee and the Board of Directors. Reporting against these risks is included within quarterly EMT meetings, Audit Committee meetings and the annual Board-led strategic review. The bottom-up risk assessment is based on each of the operational sites which maintain ongoing risk management activity linked to the ISO risk management practices.

Deep-dive risk assessments are performed for areas of emerging or prevailing risks, which, in 2021, included information security, tax management, plant operations, fraud management and sustainability. In addition, the Group undertook a climate-related risk and opportunities deep-dive as part of the preparation of the 2021 TCFD Disclosure summarised on page 60.

The information from the bottom-up and the deep-dive risk assessments is integrated into the top-down risk assessments to ensure that the Group risk profile is complete and accurate. The Group risk profile is reviewed by the EMT on a quarterly basis, and by the Audit Committee during the meetings which take place on a regular basis during the year.

Risk management cycle

1 Identification
Starting from all the possible categories of risks potentially impacting the Group, specific risks relevant to RHI Magnesita are identified through several analytical tools, including comparative analysis and risk benchmarking.

2 Assessment
The risks identified are linked to potential root causes and assessed for their inherent likelihood, inherent impact, and velocity. Risk analysis to develop an understanding of the possible interdependencies between risks is performed.

3 Mitigation
All risks considered to be outside of the Group risk appetite, due to their nature or their potential financial or qualitative impacts, are mitigated by appropriate risk management strategies. The implementation and effectiveness of the defined mitigation measures are reviewed, and additional actions are defined if necessary. For this purpose, risks are assessed based on their likelihood and impact before and after the implementation of those mitigation measures.

4 Monitoring
Risks and associated mitigating measures are reassessed quarterly during the year, with increased frequency for those areas experiencing significant changes in the risk landscape. The remaining risk level is evaluated to ensure that it is aligned with the Group's risk appetite and reviewed on a quarterly basis by the EMT.

5 Reporting
Risks which require immediate action are reported immediately to line management for action. Risks which do not require immediate action are reported periodically to the operational management and on a quarterly basis to the EMT.

Risks and strategy

Our risk management approach helps the Board and EMT to understand the risks associated with the adopted strategy, periodically assess if the strategy is aligned with our risk appetite and understand how the chosen strategy could affect the Group's risk profile, specifically the types and amount of risk to which the Group is potentially exposed. As part of this process, risk scenarios are evaluated to assess potential outcomes.

The assessment, monitoring and mitigation of key risks to the strategy are prominent features of the enhanced approach to risk management adopted in 2020 and further enhanced in 2021. Risk workshops have been conducted with the EMT and Board to review the Group risk profile in the context of the 2025 strategy and the risk appetite of the top risks to the Group.

Risk appetite

We define risk appetite as "the nature and extent of risk RHI Magnesita is willing to accept in relation to the pursuit of its objectives". We look at risk appetite from different angles, such as the severity of the consequences should the risk materialise, any relevant internal or external factors influencing the risk, and the status of management actions to mitigate or control the risk. A scale is used to help determine the risk appetite threshold for each risk, recognising that risk appetite will change over time.

If a particular risk exceeds its risk appetite threshold, it will threaten our objectives and therefore require significant risk mitigation and potentially a change to the strategy. Risks that approach the limit of the Group's risk appetite may require acceleration or enhancement of management actions to ensure that risks remain within appetite levels.

The risk management approach is based on an assessment of the risk appetite formed by the Board, covering the key risk categories ("averse", "limited", "moderate" and "high"). The risk appetite statements are approved by the Board and are a foundational element of our risk framework as it provides guidance to management on the amount and type of risk we seek to take in pursuing our objectives.

Our principal risks

The principal risks are those the Board considers may have a significant impact on the results of the Group and on its ability to achieve its strategic objectives. This does not represent an exhaustive list of risks faced by the Group but encompasses those considered to be most material to business performance.

The risks can occur independently from each other or in combination. Extraordinary events, such as the COVID-19 pandemic or global logistic challenges, have the potential to crystallise multiple principal risks simultaneously, significantly magnifying the adverse impact. In 2021, the COVID-19 crisis combined with freight, energy and raw material cost inflation increased the risk management challenges in key areas of the business. As a response to the current circumstances, continuous monitoring of the Group's risk profile, with specific reference to the potential cumulative impact arising from the crystallisation of risks, was undertaken by the EMT during the year and mitigating actions were taken.

Group risk chart

Impact

Likelihood	low	moderate	high	critical
very likely				
likely			1 5 10	11
possible			4 7 9	2 3 6
unlikely			8	

Velocity

- Rapid — within 3 months
- Moderate — within 12 months
- Slow — > 12 months

Principal risks 2020		Principal risks 2021
1 Macroeconomic environment and condition of customer industries leading to significant sales volume reductions 12 Fluctuations in exchange rate and energy prices	Scope broadened	1 Macroeconomic environment
2 Lack of competitiveness of internally sourced raw materials	Replaced by a new risk	2 Supplier dependency risk
3 Inability to execute key strategic initiatives	Unchanged	3 Inability to execute key strategic initiatives
4 Significant changes in the competitive environment or speed of disruptive innovation	Unchanged	4 Significant changes in the competitive environment or speed of disruptive innovation
5 Business interruption and supply chain disruption	Scope broadened	5 Reliability of the end-to-end value chain
6 Sustainability — environmental and climate risks	Unchanged	6 Sustainability — environmental and climate risks
7 Sustainability — health and safety risks	Unchanged	7 Sustainability — health and safety risks
8 Regulatory and compliance risks	Unchanged	8 Regulatory and compliance risks
9 Cyber and information security risks	Unchanged	9 Cyber and information security risks
10 Product quality failure	Replaced by a new risk	10 Ability to predict and pass cost increases to customers
11 Inconsistent demonstration of RHIM culture, values and related behaviours	Scope broadened	11 Organisational capacity to execute strategy, including demonstrating Company cultural values

Unchanged | Replaced by a new risk | Scope broadened

Nine out of 12 principal risks included in the 2020 Annual Report have been confirmed to be equally relevant in 2021. The risks have been reviewed throughout the year, and it has been determined that there are two new principal risks to the Group: "Supplier dependency risk" and "Ability to predict and pass cost increases to customers".

It has also been determined that two risks previously reported as principal risks should no longer be reported as such: "Lack of competitiveness of internally sourced raw materials" and "Product quality failure". These were deprioritised in favour of risks requiring more attention and in alignment with management focus areas.

Furthermore, the principal risk "Fluctuations in exchange rates and energy prices "is now covered by the principal risk "Macroeconomic environment" within a broader scope. The scope of the principal risk "Business interruption and supply chain disruption" was broadened to cover the entire end-to-end value chain and therefore re-named "Reliability of the end-to-end value chain". In addition, the principal risk "Inconsistent demonstration of RHIM culture, values and related behaviours" was refocused on the organisational capacity to deliver the Group's strategy and consequentially reworded as "Organisational capacity to execute strategy, including demonstrating Company cultural values".

These key changes in principal risks are highlighted in the table above.

Emerging risks

Identifying emerging risks is a key part of our risk management process. Emerging risks identified during the year are assessed, monitored and evaluated with the EMT and the Board within the risk workshops. The extensive consideration of emerging and changing risks was a key driver to the changes in principal risks described above.

Our internal control system

The Board reviews the effectiveness of the system of internal financial, operational and compliance controls and the risk management framework.

RHI Magnesita follows the corporate governance requirements of the regulations of both the Netherlands, given the location of its incorporation, and the UK, given the location of its listing. Where possible the disclosures are combined in this report, however there are primary areas where the respective governance requirements necessitate similar but separate assessments.

Such an area is the required disclosure and description of RHI Magnesita's control environment and systems. Therefore, the Company provides both a Management "In-Control Statement" as required by the Dutch Corporate Governance Code and an Internal Control System report as required under the UK Corporate Governance Code. Both outline the measures that RHI Magnesita takes to ensure a strong control environment.

Internal control system

The Board is ultimately responsible for maintaining effective corporate governance, which includes the Group's risk management approach, the Group's system of internal controls and the Group's internal audit approach.

The Board reviews the effectiveness of the system of internal financial, operational and compliance controls and the risk management framework. The Board examines whether the system of internal controls operated effectively throughout the year and will make recommendations when appropriate.

These systems are based on the three lines of defence model, supported by an end-to-end process model and delegation of authorities structure reflecting the responsibility for risk management and internal controls at all management levels.

The Group's internal control framework is designed to enable the application of the Group's risk appetite. This typically seeks to avoid or mitigate risks rather than to completely eliminate the risks associated with the accomplishment of the Group's strategic objectives. It provides reasonable assurance but not absolute assurance against material misstatement or loss.

The Group has in place a specific risk management approach and an internal control framework in relation to its financial reporting process and the process of preparing the financial statements. These systems include policies and procedures to ensure that adequate accounting records are maintained and transactions are recorded accurately and fairly to permit the preparation of financial statements in accordance with the applicable accounting standards. For the accounting process, an accounting handbook (and related knowledge portal and training) is used to structure the internal controls over the accounting process.

In 2020 the Group introduced a framework of seven Global Processes to improve the standardisation, efficiency and digitalisation of processes. During 2021 it became apparent that the challenges prompted by the COVID-19 pandemic required the immediate enhancement of specific internal control processes. The Group implemented a dedicated taskforce to mitigate the supply chain disruption and enhance the relevant internal controls including the introduction of real-time logistics monitoring to help plan around shipment delays. Therefore the internal process development activity was reprioritised to concentrate initially on addressing these immediate specific use cases impacting our service levels to our customers rather than the wider approach. The broader development of the Global Processes will be resumed in 2022, albeit with a stronger emphasis on the processes directly delivering the value to our customers.

The Group has an Internal Audit function, with a reporting line to the Chairman, Audit Committee and a secondary reporting line, for day-to-day operational matters, to the CFO. The Internal Audit function provides assurance to the Audit Committee and the Board on the design and effectiveness of the internal control framework.

Internal Audit operates within a single department also comprising Risk Management and Compliance. The Audit Committee and management ensured that appropriate safeguards are in place to maintain the independence of Internal Audit. The Internal Audit, Risk and Compliance function is structured into regional teams providing a locally-focused governance presence to support regional management in line with the established Group-wide objectives. The delivery of the 2021 Internal Audit plan was impacted by the practical limitations imposed by COVID-19, however the overall coverage level was maintained utilising the approaches, such as remote auditing, successfully developed in 2020. An External Quality Assessment of the effectiveness and capability of the Internal Audit function was performed in 2021. This report concluded that the Internal Audit function has the required level of independence and is operating with a high level of performance. Certain recommendations were made to further improve the function and these will be implemented in 2022.

During 2021, Internal Audit conducted 23 planned internal audits and five special investigations, reporting the most relevant observations and recommendations to the Audit Committee.

The reports by management and Internal Audit, Risk and Compliance also facilitated consideration by the Audit Committee of management actions in respect of the following key control framework challenges:

- Developing the maturity of the regionally based management model;
- Improving the effectiveness of the delivery of major capital expenditure and IT projects;
- Continuing the enhancement of IT security controls to address increased cyber security risks; and
- Utilising the Global Process framework to add value and improve operational performance.

The Board considers the Company's risk management and internal control system are appropriate and effective to give reasonable, but not absolute assurance against material misstatement or loss. Nonetheless, given the continued evolution and the regionalised nature of the Group and the 2021 focus on addressing supply chain disruption, there is need for further strengthening of the internal control system in 2022, most notably through the resumed Global Process development activity.

Management "In-Control Statement"

The Board and EMT are responsible for ensuring the Company has adequate risk management and internal controls systems in place.

The core design of the internal control systems is based on extensive work conducted as part of the merger activity in 2017 and reassessed in 2020 to create a more regionally focused and agile structure. The transactional level controls operated in line with the established core design throughout 2021. The planned development of end-to-end global processes was largely postponed into 2022 to enable resource to be focused in 2021 on emerging operational process-based challenges such as supply chain disruption. A range of improvements to specific processes (e.g. logistics management) were implemented in 2021. It is therefore planned to reassess and further update the design of the broader internal control systems in 2022.

The key internal control measures include reviews of financial performance and key control weaknesses at each Board meeting, monthly and quarterly EMT review and challenge of operational financial performance, zero-based business planning process, improving the financial reporting processes, continued deployment of the corporate culture and values especially to the more remote areas of the Company, reinforcement of the Code of Conduct through increased trainings and communication, deployment of tools to increase leadership capabilities, enhancing the response to issues raised via the whistleblowing process and strengthening the capability of the Legal and the Internal Audit, Risk and Compliance functions. All key changes in the internal control framework were reviewed by the EMT. Each leader is accountable for the effectiveness of the internal controls within their areas of responsibility and is required to complete a self-certification reporting their assessment. Measures are applied in each functional area to assess the effectiveness of internal controls and any identified issues are escalated. Control weaknesses identified by management and those identified through the quality management system reviews, risk management activity and internal audit reports are escalated to the EMT for review and resolution, all of which is overseen by the Audit Committee. The key control weaknesses identified from these processes were addressed within 2021. During 2021, driven by the need for faster analysis and decision making on key commercial levers, Management have identified improvement potential in the clarity and insight provided by the core internal performance management data. An improved financial management data set and enhanced monthly Management review structure will be implemented from January 2022.

In 2021, risk management activity continued to focus on increasing the depth of the assessment of the top 20 Group risks and the set-up of consistent reviews to monitor the evolution of such risks by the EMT, to review the Group risk profile on a quarterly basis and to take any additional mitigating action. Improvements to the plant risk management and the fraud risk management approaches were delivered in 2021. The potential to embed risk management concepts more fully into leadership behaviours was a key theme of the 2021 Leadership Conference. Linking the reporting of key risks to the reporting of the related strategic objective significantly increased visibility and insight of risk management.

The improvements in the risk management approach, the milestones achieved, the results of the internal quality assessment and planned next steps were reviewed by the Audit Committee. In addition, the risk appetite was discussed and approved by the Audit Committee and the Board following a series of discussion workshops.

During 2022 the focus will be on completing the integration of risk management within project management activities and continuing to enhance the leadership capabilities to deliver risk management, especially within the regionally based management teams.

Viability statement

The Directors have a reasonable expectation that the Group and Company will be able to continue in operation and meet its liabilities as they fall due over the period to December 2024.

Context

An understanding of the Group's business model and strategy is key to the assessment of its prospects. The Company's strategic priorities are to:

- Improve competitiveness through cost reductions and network optimisation
- Grow revenues and margins by expanding the business model
- Increase market share in new geographies or product segments where the Group is under-represented

For more information on our strategy and business model, please refer to page pages 14 to 23 and pages 10-11.

Whilst uncertainty and volatility remain ongoing features of global markets, in 2021 the Group continued to implement its strategy and demonstrated progress in all strategic priorities.

The assessment process and key assumptions

The assessment of the Group's prospects is based upon the Group's strategy, its financial plan and principal risks.

A financial forecast covering the next three years is prepared based on the context of the strategic plan and is reviewed on a regular basis to reflect changes in circumstances. The financial forecast is based on a number of key assumptions, the most important of which include product prices, exchange rates, raw material, energy, freight and labour costs, estimates of production volumes, future capital expenditure and delivery of our strategic cost reduction and sales initiatives. All scenarios consider the completion of the acquisitions of the Chongqing plant in China and SÖRMAŞ in Turkey in 2022. No additional M&A is considered. In addition, the forecast does not assume the renewal of existing debt facilities or raising of new debt. A key component of the financial forecast and strategic plan is the expected growth of steel production and the output of non-steel clients in all regions, combined with the development of the specific refractory consumption taking account of technological improvements.

The principal risks are those the Board considers may have a significant impact on the results of the Group and on its ability to achieve its strategic objectives. These are set out on page 10.

These risks can occur independently from each other or in combination. Extraordinary events, such as the COVID-19 pandemic or global logistics challenges, have the potential to crystallise multiple principal risks simultaneously, with the effect that the impact could be significantly magnified. The Group continuously monitors its risk profile with specific reference to the potential cumulative impact arising from the crystallisation of the principal risks and defines appropriate mitigating actions.

Assessment of viability

The assessment of viability has been made with reference to the Group's current position and expected performance over a three-year period, using forecast product prices, sales volumes and expected foreign exchange rates. The financial performance and cash flows have then been subjected to stress testing and sensitivity analysis over the three-year period. These data were aggregated to model a range of severe, but plausible, downside scenarios for the Group.

The scenarios for stress testing are based upon materialisation of the Group's principal risks. The scenarios tested consider:

- Macroeconomic environment
- Supplier dependency risk
- Inability to execute key strategic initiatives
- Reliability of the end-to-end value chain
- Organisational capacity to execute strategy, including demonstrating Company cultural values
- Reliability of the end-to-end value chain
- Ability to predict and pass cost increases to customers

The principal risks described above could either be triggered by COVID-19, ongoing global logistics challenges or other circumstances.

The most severe scenario considers a COVID-type macroeconomic shock limiting revenues and earnings to 2021 level for the entire planning period.

The Group's liquidity amounts to €1,181 million comprising of cash and cash equivalents of €581 million and undrawn committed credit facilities of €600 million as of 31 December 2021. This is sufficient to absorb the financial impact of the risks modelled in the stress and sensitivity analysis. However, if these risks were to materialise, the Group also has a range of additional mitigating actions that enable it to maintain its financial strength, including reduction in fixed costs and capital expenditure, raising debt or reducing the dividend.

Viability statement

The Directors believe that the Group is well-placed to manage its principal risks successfully. In making this statement the Directors have considered the resilience of the Group, taking account of its current position, the risk appetite, the principal risks facing the business in severe but reasonable scenarios, and the effectiveness of any mitigating actions.

The Directors have a reasonable expectation that the Group and Company will be able to continue in operation and meet its liabilities as they fall due over the period to December 2024. The Directors have determined that the three-year period to December 2024 is an appropriate period having regard to the Group's business model, strategy, principal risks and uncertainties.

Principal risks

Link to strategy

Business model | Competitiveness | Markets

Appetite

High | Moderate | Limited | Averse

1. Macroeconomic environment

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Key macroeconomic and financial market indicators, steel and cement forecasted production.

Risk description

Changes in the global economic environment, financial markets conditions and adverse political developments may have an impact on the Group's revenue and profitability.

The macroeconomic environment changes leading to sales volume reductions can arise from industrial factors or from wider global issues, such as a pandemic or global logistic challenges.

The demand for refractory products is directly influenced by steel, cement and non-ferrous metal production, the investment climate, metal and energy prices and the production methods used by customers.

Due to the Group's cost structure, fluctuations in sales volumes have an impact on the utilisation of production capacities and consequently on the Group's profitability.

Examples of specific risks:

- Decreasing investment in customers' infrastructure projects (therefore reducing steel and cement demand) leading to lower refractory consumption and depressed sales volumes.
- Customers focusing on lower-cost and more commoditised refractories.
- Lower sales volumes leading to lower fixed cost absorption.

Risk mitigation

- Initiatives to increase the Group's resilience, through establishing leaner processes and lower fixed cost structures (such as the production network optimisation), whilst increasing the Group's market share and the value for our customers.
- Diversification of geographies and industries.
- Dedicated taskforce to mitigate the impact of supply chain disruption.
- Price increase initiative to pass inflationary costs to customers.
- Early leading indicators to ensure identification of emerging macroeconomic trends.
- Treasury Policy and usage of financial instruments to mitigate risk exposure to financial markets.

Risk movement

The demand for refractory products and RHIM customers' products increased sharply in 2021 and is expected to remain strong. The improvement of the global macroeconomic environment and condition of financial markets had a positive mitigating effect on this risk.

The Group faced global logistic challenges, which impacted the cost and reliability of shipments. This risk was mitigated by management focusing on targeted actions such as price increases to customers, increase in the raw materials inventory levels and additional people and system resources dedicated to managing logistics.

The risk appetite for the risk was reassessed by the Board as high due to the Group's limited ability to influence global macroeconomic events. This risk is within the risk appetite, and macroeconomic and industry developments are closely monitored by management and the Board.

2. Supplier dependency risk

Link to strategy

Target risk appetite

KPIs

Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Tonnes of purchased materials from sole source suppliers, tonnes of purchased materials from suppliers located in the same geography, stock level of critical materials.

Risk description

The Group relies on a small number of external suppliers for certain materials. In certain cases, the Group relies on one supplier for the sourcing of these raw materials.

The Group might depend on a few suppliers operating in the same market or based in the same geography which are subjected to the same industry, country dynamics and logistic challenges.

The Group works with selected specialist third-party providers to operate some of the mining activities across our production sites. Potential temporary or permanent inability to carry out these activities by the third-party providers might lead to risk exposure for the Group and ultimately result in a temporary production interruption.

Examples of specific risks:

- Production disruptions due to single source supplier not being able to deliver raw material on time.
- Production interruption due to third-party providers' inability to operate mining production.
- All the Group's suppliers of a specific raw material and located in a country might be affected by country-wide disruptions.

Risk mitigation

- Proactive engagement with additional vendors to qualify additional supply to achieve risk diversification.
- Potential risks linked to suppliers' geographical location are assessed and considered in the risk mitigation strategies.
- Strategically increasing stock levels to mitigate the risk of production interruption.
- Increasing internal production of magnesite based raw material, and evaluating value adding options to produce other magnesite based raw materials

Risk movement

Prompted by the strains of the COVID-19 crisis and the global logistic challenges on companies that operate globally through their international supply chains, this risk became more significant during 2021. For this reason, it is reported as a new principal risk.

The risk is within the risk appetite, however the Group is enhancing its efforts to further mitigating the risk.

3. Inability to execute key strategic initiatives

Link to strategy

Target risk appetite

KPIs

Voluntary Employee Turnover, Revenue, Adjusted EBITA Margin, Adjusted EPS, Leverage, ROIC

Internally monitored metrics

Adjusted EBITA from strategic initiatives, ROIC from strategic initiatives, completion of strategic initiatives on-time and on-budget.

Risk description

The Group's strategic initiatives include sales expansion, new product and service models, production network optimisation, digitalisation and M&A projects.

Effective prioritisation and execution are key to delivering the Group strategy. The ambition level of these initiatives requires a high level of management capacity to effectively deliver change management and strategic initiatives execution.

The failure to effectively execute these initiatives because of external or internal circumstances may lead to lower than planned financial performance, including loss of revenue and margin.

Examples of specific risks:

- Failure to develop the strategy into specific actions.
- Failure to react in a timely manner to a changing environment.
- Failure to effectively deliver projects.
- M&A underperformance.

Risk mitigation

- Group-wide strategy with a high focus on key priorities.
- Postponement or cessation of strategically non-important projects.
- Strengthening of project management culture and approach.
- Leadership capability enhancement programme.
- Deep dive learning-based review on each strategic initiative.

Risk movement

During 2021, the residual risk level remained overall consistent. The COVID-19 crisis increased the pressure on the delivery of these core strategic initiatives. In addition, the complexity of executing major projects in the challenging COVID-19 impacted environment remains high.

Management continues to proactively focus on successfully executing strategic initiatives which are complex in nature.

The risk appetite for the risk was reassessed by the Board as limited due to the importance of the Group's ability to successfully execute its strategic initiatives in a challenging commercial environment. Overall, this risk is within the risk appetite of the Group and undergoes close monitoring to ensure that any further mitigating action will be promptly implemented if required.

4. Significant changes in the competitive environment or speed of disruptive innovation

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC, R&D & Technical Marketing Spend

Internally monitored metrics

R&D & Technical Marketing Spend, ROIC on such spend and time-to-market, Sales of digital products, Cost saving generated by usage of digital technologies.

Risk description

The Group has a digital strategy that focuses on using digital products to grow its revenue and margin, digitalisation of operations, and other internal processes. In 2021 this was an area of significant management focus, which enabled the Group to progress in its digital transformation journey.

Depending on the ability of the Group to develop adequate products and services, the changes in customers' preferences towards innovative products may present either an opportunity or a threat by increasing pressure on demand and margins.

The speed of evolution of customer demand for environmentally-beneficial features, digitalisation and services may be faster than the pace of implementation of the Group's digital strategy.

Examples of specific risks:

- Disruptive product technology introduced by a competitor.
- Failure to identify digitalisation trends and technologies.
- Competitors being faster and more agile in responding to changing customer requirements.

Risk mitigation

- Create a climate that fosters innovation and "out of the box" thinking.
- Significant focus on and investment in digitalisation to bring more digital products to market and to enhance internal processes through digitalisation.
- Continued investment in R&D, including, importantly, on sustainability in line with the Group's strategy.
- Focus development activity on projects aimed at an agile and fast impact on the market.
- Monitoring of key R&D and innovation metrics.
- Partnering with third-party innovation leaders.

Risk movement

In 2021 the digitalisation focus was directed at internal process enhancement, foundational work on customer relationship management and digital products for customers. The Group made good progress in the implementation of the digital infrastructure in operations, and digital/automation projects to reduce costs are on track. Management continues to focus on monetising digital-based innovation.

Investments in R&D is continued, and the Group opened a new R&D centre in India in November 2021.

These initiatives contributed to strengthening the risk mitigation initiatives already in place and consequently reducing the residual risk level of this risk.

The risk appetite was also reassessed by the Board as moderate, and the risk remains within the risk appetite and is consistently monitored.

Principal risks
continued

Link to strategy

Business model | Competitiveness | Markets

Appetite

High | Moderate | Limited | Averse

5. Reliability of the end-to-end value chain

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Refractory lead times, Plants' capacity utilisation, Supply in Full On Time, Inventory levels, Customer surveys.

Risk description

The journey from raw material to finished goods can span several months and might require shipments across the globe. The ability to react quickly to changes prompted by internal and external factors is therefore key to ensuring value delivery to our customers.

In addition, the ability to forecast the demand for the Group's product is key to enabling efficient and effective planning of production-related activities, including procurement and inventory planning.

Our global operations can be disrupted by issues in a specific geography or by industry-wide challenges. However, the ability to transfer some of the production between geographies to mitigate the risk of business interruption can be deployed as a risk mitigation strategy.

Examples of specific risks:

- Global logistic challenges impacting the stability, speed and cost of our end-to-end value chain.
- Production interruption at a single-source manufacturing site.
- Inability to accurately predict customer demand leading to missed sales opportunities, inefficient production planning and additional costs.
- A natural disaster or major political crisis in one or more countries or regions.

Risk mitigation

- Dedicated taskforce to mitigate the impact of supply chain disruption through short-term targeted improvement to address specific operational challenges.
- Regular reviews of sales, production and financial plans, as well as longer-term portfolio decisions, are based on extensive research.
- Additional people and system resources leading to improvements in delivery reliability and reduction of production backlog.
- Operational risk management and maintenance policies.
- Geographical diversification of the production network.
- Implementation of an optimised production footprint to meet planned requirements.
- Risk-based investment policy.
- Global insurance coverage.
- Focus on the minimisation of sole-source materials and strategically increasing stock levels.

Risk movement

In the context of the COVID-19 crisis and the global logistic challenges, the visibility over the future characteristics and dynamics of the logistics industry remains limited.

The Group faced difficulties in the supply chain and production management. This, combined with the closure of certain plants, and meaningful investment in others (as part of the Production Optimisation Plan) increased the level of this risk during the financial year and pushed it outside of the risk appetite.

Capacity constraints for finished goods production, combined with the low inventory levels at the beginning of the year and the high-capacity utilisation, led to higher exposure to peaks of demand during 2021 and the reduced ability to fully take advantage of those peaks. Risk mitigation options are constrained by the limited network flexibility in 2021 and the long lead times of the end-to-end supply chain. The current global transportation challenges contribute to increasing delivery times.

The Group recognises the rapidly evolving challenges associated with managing the global supply chain and remains focused on optimising the end-to-end value chain to reduce the level of risk back to within the risk appetite.

6. Sustainability — environmental and climate risks

Link to strategy

Target risk appetite

KPIs

Relative CO_2 emissions, Use of secondary raw material, Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Relative CO_2 emissions, Use of secondary raw material, Progress towards the achievement of environmental and climate targets.

Risk description

Controlled emissions and use of potentially hazardous materials are inherent to the production of refractory products.

The risk of failing to meet environmental regulatory targets or uncontrolled emissions at our production sites exists and may result in high financial losses and liabilities.

The evolving regulatory environment, the increased stakeholders' focus, and the Group's commitment to sustainability led to increasing investment and effort being dedicated to achieving environmental and climate goals.

There are future environmental and climate targets that can only be met by new technological solutions to change the Group's production processes and by the delivery of environmental improvements by the Group's suppliers and customers.

Examples of specific risks:
- Uncontrolled emissions.
- Inability to meet sustainability targets.
- Failure in meeting stakeholders' expectations.

Risk mitigation

- Regular environmental audits and risk monitoring at all sites.
- Well-established Board-level Corporate Sustainability Committee to oversee and challenge management's environmental and climate strategy.
- We manage, measure and report our environmental risks and opportunities through the TCFD model (as described on page 60)
- A climate strategy focused on recycling, carbon capture and usage, fuel switch, energy efficiency, and innovative customer solutions. Read more in Climate and environment on pages 60 to 63.
- Increased focus on the use of secondary raw material as a core element of the Group's strategy.
- €50 million investment in a major four-year R&D programme to pilot new sustainable production technologies.
- The geographical diversity of the Group's operations and the ability to shift production reduce the impact of single events impacting specific geographies.
- Increased focus on sustainable procurement .
- Executive LTIP and Employee Bonus linked to achievement of the Group's CO_2 reduction targets and increased recycling.

Risk movement

The inherent likelihood of this risk has slightly risen due to the increasing regulatory complexity and rising stakeholders' expectations. Therefore the potential impacts, including reputational and financial, of this risk crystallising have increased.

To match the increasing level of risk, a major four-year R&D programme designed to expand the Group's leading sustainability position within the refractories industry was launched in the first half of 2021. Over the course of four years, RHI Magnesita will invest €50 million towards technology research and pilot plant constructions, including new technology for the capture of CO_2.

In addition, a range of additional risk-mitigating measures was implemented during the year. These include the achievements of the Group's CO_2 targets in the employees' bonus criteria, the achievement of the "Gold" ESG EcoVadis rating, and the increased focus on sustainable procurement.

The risk is within the Group's risk appetite and is continuously monitored by management.

7. Sustainability — health and safety risks

Link to strategy

Target risk appetite

KPIs

LTIF, Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Total Recordable Injury, LTIF, Severe Lost Time Injuries, Near Misses, Preventive Ratio, Unsafe Situations.

Risk description

Employees and contractors may be exposed to health and safety (H&S) hazards in our plants that cannot be completely eliminated.

Our activities and products may potentially cause accidents at our customers' sites.

Beyond the harm to individuals, H&S incidents can lead to high financial penalties, site closure and a loss in reputation for the Group.

Especially in the current context of a pandemic, the health of our employees and contractors is a significant area of risk to the Group.

Examples of specific risks:
- Fatal or serious accident at manufacturing or customer site.
- Site closure due to H&S incidents.
- Loss in reputation for the Group due to H&S incidents.

Risk mitigation

- H&S objectives are defined as a core Company objective, and the performance is constantly monitored.
- H&S approach is based on leading global standards and practices, including regular risk monitoring, emphasis on "near miss" reporting and root cause analysis.
- Focus on collaboratively enhancing the H&S approach at customer and supplier sites.
- Continued investment in H&S improvements in our plants.
- Regional COVID taskforces were established to prevent and manage pandemic-related risks at our sites and facilitate access to vaccinations.
- Specific action plans in the event of employee or contractor health issues.

Risk movement

The risk level slightly increased due to the continuous threat of the pandemic to the health of our employees and contractors. Several measures to protect the health of our staff have been implemented to address local risks posed by COVID-19. Protecting the health of our staff continues to be a priority.

Safety remains a top priority for the Group with continued focus, investment and management efforts.

The overall H&S risk is evaluated to be within the risk appetite and is constantly monitored to ensure that any necessary action is taken promptly.

Principal risks continued

Link to strategy

Business model | Competitiveness | Markets

Appetite

High | Moderate | Limited | Averse

8. Regulatory and compliance risks

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Percentage completion of internal Code of Conduct and Compliance training and certification, Whistleblowing reports, Data privacy breaches

Risk description

The Group faces increasing regulatory complexity and operates in some geographies with inherently high corruption risks. We strive to establish a culture of compliance throughout the organisation.

We are exposed to regulatory and compliance risks which may result in financial losses or operational restrictions.

Regulatory changes could impact the profitability of our operations and require investment to achieve compliance.

Examples of specific risks:

- Failure to act in accordance with our Code of Conduct.
- Violation of anti-corruption laws by employees or third-party representatives.
- Violation of data privacy regulations.

Risk mitigation

- Ethical values supported by strong corporate culture.
- Code of Conduct and compliance policies and procedures.
- Enhancement of global training, documentation of compliance matters and communication.
- Anonymous whistleblowing hotline is available to employees and external parties to report compliance concerns. All reports are followed up by qualified professionals.

Risk movement

In 2021 the focus on key compliance risks has continued, enhanced by ad-hoc training, and targeted compliance communications. Significant milestones to strengthen preventative measures were achieved with the delivery of core compliance policies, guidelines, and training.

The overall risk level was reduced due to the achievement of a significant level of risk mitigation. The risk is within risk appetite and continuously monitored by management.

9. Cyber and information security risks

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Security incidents classified by severity, Phishing test fail rates, Triage escalation time.

Risk description

The Group's reliance on IT systems and the greater focus on digitalisation result in a growing exposure to cyber and information security risks.

The possible impact of cyber and information security risks could range from operational disruptions, loss of intellectual property, legal compliance issues, frauds, to significant reputation losses.

Examples of specific risks:

- Intellectual property or confidential data theft.
- Personal data breach.
- Software or hardware failure leading to critical business process interruption.
- Cyber attacks leading to financial losses.

Risk mitigation

- Global information and cyber security policies in line with information security best practices, standards and frameworks.
- Continuous awareness campaign and training.
- Regular risk assessment and penetration testing.
- Cyber security detection and response team.
- Network, device and application protection.
- Audit Committee oversight and specific focus on cyber security related controls.

Risk movement

The fast-evolving cyber and information security global landscape experienced a continued increase in the level of cyber-threat. This led to an increase in the potential risk impact in 2021.

The Group continued the implement additional risk-mitigating measures to respond to this rising threat, including awareness campaigns and data encryption. These risk mitigation initiatives contribute to lower the residual likelihood of this risk.

The overall residual risk was evaluated to be within the risk appetite and closely monitored to enable fast reaction.

10. Ability to predict and pass cost increases to customers

Link to strategy

Target risk appetite

KPIs

Revenue, Adjusted EBITA Margin, Adjusted EPS, ROIC

Internally monitored metrics

Price increase realised, Price fulfilment, Leading cost indicators.

Risk description

The Group is exposed to increases in its variable costs such as raw materials, energy, logistics and labour costs. In 2021, some of these costs increased materially due to global factors.

To achieve the Group's margin targets, it is crucial that rising costs are identified early through the monitoring of leading indicators and that these are effectively passed on to the Group's customers.

The Group can suffer significant financial loss should these costs not be fully passed on in a timely manner whilst preserving customers' relationships and our market share.

Examples of specific risks:

- Inability to identify early signs of increases in the variable costs.
- Inability to effectively negotiate price increases with customers.

Risk mitigation

- Consistent monitoring of leading indicators to identify early signs of externally driven cost inflation.
- Management focuses on effectively negotiating price increases with customers without compromising relationships and market share. These efforts targeted the delivery of price increases of €130 million in 2021.
- Close management monitoring of progress towards price increase implementation.

Risk movement

Raw material and freight costs showed an upward trend since early 2021, whilst energy, CO_2 and labour costs started to rise in the second half of the year. Following these externally driven changes in key variable cost components for the Group, this risk is now deemed to be high and a key area of management focus.

A range of risk-mitigating measures were implemented and mainly relied on the successful delivery of 98% of the €130 million planned price increases within 2021 and enhancing the monitoring of leading indicators to increase future visibility and enable effective decision making.

The risk is within risk appetite due to the significant progress in risk mitigation execution. This is closely monitored by management to enable a fast reaction to additional changes in external costs. Focus remains on structural process improvements to enhance visibility over internal and external costs changes.

11. Organisational capacity to execute strategy, including demonstrating Company cultural values

Link to strategy

Target risk appetite

KPIs

Gender diversity in leadership, Voluntary Employee Turnover, Adjusted EBITA, Adjusted EPS, ROIC

Internally monitored metrics

Gender diversity in leadership, Voluntary Employee Turnover, Adjusted EBITA from strategic initiatives, ROIC on strategic initiatives.

Risk description

The Group places a high emphasis on pragmatism, openness, performance, customer centricity and innovation as core behaviours within its corporate culture. The embedding of the Company culture is a continuous journey and leadership is pivotal to enhancing the Group values across geographies and departments. Our values of accountability and responsibility are key to promptly communicating and addressing issues to enable a fast and reliable execution.

The Group's corporate culture, combined with an optimal internal structure, adequate skills and resources, are key to ensuring the delivery of the Group strategy. To ensure access to adequate skills, the Group is focused on being able to retain talent as well as attract talent from the market.

A key focus of the Group's corporate culture is gender, ethnic and generational diversity, which is seen as an important driver to enhance performance.

Examples of specific risks:

- Inconsistent behaviour across the Group.
- Lack of accountability and responsibility.
- Inability to attract and retain top talent.

Risk mitigation

- Continuous emphasis on the Company culture as a key enabler of performance and driver of strategy execution.
- Dedicated leadership capability enhancement programme.
- "Tone from the Top" leadership culture.
- Developing talent, enhancing diversity and promoting Company culture as significant components in the People Cycle.
- Trainee programme to develop graduates into future leaders.

Risk movement

The increasing pace of changes driven by the fast-evolving global landscape, which manifested prominently in 2021, requires the Group to continuously ensure that its internal structure and employees' skill set enable agility to successfully deliver the Group's strategy. In addition, a consistent and well-established culture is a pivotal enabler of management's effectiveness in delivering the strategy, especially in a fast-evolving context.

During the year, leadership and project management skills within the Group have been subjected to multiple pressure points due to the increasing complexity to manage the Group's operations, projects and strategic initiatives in a context of global challenges.

The global job market, which has been significantly impacted by COVID-19 and the strong macroeconomic recovery in 2021 in several of the geographies in which the Group operates, started to indicate an increasing retention risk for talents in the second half of 2021. However, this risk has not crystallised, and the retention rate amongst senior leaders remains high.

For these reasons, the level of risk has been deemed to have risen in 2021 and requires management focus to enhance risk mitigation actions to reduce it and bring it within the risk appetite.

Stakeholder engagement

Consistent, effective and transparent engagement with our stakeholders helps us better understand their needs and opinions, thereby informing our strategy.

Stakeholder group	How the Company engages	How the Board engages
Shareholders Why they are important As providers of capital and owners of the business, our shareholders play a central role in the Company's growth and development. By fostering and maintaining their support, we are able to implement our strategy and objectives.	The Investor Relations department maintains an ongoing, transparent dialogue with shareholders and analysts and reports regularly to the Board. Regular engagement with our shareholders is facilitated via one-on-one meetings, investor presentations and webcasts, the AGM, industry conferences and events, capital markets days and site visits. In 2021, the Investor Relations department initiated a perception study on behalf of the Board, inviting our capital markets stakeholders to provide their perspective on the Company strategy and progress, allowing management to take proactive and informed decisions.	David Schlaff and Stanislaus Prinz zu Sayn-Wittgenstein represent major shareholders in the Company through their position on the Board and can provide an essential investor perspective to the Board and EMT. The Executive Directors ("EDs") meet regularly with investors and analysts (both in person and via digital channels). When Board members interact with shareholders an update is usually given to the full Board. Directors also received regular presentations from Investor Relations with analyst coverage of market and shareholder reactions to Company events. The Board contributed towards the formation of the perception study and a detailed Board presentation on the results of the perception study was considered in a Board meeting. The Investor Relations department regularly engage with its shareholders on matters regarding sustainability and in November 2021 held its annual sustainability and governance roadshow with Janet Ashdown, Chairman of the Corporate Sustainability Committee ("CSC") and Remuneration Committee and John Ramsay, Senior Independent Director and Chairman of the Audit & Compliance Committee ("Audit Committee"). Additionally, the CSC received a report from the Head of Investor Relations on the particular views relating to ESG.
Debt holders and lenders Why they are important Our lenders and debt holders are an important source of the financial liquidity the Group requires to operate and are integral to the long-term sustainable success and growth initiatives of the business.	The Treasury department maintains an ongoing, transparent dialogue with its debt holders and lenders and reports regularly to the Board. Regular engagement with these stakeholders is facilitated via one-on-one and Group meetings and presentations. In 2021, the Treasury department engaged with its debtholders to, among other initiatives, convert its €600 million Syndicated RCF and $200 million Term Loan into ESG linked facilities as well as to issue €400 million of new ESG linked long-term debt, including a €250 million Schuldschein.	The Board has a clearly defined approval and delegation of authorities matrix for the contracting of debt instruments, and actively contributes and engages in discussions with the CFO and Group Treasurer. The CFO and Group Treasurer execute the Board-approved strategies by consistently engaging with debt holders and lenders to secure favourable terms, mitigate risks and ensure sustainable and solid relationships.
Customers and innovation partners Why they are important Our customers are positioned at the heart of our business model and everything we do. They are fundamental to the sustainable future of the Group. Our customers help us to achieve our Company purpose, through delivering the vital materials such as steel, cement and glass which are essential to our end markets. We collaborate with external partners such as accelerators, start-ups, open innovation platforms, companies and institutions to foster innovation and drive developments in R&D.	We work closely with our customers to ensure we are aware of their needs — this is facilitated via day-to-day contact with Company representatives as well as fact-finding, technical consulting, installation and operations supervision and resident expert site visits. The Company's Net Promoter Score ("NPS") is measured regularly and is used as a key metric for customer-facing teams, to ensure focus on the goal of providing a positive customer experience in every interaction. It has been especially important to maintain close communication with our customers during 2021 as we have faced unprecedented challenges from the supply chain volatility. In Q4 2021 we achieved an "outstanding" score, ranking in the top quartile of companies. In a Customer Satisfaction Survey conducted in Q4 2021 83% of respondents scored RHI Magnesita as a "good" or "excellent". 85% of respondents stated that RHI Magnesita's product quality is either "excellent" or "good" whereas only 72% of respondents scored delivery performance as "excellent" or "good". Our R&D, Technical Excellence Marketing and Digital Solutions teams collaborate and engage with innovation partners on an ongoing basis.	The EDs communicate with customers in regular meetings to discuss joint strategies, at industry congresses, seminars and webinars, and at high-technology events and fairs. NPS is considered at Board meetings and is regarded as a good proxy for engagement with customers on the basis of its role in bringing customer priorities to the boardroom. Management continues to develop this survey to reach and engage with as many customers as possible. The CSC received a report from the CSO on the particular customer views relating to ESG. The Board received an update from the Technical Advisory Committee, which works closely with innovation partners, and considered the intellectual property strategy throughout the year. The Corporate Sustainability Committee receives technical updates on measures to develop the Company's sustainability strategy which are developed in conjunction with innovation partners. This is then fed into the Board via discussions and Committee reports. In previous years the Board have visited customer sites but in 2020 and 2021 the various restrictions have meant this has not been possible.

Topics raised (what matters to the stakeholders)	Outcomes (i.e. how has engagement and stakeholder opinion impacted on the Company's strategy)
• Company strategy and implementation • Operational and financial performance • Capital structure and liquidity • Capital allocation • The role and impact of our Employee Representative Directors • Overboarding • Sustainability agenda — meeting the challenges of climate change and diversity • Linking remuneration and ESG • The sustainability and governance roadshow centred upon approach to diversity, environmental activity, supply chain governance, corporate governance practices and remuneration • Response to COVID-19: employee protection measures, participation in government schemes	• Shareholder perspectives were considered in Board discussions surrounding capital allocation decisions, notably the extension by €50 million of the €100 million share buyback undertaken in May 2021. • The Board continued to incorporate shareholder feedback about remuneration into its decision making around sustainability measures in incentive schemes and ensuring the outcomes against existing measures will be sufficiently assessed. • The Directors used feedback from shareholders to challenge management about progress of sustainability measures and the strategy with regard to pricing and first mover advantage. • The Board considered shareholder expectations when considering the outlook and potential announcements throughout the year, ensuring the Company remained compliant with MAR. • Ongoing conversations about diversity — particularly gender — ensured that the Nomination Committee recommended to the Board a refreshed diversity policy (found here on our website) and proposed three female Directors for appointment at the AGM in June 2021. • Feedback about acquisition strategy from shareholders informs the business strategy and planning for the future in terms of liquidity and business capacity. • The Nomination Committee considered shareholder expectations around the number of appointments held by new Directors and the IR team engaged with particular shareholders as required to give assurance that new Directors had sufficient time to dedicate to the Company.
• Company strategy and implementation • Operational and financial performance and outlook • Capital structure and liquidity • Sustainability initiatives • Risk management	• Additional refinancing with competitive rates was conducted in 2021 to further enhance the Company's capital structure, debt amortisation schedule and liquidity profile including a €150 million ESG-linked bilateral facility with ING and a €250 million Schuldschein issuance with maturities ranging from 5.5 years to 10 years.
• Climate action • Our customers' partner of choice in the green transition of Steel and Cement • COVID-19 • Customer service levels, lead times and supply chain issues • Innovation partners — the art of the possible and where new developments are being made which might apply to the industry and progress sustainable goals • Price increases in response to inflationary costs, higher transport costs and higher raw material prices	• Customers remain at the heart of the Company's values and culture and as such form a central part of every Board decision. • The Board referred to the customer experience when considering and discussing the outlook for the business, incorporating this perspective into their view of the Company's future performance. • The Board carefully considered global customer viewpoint in pricing discussions when considering costs and value proposition. Retention of long-term customers with strong working relationships was considered and prioritised. • Strategic direction in respect of sustainable products (price, secondary raw material level and their level of focus on Scope 1, 2 and 3 emissions). • Strategic direction in respect of tailored products for customers against the complexity of business operation. • The opening of a customer complaints centre in India was driven by the desire to provide better customer service, reducing response times. • Emergency air freight used in exceptional circumstances to meet customer needs in supply chain disruption. • Any changes to production footprint which involve product transfers include mitigating actions if this would impact on customers to ensure their service is not disrupted. • Considered customer relationships when considering potential M&A.

Stakeholder engagement continued

Stakeholder group	How the Company engages	How the Board engages
Employees Why they are important Attracting, retaining and developing talent is central to the success of the Company. We aim to cultivate an engaged, innovative and collaborative workforce, with a strong focus on diversity.	We emphasise the importance of frequent, constructive and open communication with our employees and have many channels through which this is facilitated. Communication channels include townhall meetings, social media channels, email and an employee app ("MyRHIMagnesita"). To help facilitate effective communication throughout every level of the Company, employees were given a mobile phone if they didn't already own one so that they could access MyRHIMagnesita. We have "culture champions" throughout the Company who engage with the workforce on an ongoing basis to embed our culture and values, and are currently focusing on "accountability". We have expanded our localised strategy, with increased accountability in the regional leadership teams. Our regional presidents and site managers hold their own townhalls to address regional specific issues e.g. local supply chain issues, local COVID-19 updates and restrictions, vaccinations and production site or office changes. We held our annual Leaders conference in October 2021, focusing on processes, culture, collaboration and specific KPIs. Ahead of the conference, a survey to collect feedback from the participants was conducted about their assessment of the Company performance.	Three Employee Representative Directors sit on the Board, providing a direct voice in the boardroom on a range of issues, in particular those which directly impact the workforce, such as workforce remuneration, agreements to accommodate working conditions under COVID-19, and plant closures. As a result of ongoing COVID-19 restrictions, other forms of Board engagement with employees were limited during the year, however the Directors were pleased to make some site visits in 2021 to the R&D centre in Leoben, Austria, our plants in India, and our Radenthein and Bonnybridge plants. Not all trips were possible as a whole Board, but different Directors took opportunities as they arose and reported back to the Board on their experience. EDs and EMT went to India, Brazil and Netherlands as well as site visits in Germany, France and Austria . On these site visits Directors took opportunities to discuss topics with employees they met such as safety, strategy for business units, local conditions, innovation and production, amongst many more. The Board engaged with employees below EMT level, with relevant specialist managers presenting on their areas of expertise to the Board and Committees throughout the year, particularly as part of the Strategy session in September where they received detailed briefings on digital initiatives, Steel business in North and South America and steel technology. The Board received presentations on culture and employee engagement, particularly with focus on executing the strategy, recognising this could only be achieved through effective collaboration amongst employees. Presentations to the Board also detailed KPIs relating to employees, particularly in respect of tenure, overall attrition, reasons for exit, and diversity statistics. The CSC considers employee safety KPIs at each meeting which included root cause analysis of any serious or fatal accidents amongst the employee and contractor population. Outside of Board meetings, individual Directors met with employees for direct discussions on areas of interest as they arose in Board meetings such as diversity, hedging approach, EU Trading Scheme for CO_2 Certificates, risk management, demand planning and outlook amongst many more topics. The EDs used the results of the Leadership survey to structure the conference and generate discussion about strategic improvements to the Company and to the Company's culture, particularly with reference to accountability. The Board was subsequently updated on this.

Topics raised

(what matters to the stakeholders)

- Operational and financial performance
- Business restructuring
- Production halts and plant closures
- Talent development and retention
- Workforce remuneration
- COVID-19
- Vaccination
- Health and safety

Outcomes

(i.e. how has engagement and stakeholder opinion impacted on the Company's strategy)

- Social plans for plant closures have been implemented.
- Encouraged talent development in key teams and considered how this would inform succession planning for levels below EMT.
- Cultural assessment contributed to the conversation on execution of strategic initiatives through consideration of staff morale and the need to react speedily. Senior management are encouraged to recognise hard work and encourage accountability to deliver the strategy.
- Considered retention and attraction in the changing labour market/ inflation.
- Remuneration Committee considered workforce remuneration when considering a revised Remuneration Policy, the decision to pay a bonus in respect of the financial year 2020 and when agreeing the Chairman's and EDs' fees. The workforce overall average remuneration increases, taking into consideration inflation, collective and union agreements, formed the basis for the increase in fees at Board level.
- Employee KPI reports enabled Directors to use examples with management about diversity, operational complexity, the production network and support debate about progress within these topics.
- Ensuring safety of the workplace for employees, supporting with vaccination programmes and extensive testing globally.
- Through oversight of safety campaigns, the CSC has encouraged and challenged management on H&S performance to drive future progress in keeping our employees safe at work.
- Focus on upskilling, competence to deliver and executing the strategy.

Stakeholder engagement continued

Stakeholder group	How the Company engages	How the Board engages
Communities Why they are important Wherever we operate, our business depends on maintaining the acceptance and approval of local communities. In return for this social licence to operate, we must conduct our business ethically and responsibly. We must also strive towards sustainability, not only in our own operations but also to support socio-economic development and environmental protection wherever we operate.	As a member of the UN Global Compact, we support the UN Sustainable Development Goals and implement the Global Compact principles (anti-corruption, human rights, labour rights and environment). These commitments drive our engagement with policymakers, NGOs and others at national and international level. At a local level, each operation engages with local communities and other stakeholders to identify their concerns and how we can support them. In 2021 we specifically focused on education and youth development, environmental protection and emergency relief. The latter two have become more relevant given COVID-19 and the climate crisis. In 2021, we commissioned a new rail container terminal at Hochfilzen, Austria. Around 3,000 trucks per year will be replaced by rail, considerably reducing CO_2 emissions in the surrounding community. Read more in Communities on **Page 65**	The Board receives updates on our community engagement and investment programmes. The Board received regular updates on COVID-19 infection rates and considered operations in the context of local community situations, receiving reports from management on how Company resources had been deployed to help communities across our global operation with their COVID-19 response. As well as focusing on the COVID-19 response, the Corporate Sustainability Committee considered key aspects of community engagement, including charitable fundraising for local communities and received updates from management on projects in communities in Brazil and Austria. You can read more about these initiatives on page 65. Read more in Communities on **Page 65**
Suppliers Why they are important Strong relationships with our suppliers are vital for the effective running of our operations. We rely on our suppliers to deliver services and materials, and the availability of these goods impact how we operate as a company. In 2021, we experienced unprecedented supply chain volatility, after an unexpectedly sharp rebound in demand for goods as the pandemic eased, which led to a shortage of containers in East Asia causing a sharp increase in freight prices. This also led to poor reliability of containers and severe delays affecting the shipment of both raw materials and finished goods to our customer sites.	In 2021, the Group had to change the way it managed its supply chains in order to adapt to a much more volatile environment. We implemented a taskforce by recruiting some of our top talent on a temporary basis. This multidisciplinary group was tasked to find solutions to reduce lead times, lower costs, restore sales and help replenish our raw material inventories.	The Corporate Sustainability Committee received reports from management on supplier audits and engagement and considered new sustainable procurement initiatives. The Board received regular updates on the business's work to future-proof our supply chain and the work undertaken to adapt our processes to an increasingly volatile environment. Janet Ashdown lent her particular experience in value chain management to the senior management team and provided a sounding board and coaching to senior individuals in the Company to challenge them to consider different approaches to supply chain management.

Topics raised (what matters to the stakeholders)	Outcomes (i.e. how has engagement and stakeholder opinion impacted on the Company's strategy)
• COVID-19 • Climate change • Skills and employment programmes • Protecting existing programmes and partners	• We rolled out an extensive vaccination programme globally and in India we offered vaccines to our employees, their families and the local communities. • We donated to the German Red Cross to support the local community during the extreme flooding that took place in July 2021. • Heavy rains fell during December 2021 near the Brumado site, Bahia, Brazil. We responded through donating 14 tonnes of food to the communities surrounding the site. • Employees are encouraged to volunteer in our community programmes.
• The impact of supply chain volatility on profitability • Inventory levels • Shipment delays • COVID-19 • Climate action • Safety • Raw materials • Sustainable procurement	• As a result of the reports received and discussion on supply chain topics at Board meetings, the Board encouraged management to seek outside input to aim towards a Best In Class value chain and to improve day-to-day supply chain issues. Management commissioned audits of the supply chain from consultants with precise and particular expertise in the subject and created a task force to manage immediate issues in the face of global supply chain disruption and a longer-term steering committee to fundamentally set the value chain up for the future. • The taskforce implemented changes such as more efficient transportation reporting, regular updates of freight costs, the creation of a lead time dashboard, implemented an automated critical raw material check and regional support for backlog prioritisation • The Corporate Sustainability Committee considered progress made by Procurement in pursuit of sustainable suppliers. RHI Magnesita intends to evaluate its suppliers through: — A sustainability risk matrix that assesses suppliers according to country and category risk (completed) — A goal based framework to evaluate the majority of RHI Magnesita purchase spend by supplier under sustainability criteria until 2025 — Implement sustainable procurement process and organisation in 2022 and 2023 in all regions. • The Board considered and approved the Modern Slavery Act statement for publication, following recommendation from the Corporate Sustainability Committee, and this can be found on our website. • The Company succeeded in improving payment terms with suppliers significantly over the period of the last two years

Sustainability governance

From COVID-19 to climate change, the urgent challenges facing the world today cannot be solved by governments alone. Business also has a vital role to play and can be a force for good.

RHI Magnesita's purpose is to master heat, enabling global industries to build sustainable modern life. Our solutions play a vital role in the manufacture of the steel, cement, copper and glass that create the housing, hospitals, schools and roads which are needed by the world's growing population. To make our business sustainable, we are preparing our business for the zero-carbon and resource-constrained economy. As our customers chart their pathway to net zero emissions, we aim to support them as their preferred partner on the journey.

We are not only the global leader in refractories, but the sustainability leader in our sector, too. To retain this leadership, we are setting bold ambitions, driving innovation, understanding risks and capturing opportunities.

Materiality

Our risk management approach helps the Board and EMT to understand the risks associated with the adopted strategy, periodically assess if the strategy is in alignment with our risk appetite and understand how the chosen strategy could affect the Group's risk profile, specifically the types and amount of risk to which the Group is potentially exposed.

We prioritise the sustainability challenges that are material to our business and our stakeholders. In 2021, these were:

- COVID-19
- Climate change
- NOx and SOx emissions
- Recycling
- Health and safety
- Diversity

These issues were reconfirmed based on informal engagement with internal and external stakeholders and close monitoring of the issues. We did not conduct a formal stakeholder consultation in 2021.

We report our progress against 2025 targets for each of these issues. In addition, we report progress on other social and environmental issues, such as anti-bribery and corruption, sustainable supply chain and water usage.

Engaging with stakeholders

Sustainability and ESG continued to grow in importance to our stakeholders during 2021. Below is a summary of discussion on these topics during the year.

Investors

Investor interest in our ESG strategy and performance rose increased further in 2021. Our sustainability experts engage with investors on various fronts, from bilateral meetings and written exchanges on specific topics to periodic ESG updates at broader investor meetings.

Our climate strategy, recycling and investment in emerging technologies remain the topics of greatest interest, with a new focus on how we are supporting customer transitions, such as DRI (direct reduced iron) and EAF (electric arc furnace) in steelmaking.

Investors are also keen to understand how we are developing our gender diversity and have started to show more interest in biodiversity. In 2021, CDP awarded RHI Magnesita a B for climate. We also obtained a Gold rating from EcoVadis, AA rating from MSCI, Medium from Sustainalytics and Prime (C+) by ISS ESG rankings.

Customers

As our customers chart their pathway to net-zero, they increasingly focus on Scope 3 emissions in their value chain. In 2021, we met with a series of major customers to learn about their net zero plans and how we can support them.

In response, we already market our first low-carbon brick, the ANKRAL LC series, and will soon launch our first net-zero brick.

As a full-service solutions business, we also help customers to reduce their Scope 1 and 2 emissions with our digital technologies. Given the scale of customer emissions, this could yield greater reductions than tackling our own Scope 1 and 2 emissions. Lastly, taking back spent refractories for recycling reduces customer emissions and waste, as well as cost.

We aim to be a trusted partner to our customers supporting their transition to a net-zero economy. In steelmaking, for example, we are already the market leader in EAF refractories and we plan to position the company as a leader in DRI refractories.

On social sustainability, we continue to work with customers on safety to develop shared commitments and processes. We respond to our customers' needs with information about our practices. Our new sustainable supply chain process with EcoVadis will also provide greater transparency.

Employees

Our employee engagement spans townhall meetings for our employees to meet with the leaders of our business (physical and virtual meetings), a dedicated mobile app and other local channels. During 2021, we continued to communicate on COVID-19, for example explaining the benefits of vaccination. Our most recent global survey conducted in 2020 showed a 79% score for employee engagement, exceeding both the global benchmark and that for the manufacturing industry.

Our performance in ESG rankings

AA	**Gold**
MSCI	ecovadis
Prime C+	**B**
ISS ESG	CDP DISCLOSURE INSIGHT ACTION

Suppliers and contractors

In 2021, we began a new level of engagement with our suppliers, working with them and EcoVadis in order to improve sustainability throughout our supply chain. Building on our existing Supplier Code of Conduct, our new approach integrates environment, labour rights, human rights and anti-corruption considerations into the procurement process.

We also continued to integrate our safety programmes for all relevant contractors on our sites. In addition to clauses in our standard contracts, we request all contractors to provide key safety data such as LTIF on a regular basis.

Communities

With many of our sites located in relatively remote locations, we engage directly with communities in the immediate vicinity of our plants. Although we have clear overarching areas that we support around the world, we also respond to immediate local needs. In 2021 our community support ranged from donating COVID-19 vaccines to residents near our Bhiwadi plant in India to providing disaster relief to flood-hit communities near our Urmitz plant in Germany.

Working in partnership

In addition to bilateral engagement, we take part in broader multilateral platforms on the most complex sustainability challenges. For example, we work together in industry partnerships on the development of carbon capture and usage. These include the K1-MET consortium in the Austrian steel industry and the Industrial Advisory Board of the EU-funded MOF4AIR project, a development of the new Metal Organic Framework for capturing CO_2.

Governance structure

At Board level, the Corporate Sustainability Committee is responsible for overseeing all aspects of sustainability and ESG. They are responsible for reviewing risks and opportunities, approving strategies and reviewing progress.

The Sustainability Steering Committee is the senior management body responsible for driving progress against key objectives, integrating sustainability throughout the business. The Chair reports regularly to the CEO, Executive Management Team ("EMT") and the Board.

Standards, frameworks and reporting

We follow leading sustainability standards and frameworks. As a supporter of the Taskforce for Climate-Related Financial Disclosures ("TCFD"), we have assessed and quantified the risks and opportunities posed by climate change. The Board of Directors received training on this topic. We make annual climate submissions to CDP and in 2021 were awarded a B rating.

Our integrated management system meets the requirements of ISO 14001 (environment), ISO 50001 (energy management), ISO 45001 (occupational health and safety) and ISO 9001 (quality).

We report our progress on gender diversity annually to the Hampton-Alexander Review. In 2021 we completed our first submission on ethnic diversity to the Parker Review.

We endeavour to report our progress openly and transparently. RHI Magnesita has reported in accordance with the GRI Standards (Core option) for the period 1 January 2021 to 31 December 2021. Together with our GRI Content Index, this report serves as our GRI Report.

As a participant in the UN Global Compact, we have committed to support the UN Sustainable Development Goals. We focus on the goals most aligned to our core competencies. This report represents our Communication on Progress (self-assessed as Active) and we detail how we support each UN SDG in our GRI Index.

Our reporting meets the legislative requirements in the UK and the Netherlands in implementing the EU Non-Financial Reporting Directive. In accordance with the new EU taxonomy requirements, we report below the proportion of our revenue, operating expenditure and capital expenditure for the 2021 financial year that are taxonomy-eligible.

Sustainability governance continued

We support the UN Sustainable Development Goals ("SDGs") and have identified these as the goals our business is best placed to actively support.

Ethics and compliance

In 2021, we continued to review and enhance our approach to the following key ethics and compliance areas: business ethics, anti-bribery and corruption (including gifts and invitations and conflicts of interests), anti-trust and fair competition, data privacy, trade compliance and business partner due diligence. We enhanced and further embedded a range of compliance policies and procedures and conducted compliance training and communications. As we enhance our framework and internal controls, our compliance culture continues to mature too.

Anti-corruption is among the UN Global Compact's 10 principles that we have committed to integrating into our business strategy and operations. Others include environment, human rights and labour rights.

We take a zero-tolerance approach to any incidents of fraud, bribery or corruption, in both our operations and our value chain. This approach is made explicit in our Code of Conduct and our Supplier Code of Conduct.

Comprehensive online training on topics such as business ethics, anti-corruption or trade compliance and monthly monitoring of the training completed ensure that all office-based employees, including new hires, are trained. Additional sessions are provided as necessary, such as for sales staff. In addition, anti-corruption and other key topics are regularly included in global internal communications.

We conduct bribery and fraud risk assessments across our business, with results presented to the Audit Committee each year. All our sales agents are certified by TRACE International, a leading anti-bribery standard-setting organisation. Business partners and transactions such as mergers or acquisitions are screened in the due diligence process. We have implemented digital workflows to address and document conflicts of interest declarations, gifts and invitations and community investment approvals. Guidelines on each topic provide further support for employees.

We are committed to upholding human rights and labour rights. More than three quarters (82%) of our employees belong to unions or are covered by works councils or collective bargaining.

This focus on human rights and labour rights is now being expanded to include our suppliers. Our Supplier Code of Conduct includes provisions that address both human rights and labour rights. With the help of a digital tool, we ask all suppliers to commit to our Supplier Code of Conduct. Our Board reviews and approves annual statements for publication in accordance with the UK Modern Slavery Act 2015 and California Transparency in Supply Chains Act.

We urge anyone with concerns about our business to report them to our independently operated hotline, which is confidential and allows anonymity. We are firmly committed to protecting the whistleblower from any form of retaliation. Contact details of the hotline are publicised online and throughout the business. Reported incidents are independently investigated and, if necessary, appropriate follow-up actions are taken; the Audit & Compliance Committee receive regular reports. In 2021, the hotline and additional reporting channels generated 63 reports (vs 62 in 2020); The majority of reports were HR-related cases with approximately 70% of all reports originating from Brazil. The tendency regarding the high number of cases from Brazil is rooted in the whistleblowing hotline being the preferred escalation route for HR-related queries or concerns in Brazil, which in other regions are typically raised via other communication channels.

Progress against sustainability targets

Material issue	Targets by 2025 vs 2018 baseline year	Progress in 2021		2018	2019	2020	2021
1. CO_2 emissions	Reduce by 15% per tonne of product — Scope 1, 2, 3 (raw materials)	CO_2 intensity decreased by 3.7% compared to the base year	Absolute (t CO_2)	5,453,000	4,681,000	4,277,000	4,878,000
			Relative (t CO_2/t)[1]	1.89	1.85	1.96	1.82
2. Energy	Reduce by 5% per tonne of product	Energy efficiency improved by 4.7% compared to 2020 and 2.7% compared to the base year (2018)	Absolute energy consumption (GWh)	5,718	5,227	4,577	5,184
			Relative (MWh / t)[1]	1.98	1.93	2.03	1.93
3. Recycling	Increase use of secondary raw materials to 10%	Use of SRM increased to 6.8%	Use of secondary raw materials	3.8%	4.6%	5.0%	6.8%
4. Diversity	Increase women on our Board and in senior leadership to 33%	Women now account for 38% of our Board. Share of women in leadership decreased to 22%	Board	7%	23%	25%	38%
			EMT and direct reports	12%	17%	25%	22%
5. Safety	Maintain LT IF at <0.5 (goal: zero accidents)	Lost time injury frequency ("LTIF") increased 38% over 2020	per 200,000 hours worked	0.43	0.28	0.13	0.18
6. NOx and SOx emissions	Reduce by 30% by 2027 (vs 2018), starting with China by 2021	30% reduction in NOx and SOx, achieved in China already; work now focuses on US operations	China — target achieved 2021		Europe— target 2027	South America — target 2027	North America — target 2025

1 Adaptations in line with the Greenhouse Gas protocol and refinement in reporting result in updated CO_2 and energy efficiency figures for 2018-2021.

Climate and environment

The effects of climate change became ever more visible in 2021, from extreme weather events to record temperatures. At the UN COP26 conference, world leaders committed to keep the goal of 1.5°C alive while business leaders aligned emissions reduction pledges to this critical goal.

Driving emissions down is a key corporate priority for RHI Magnesita. In addition to charting our own transition, we want to be a trusted partner to our customers on their journey to net zero.

Our first target is to reduce Scope 1, 2 & 3 (raw materials) emissions intensity by 15% by 2025. In parallel, we are working to develop a Paris-aligned target. To do so, we have been working with the Austrian Government and WWF and aim to submit a Science-Based Target in 2022.

To decarbonise our business will require unprecedented innovation and investment. Between 2021 and 2025, we have committed to invest €50 million in the research and development of new and emerging technologies. In 2021 we spent €63 million on R&D and Technical Marketing.

Climate governance

The Corporate Sustainability Committee of the Board oversees our climate strategy, reviewing risks, opportunities and performance at each quarterly meeting. At an operational level, the Climate Working Group of the Sustainability Steering Committee assesses climate risks and opportunities and develops and implements strategy.

In 2021 we further integrated carbon considerations into key processes:

- A new internal pricing mechanism was introduced to incentivise sales teams to prioritise products with higher recycled content
- Reducing CO_2 emissions now accounts for 10% of the annual bonus for all eligible employees
- Enhanced monthly monitoring of CO_2 was integrated into our SAP enterprise resource planning tool

Our supplier evaluation tool will also include an increasing focus on CO_2 emissions. This will help enhance our emissions data for raw materials, our most significant source of Scope 3 emissions.

Climate risk

Climate change represents both strategic and operational risks to our business. These can be grouped as physical risks and transitional risks.

Physical risks include greater severity of flooding, droughts or other extreme weather events which could disrupt our operations and supply chain.

Transitional risks range from regulatory frameworks and the rising price of carbon to the viability and customer acceptance of emerging technologies. Another transitional risk is our ability to set and meet Paris-aligned targets.

In 2021, the Group completed modelling and analysis based on a low-emissions scenario of RCP2.6 and a worst-case scenario of RCP85. Through interviews, modelling and analysis, we identified the largest expected impacts of physical and transitional risks.

The results of the assessment indicated that the overall risk profile for physical risks is low. Two sites have a higher comparative risk profile than others within the portfolio and these will be prioritised for future adaptation and resilience building.

These risks are discussed in more detail in our TCFD report which is consistent with the TCFD Recommendations and Recommended Disclosures and is published separately to the Annual Report due to its length, on the Group's website: www.rhimagnesita.com/energy-and-climate/.

Climate risks also form part of our third CDP climate submission, for which we were awarded a B rating by CDP.

Governance	• **Management role**: The Climate Working Group of the Sustainability Steering Committee works with the Executive Management Team to assess climate risks and opportunities and develop and implement climate strategy. • **Board oversight**: The Corporate Sustainability Committee has been delegated responsibility from the Board for climate-related risk management and reviews climate risks, strategy and performance in every quarterly meeting.
Risk management	• This year we expanded our climate-related risk and opportunity assessment to include modelling to quantify the financial impact on our business. We completed a comprehensive review of previously identified climate-related risks and opportunities, adding further risks and opportunities identified through interviews with key stakeholders across the business. We assessed the likelihood and impact of these risks and opportunities in line with the RHI Magnesita Risk Taking/Management Policy. • Where relevant, existing controls for the risks were identified and included in our financial modelling. In 2022, our focus will be on identifying and implementing mitigation actions to manage risks and embrace opportunities.
Strategy	We have conducted scenario analysis of all identified climate-related risks and opportunities, using 2°C and 4°C warming scenarios across short (2023), medium (2030) and long term (2050) time horizons. Under these scenarios, our key climate risks and opportunities are: • Physical risks: flooding and resulting disruption to our operations, including damage to property, plant and equipment • Transitional risks: increased liability for our carbon emissions under carbon pricing schemes worldwide; and potential reputational impact and legal liability associated with increased investor scrutiny over emissions-intensive industries. • Opportunities: increased revenue and market share for products that support RHI Magnesita customers' low-carbon products and/or services; and increased revenue from RHI Magnesita products with a lower carbon footprint.
Metrics and targets	• We measure our carbon emissions using the GHG Protocol and have set an interim target to reduce Scope 1, 2 and 3 emissions (raw materials) per tonne of product by 15% by 2025. • We have committed €50 million between 2021 and 2025 towards R&D of new and emerging carbon-related technologies and piloting in our plants. • We have set a target of 10% secondary raw material in our products by 2025, reflecting our commitment to reduce our carbon footprint through reducing the geogenic emissions associated with processing virgin materials. Achieving this target accounts for 10% of the bonus for all bonus-eligible white collar employees.

Climate strategy

Our first target is a 15% reduction in emissions intensity by 2025 in Scope 1, 2 and 3 emissions (for raw materials). We intend to achieve this target by increasing recycling, improving energy efficiency, switching fuels and adopting low-carbon electricity.

Total CO_2 emissions (Scope 1, 2 and 3 — raw materials) in 2021 were 4.9 million tonnes and emissions intensity has reduced by 3.7% compared to the baseline year of 2018. We are continuing to work on the necessary initiatives to deliver our target of a 15% reduction by 2025.

Around 50% of our CO_2 emissions are geogenic, which means they are released by minerals during processing. Addressing these emissions will require not only recycling but also new and emerging technologies.

In addition to reducing climate risk, we aim to capture opportunities. We see significant opportunity in being our customers' preferred partner as they transition to a net-zero pathway. In addition to reducing customer Scope 3 emissions from refractory suppliers, we are developing solutions that help our customers achieve significant reductions in their own process emissions.

Recycling

Our target is to reach 10% secondary raw material (SRM) content in refractories by 2025. Working towards this not only develops the circularity of our business but is also the single most important contributor to achieving our 2025 emissions reduction target.

Around half (53%) of our Scope 1 CO_2 emissions are geogenic; they are released by minerals during processing. Replacing these virgin raw materials with recycled or secondary raw material (SRM) avoids these emissions. Reaching our target of 10% recycled content will therefore avoid up to 300,000 tonnes of CO_2 and 150,000 tonnes of landfill waste per year.

Progress towards our target is well underway and we achieved 6.8% recycled content in 2021 (2020: 5.0%). These improvements are due to new initiatives to collect, process and include more secondary raw material. As we build on this progress, there are four key pillars to our approach:

- Improving the flow of spent refractories back to our plants from customers and traders
- Developing the recycling sites and new technologies to process spent refractories
- Increasing consumption of recycled content in our business
- Growing sales of products with recycled content

To increase the flow of spent refractories back to our plants, we are developing circular contracts with customers that include both delivery and return of refractories. In addition, we are building strategic relationships with small businesses who deal with spent refractories.

We now have recycling facilities in every region and we are planning investments in Germany, Mexico and Brazil. For example, Mitterdorf is the new state-of-the-art recycling facility near our Veitsch plant. This plant will host our first sensor sorting machine, an innovative technology to process spent refractories into high quality secondary raw materials. Another new technology will remove contamination from refractories used in cement rotary kilns so that they can be reused whilst maintaining high performance standards. The greater purity of our secondary raw materials, the closer they are to primary raw materials and this will allow us to further increase the recycled content of our products.

Developing more recipes that include recycled content is another key focus. Our ANKRAL LC series of bricks includes up to 20% recycled content and have an independently verified 13% lower carbon footprint. Now that the series is well established and used by 22 customers in Europe, we are rolling the series out to other regions while also developing a new brick with up to 50% recycled content. A net-zero brick for the steel industry will be launched shortly. These recipes are gaining a positive reception from customers. Among our top sellers, approximately 50% more brands now contain recycled content compared to 2020.

The challenges to further increasing recycling content are not merely technical; we must also change mindsets. To encourage this, we have implemented a new internal pricing mechanism that incentivises our salesforce to sell products with higher recycled content, making these the preferred choice. This is already showing promising results in several regions, especially Europe.

Our Rasa plant in Argentina has successfully addressed both the technical and cultural challenges of increasing recycling content and is breaking new ground with a circular approach to its operations. The average recycled content across the plant's magnesia-carbon production exceeds 20%, one of the highest for any production line across our business .

Our raw materials plants are also finding ways to reuse primary material previously discarded as waste. By using waste magnesite ore, for example, our new rotary kiln in Brumado will almost halve the virgin ore we extract from the local mine, extending the mine's life by over 70 years. At Hochfilzen, we recently developed a way to use 1.6 million tonnes of flotation tailings that remain on site from previous production methods. By using tailings in raw material production, we reduce waste while also reducing our need for mined raw ore.

In 2021, we generated 108,000 tonnes of production waste, or 0.04 tonnes per tonne of production, compared to 107,000 t or 0.05 t/t in 2020. The bulk of this waste is non-hazardous ceramic and mineral waste from production and mines.

Carbon capture and utilisation

Recycling, fuel switches and energy efficiency can only take us part of the way to net zero emissions since around 50% of our Scope 1 emissions are released by minerals during processing. Carbon dioxide (CO_2) is emitted when raw magnesite ($MgCO_3$) is processed into magnesium oxide (MgO), the basis for many of our products.

We are therefore working to develop new technologies that are intended to capture process emissions then sequester them or develop a value chain to use them. RHI Magnesita has committed to invest €50 million by 2025 to trial such technologies at pilot plant level. Our R&D function and Technical Advisory Committee ("TAC") have worked with leading research institutes, universities and industry partners to identify the most promising technologies and a number of projects are now underway.

At our Austrian raw materials site at Breitenau, we are testing Oxyfuel technology. The process modelling and first pre-trials are promising but industrial trials in the kiln are now needed to confirm theoretical calculations. Engineering work to adapt the kiln is underway, with the next trials planned for 2022.

At Hochfilzen in Austria and Brumado in Brazil, two of our other key raw material sites, we conducted tests in Australia to separate carbon from magnesite ore. Initial results showed the process to be energy efficient. Calix Limited is our technology partner for this trial and we have signed a Memorandum of Understanding to work together on this process. Dependent on final results, we plan to install a pilot plant at one of our mines. At our York site in the US, we are running a feasibility study for cryogenic carbon capture in our rotary kilns.

Hydrogen is a carbon free energy source which offers a promising alternative to fossil fuels for high temperature processes. In addition to lab trials for calcination and sintering, we are testing use of hydrogen in production processes. The first pilot will be conducted at our Marktredwitz plant and we are also exploring whether we can also generate the gas on site.

These projects are cost-intensive but are a vital long term investment in driving down emissions in hard-to-abate, energy-intensive industries. Companies investing in such technologies will therefore require an enabling political framework that allows us to compete fairly. In addition, these new technologies will require infrastructure provided by third parties or governments to provide sufficient quantities of renewable or low-carbon energy at competitive prices, more responsive smart grids and networks for transporting and sequestering CO_2.

Climate and environment continued

Supporting customer net-zero journeys

Our customers operate in high-emitting and hard-to-abate sectors. For example, the steel and cement industries, which represent more than three-quarters of our customers, together account for up to 15% of global CO_2 emissions.

Both sectors have now set out their respective pathways to net-zero by 2050. Our aim is to be the preferred partner for our customers during this transition.

We are already the leading supplier of refractories and solutions to the growing proportion of steel made using electric arc furnace ("EAF") based production. We intend to take a leadership position in refractories for steelmaking using direct reduced iron ("DRI"), as this method becomes more widespread.

In addition, we are the refractory partner for breakthrough technologies in steelmaking, such as in our partnership with Boston Metals, which is commercialising its groundbreaking use of electrolysis to transform metals production. We are also the refractory partner to K1-MET, an Austria-based consortium breaking new ground with its research into energy-efficient, circular and climate-neutral metal production.

We are continuing to develop the next generation of solutions to support low-carbon steel production. For example, our ITEC platform has been upgraded to support the transition to green steelmaking, optimising for CO_2 efficiency as well as reducing refractory consumption.

Although we are developing innovative low-carbon products, the market for them is not yet fully developed, particularly in relation to pricing premium. At this stage of customers' net-zero journeys, we therefore usually support emissions reductions using existing technology. This includes removing and recycling spent refractories from customer sites, which reduces both waste and associated emissions. In addition, we are integrating CO_2 emissions reduction into existing solutions, such as tundish and purging, and communicating these avoided emissions to customers. For example, our EAF direct purging plugs ("DPP") system increases productivity while reducing CO_2 emissions by up to 12.7kg CO_2/tonne of steel.

We also partner with the cement industry on their net-zero journey. Our ANKRAL low carbon ("LC") brick for the cement industry has up to 20% recycled content.

Cement customers can reduce emissions in their production processes using our Automated Refractory Optimisation ("ARO") technology. This digital tool monitors conditions inside kilns to optimise refractory consumption and minimise CO_2 emissions. ARO is similar to our market-leading technology for steel customers, Automated Process Optimisation ("APO"). Digital supervision of kilns allows customers to avoid energy-intensive stoppages for traditional maintenance checks.

In addition to steel, cement and other traditional customers, we are moving into new industries in the low-carbon economy. For example, we will supply refractory engineering, materials and installation for four new waste-to-energy plants that will supply 1.5 million Moscow residents with renewable energy by 2023.

Reducing the carbon intensity of energy

We are switching to lower-carbon and renewable sources of energy where feasible in order to reduce the carbon intensity of the energy we use.

By the end of 2021, 48% of purchased electricity was from low-carbon or renewable sources. This is due to new contracts for renewable energy in Germany and China and has led to a 22% drop in our Scope 2 emissions. Similar initiatives at other locations are being explored.

Renewables are not yet a viable primary energy source for us due to the high temperatures and quantities of energy required for the production of refractories. Where possible, we are switching from pet coke to natural gas, the fossil fuel with the lowest carbon footprint. In 2021, gas represented 52% of our fuel use.

Nevertheless, the required gas infrastructure does not yet exist in all locations. In Hochfilzen, we plan to switch to gas as soon as the natural gas supply is upgraded. In York, the pre-engineering is underway for both rotary kilns to have new multi-fuel burners that would allow natural gas.

We anticipate installation of the first burner in 2022 and the second in the following year.

Our energy use

	2018	2019	2020	**2021**
Total consumption (GWh)	5,718	5,227	4,577	**5,184**
MWh/t	1.98	1.93	2.03	**1.93**

1 Refinement of reporting results in updated energy efficiency KPI 2018-2021.

Increasing energy efficiency

By 2025, we have committed that energy efficiency will be 5% higher compared to 2018. With plants now operating at full capacity, the results of recent energy efficiency projects are now visible. We have improved energy efficiency 6% since the previous year.

To build on this progress, we have now adopted energy management standard ISO 50001. In 2021, we implemented this in our Mexico, Austria and Turkey operations and will complete a rollout to all global operations in 2022. By reducing the duration and temperature required for production processes, innovative technologies are also helping to improve energy efficiency.

In 2021, we used 5.2 TWh of energy. Energy efficiency projects are expected to save more than 100 GWh a year.

Responsible use of air, land and water

Climate change is not the only pressing environmental challenge. Declining biodiversity, water shortages and air pollution are interlinked and will also require intervention.

RHI Magnesita aims to reduce its impacts on air, land and water and to be a responsible user of these precious shared resources.

Reducing NOx and SOx emissions

Our programme to reduce our emissions of nitrogen oxides (NOx) and sulphur oxides (SOx) by 30% is underway. Following a phased approach, we focused first on China and met our 2021 target a year early. We are now on track to achieve targets in the US by 2025 and we are currently implementing the necessary process optimisation. In Europe and South America, we expect to reach the 30% reduction target by 2027.

Protecting biodiversity

Biodiversity loss and ecosystem collapse are described as one of the top five threats to face humanity in the next decade. The links between nature and the global economy are now better understood, with an estimated $44 trillion of economic value generation moderately or highly dependent on nature.

RHI Magnesita recognises the threat posed by nature loss. We aim to assess how our operations impact nature, as well as the potential financial risks to our business that could arise in the longer term. We have begun the process of developing a biodiversity strategy. As a first step, we are assessing our mining sites for proximity to and impact on areas that are protected, or of high biodiversity value.

We are continuing our programmes to plant native species of trees at key locations across our business. Our tree nursery in Brumado has grown over 16,000 trees. RHI Magnesita planted more than 4,000 of these in Brumado in 2021 and donated a further 12,000 to community groups. Similarly, our Eskişehir site planted 1,500 trees on land bordering our mine and plant, bringing the total planted to 197,300 since 2005.

Water stewardship

Less than 1%[6,7] of the world's water is freshwater that is available for domestic use, agriculture, industry and freshwater ecosystems. Demands on this finite resource are rising. As the climate changes, the availability of this water is becoming less predictable, with floods and droughts becoming more common.

Although the refractory industry is not water-intensive, we must still minimise water withdrawals and use water as efficiently as possible. This is particularly true for the 10 sites we have identified as being situated in regions where water scarcity is or might soon become a risk. Plants in Mexico, Brazil, India, China and France were all identified through water scarcity assessments we have conducted at every production site.

In India, mitigation plans include our first rainwater harvesting system. Now operational at our Clasil plant, the system has so far replenished the aquifer with more water than the plant withdraws, making our local operation water positive. The six rainwater harvesting pits protected the plant from flooding during the monsoon while helping to recharge the aquifer with an estimated 30,000m³ of rainwater.

We plan to expand the scheme to our Cuttack and Bhiwadi plants.

In 2021, our water consumption was 13.0 million m³, 5% higher than 2020. Of our total water consumption, 1.3m³ water (or 10%) was consumed in water-scarce areas.

A sustainable supply chain

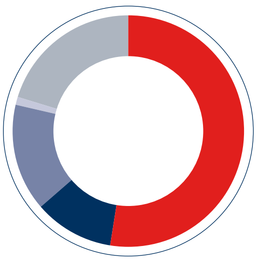
We are working to integrate environmental sustainability into our procurement processes. Following a comprehensive risk assessment, we are now rolling out an assessment process together with EcoVadis which will assess suppliers for environmental issues ranging from energy and CO_2 emissions to waste and end of life. Based on risk mapping, we carried out the first phase of assessments in 2021. Our target is to cover two-thirds of our supplier base by 2025 and all suppliers delivering raw materials with a high CO_2 intensity.

Our carbon emissions

	Absolute emissions (thousand tonnes of CO_2)			
	2018	2019	2020	**2021**
Scope 1	2,396	2,008	1,973	**2,493**
of which geogenic emissions	1,305	1,066	1,075	**1,330**
of which fuel-based emissions	1,045	918	873	**1,129**
of which other emissions	46	24	25	**34**
Scope 2	206	188	143	**112**
Scope 3 (raw materials)	2,851	2,486	2,161	**2,273**
Total	**5,453**	**4,681**	**4,277**	**4,878**

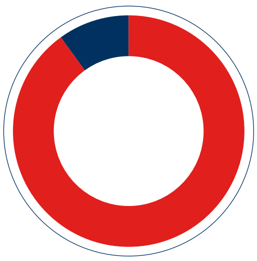
1 Adaptations in line with the Greenhouse Gas protocol and refinement in reporting result in updated CO_2 figures and KPI 2018-2021.

Our energy use by source



- Natural gas 52%
- Electricity 11%
- Fuel oil 15%
- Diesel 1%
- LPG 0%
- Coal and coke 20%

Our water use



- Water consumption in non-scarce areas 90%
- Water consumption in water scarce areas 10%

Case study

New circular approach to our business in Rasa

Our Argentinian plant at Rasa has set a bold new benchmark for our business with its circular approach. The plant improved stabilisation for recycled materials and launched a circular plan that covers everything from sourcing and recipes to customer relationships. The plant now only produces products with recycled content and has been able to exceed 20% recycled content in its magnesia carbon refractories.

Recycled content in magnesia carbon refractories

20%+

Our people and communities

The world of work is changing rapidly both for employers and employees. From the challenges of COVID-19 and its effects on global supply chains to the demands of decarbonisation and digitalisation, companies face new and complex challenges.

We will only navigate these challenges successfully if we bring our people along on the journey, too. This means equipping employees with new knowledge and skills. It also requires a culture and a structure that are open, pragmatic, that promotes innovation and rewards performance.

Health and safety

Our employees and contractors are entitled to a safe and healthy workplace. Since the COVID-19 pandemic, this fundamental employer obligation has taken on even greater significance and we have worked hard to protect employee health, safety and wellbeing.

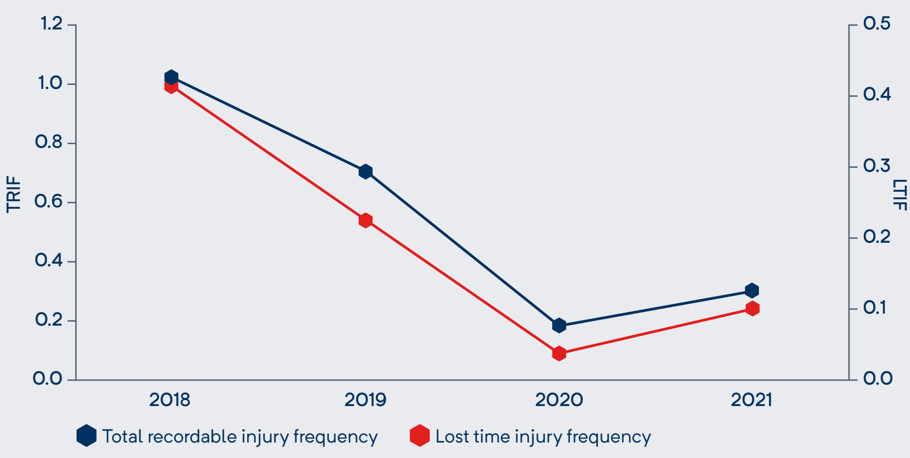
During 2021, we continued with strict adherence to our COVID-19 safety protocols. Routine testing helped to protect the safety of our workforce, as well as the continuity of our business. Other safety measures continued depending on local circumstances and regulations. We maintained a heightened focus on internal communications, including the promotion of vaccinations. As a result, we have avoided outbreaks in our operations. Nevertheless, we were saddened by the COVID-19 related deaths of 11 people, including employees and contractors in some of the hardest hit countries in which we operate.

In parallel, we continued to progress our occupational safety programmes. After a consistent positive trend since 2011 for all safety KPIs, we experienced a slight increase in injury rates during 2021. Our lost time injury frequency (LTIF) rose to 0.19 and our total recordable injury frequency (TRIF) was 0.61. Most regrettably, two contractors died as a result of workplace accidents, one in Brazil and one in China. Immediate investigations and remedial action were taken in both cases.

The deterioration in our safety KPIs in 2021 broke a continuous record of improvement since 2011 and this was immediately investigated. Interviews and analysis revealed these developments were probably a result of unexpectedly high plant loads combined with reduced staffing due to COVID.

Deteriorating safety performance is not acceptable and the Group has a zero accidents target. We achieved this goal for a five month period in 2020. We are taking swift remedial action, including a global Safety Relaunch programme. Given the two fatalities in China and Brazil, we are engaging closely with these client sites and others to ensure their safety standards are as high as the rest of our operating locations.

Our safety performance



As part of our safety integration project, we also work with customers to develop shared training and reporting practices. Employees contracted to work at customer sites are already included in our data, as are contractors on our sites.

We are extending implementation of ISO 45001 for our refractory installations business. This occupational health and safety management system, which we have implemented across 20 plants and production sites, ensures that we focus on:

- Risk assessments to identify hazards and prevent accident and injury
- Mitigating unsafe situations to prevent accidents and learn from near-misses
- Measuring the timeliness and effectiveness of mitigation measures
- Investigations and root cause analyses, sharing results across the organisation

Since unsafe behaviours are responsible for most accidents at work, we also use the POST safety observation programme to focus on behaviour-based safety.

Our culture

We continue to embed our organisational culture into our everyday business. Customer focus is at the heart of this culture which has four key dimensions: innovation, openness, pragmatism and performance-driven. These qualities have allowed us to navigate the pandemic, while protecting the health of our employees, serving our customers and ensuring the swift recovery of our business.

During the pandemic, our employee engagement largely comprised virtual townhall meetings between our leaders and employees, as well as online communications channels. We have now begun to reintroduce face-to-face townhall meetings. Our most recent global survey (conducted in 2020) showed our employee engagement at 79%. This exceeded global benchmarks for business and for manufacturing industries.

As we accelerate the digitalisation of our business, we are also focusing on the people side of the transformation. Following the success of our culture champions, we have appointed more than 100 digital champions across our global business. These ambassadors engage with employees, showcasing the benefits of new tools, as well as identifying challenges and solutions.

Promoting diversity

We believe that a diverse and inclusive workplace is better for our employees and our business. When employees feel more accepted and valued for who they are, they are more likely to feel engaged, share different perspectives and be able to innovate.

Our goal is therefore to build a highly diverse organisation where everyone feels welcome and valued, regardless of gender, age, nationality, ethnicity, religion, disability, sexuality or any other difference. We have embedded diversity into our cultural themes.

Diversity of gender, nationality and generation are our first three priorities. To drive progress, we have set up global and regional governance structures that report to the Corporate Sustainability Committee of the Board.

Our target is that by 2025 women should represent 33% of our Board, our Executive Management Team (EMT) and their direct reports. Our Board already exceeds this target, with 38% of Directors now women. Female representation among our senior leaders was 22% at the 2021 year end so there is further progress to be made in this area.

We are building a pipeline of future female leaders. As we work to make our leadership reflect the geographic diversity of our business, we intend to appoint female leaders to roles in each key region.

We aim to increase representation from both younger and older age groups helps us benefit from a multi-generational workforce. Our new trainee programme, Refractory Factory seeks to attract and retain young talent. Our first intake of trainees included 10 nationalities, with 30% female representation.

We made our first submission in 2021 to the Parker Review on the topic of ethnicity and race.

Developing leaders

People development is critical as we transform our business and rise to the challenges. From digitalisation to decarbonisation, we are building new skills to successfully address these challenges.

The Refractory Factory is our recently launched global trainee programme designed to build our leadership pipeline. The two-year course offers the chance to participate in strategic growth projects as well as cross-functional and international assignments.

New skills are also required of leaders in increasingly complex and volatile global markets. Our new global leadership development programme focuses on leadership in times of change.

Our talent management system, the People Cycle provides assessments of performance and potential, supports personal development plans and succession planning.

Our Radenthein plant is the most technologically advanced in the global refractory industry. It has therefore been chosen to be the central training hub and digital flagship plant, with more than €1 million invested in expanding its training facility.

Supporting our communities

With our operations typically in remote areas, RHI Magnesita's community investment projects are mostly focused on neighbourhoods in the immediate vicinity.

Our main focus areas are: education and youth development, environmental protection and emergency relief. By working in partnership with local residents and experts, we develop programmes that respond to local needs, improve lives and strengthen communities.

Examples from 2021 include:

- We provided COVID-19 vaccinations to residents living near our Indian plants.
- In Germany, we supported emergency flood relief efforts for communities around our Urmitz plant. We supported the German Red Cross and matched funds raised by our German Workers' Council. In addition, we organised volunteering opportunities for employees.
- In Brazil, Building the Future is a 24-month training programme that recruits young people from disadvantaged neighbourhoods near our Contagem plant and leads to a professional qualification and practical experience in our operations. Similarly, our Brumado site runs Project Hexa, a technical training programme for residents who left school with limited opportunities or lost their livelihoods.
- In Austria, we have expanded our partnership with the educational organisation, Wissensfabrik. Our STEM (science, technology, engineering and maths) project continues to grow.

Environmental projects supported by the Group include tree-planting, biodiversity projects, river clean-ups, community fruit and vegetable gardens and environmental education. We have a longstanding tree-planting programme in Brazil which raises awareness amongst our employees of environmental issues such as deforestation and biodiversity decline.

Women in leadership in 2021

F

Board
5
2020: 3 | 2019: 3

EMT
2
2020: 2 | 2019: 2

EMT Direct Reports
9
2020: 12 | 2019: 12

EMT + EMT Direct Reports
11
2020: 14 | 2019: 14

M

Board
8
2020: 9 | 2019: 10

EMT
5
2020: 5 | 2019: 7

EMT Direct Reports
33
2020: 36 | 2019: 60

EMT + EMT Direct Reports
38
2020: 41 | 2019: 67

	2019	2020	**2021**	2025 target
Board[1]	23%	25%	**38%**	33%
EMT	22%	29%	**29%**	33%
EMT + direct reports	16%	25%	**21%**	33%
EMT + EMT Direct Reports	17%	26%	**22%**	33%

1 Percentage of women, excluding Employee Representative Directors.

Case study

Providing local flood relief in Germany

Our Urmitz plant is located near the site of catastrophic flooding in Germany during 2021. Although our plant was undamaged, the local area was severely affected. We immediately provided a cash donation to the German Red Cross and encouraged employees to participate in disaster relief and rebuilding. The local Works Council raised funds to support an employee whose house had been lost and we matched those generous donations.

EU Taxonomy Regulation

The EU Taxonomy Regulation ("EU Taxonomy") applies in respect of the financial year to 31 December 2021 and requires the Group to report annually on the proportion of its turnover, operating expenditure and capital expenditure attaching to economic activities that are considered to be environmentally sustainable.

The EU Taxonomy identifies the six environmental objectives: climate change mitigation; climate change adaptation; the sustainable use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems. In respect of the 2021 financial year the Group is only required to report in relation to the first two objectives.

The EU Taxonomy differentiates between taxonomy eligibility and taxonomy alignment. If an economic activity is described in the Annex it can be considered eligible. In order to be considered "aligned" further technical criteria must be met. In respect of the 2021 financial year the Group is only required to report economic activities that are eligible.

No sector-specific guidance for the refractory industry has been published and therefore the Group is required to use its own judgement against the eligibility criteria. In 2022 the Group intends to report aligned activities.

The NACE codes most closely describing the activities of the company are "23.20 Manufacture of refractory products" and "08.99 Other mining and quarrying". These NACE codes are not listed in Annex I or Annex II of the Taxonomy regulation, but certain activities carried out by the Group do meet the definitions of economic activities listed in Annex I of the Regulation. As elaborated further by the Commission on Taxonomy, if the NACE code of an economic activity is not mentioned in the Climate Delegated Act, but the economic activity corresponds to the description of the activity, it can qualify as Taxonomy eligible. This is further elaborated in the Taxonomy eligible activities section.

Accounting policy

RHI Magnesita N.V. prepares consolidated financial information in accordance with generally accepted accounting principles under IFRS, as adopted by the EU and the financial information for turnover, operating expenditure and capital expenditure presented under the EU Taxonomy has been prepared under the same accounting principles.

Taxonomy eligible activities of RHI Magnesita referring to the activities of Annex I and II

Economic activities of RHI Magnesita that are described in Annex I and II of the Delegated Regulation (EU) 2021/2139, are considered eligible. In the case of RHI Magnesita, the following activities are considered relevant:

- Manufacture of other low carbon technologies
- Material recovery from non-hazardous waste
- Close to market research, development and innovation

Manufacture of other low carbon technologies

The economic activity "Manufacture of other low carbon technologies covers the "Manufacture of technologies aimed at substantial GHG emission reductions in other sectors of the economy".[1] RHI Magnesita offers products and services which help to make CO_2-intensive processes in the steel industry more efficient and therefore achieve emissions reductions in the global steel industry.

Electric Arc Furnace refractories

RHI Magnesita provides refractory products specifically designed for Electric Arc Furnaces. Additionally, RHI Magnesita provides heat management solutions and services to its customers to reduce their GHG emissions, including digital solutions as well as advanced refractory products.

Electric Arc Furnaces ("EAF") are a vital enabling technology for the reduction of CO_2 emissions in the steel industry. EAFs can be powered using electricity sourced partially or wholly from renewable energy generation and replace the Basic Oxygen Furnace ("BOF") phase of the traditional integrated steel manufacturing process, which pairs a blast furnace with a BOF and is highly CO_2 intensive. EAF steelmaking requires a source of scrap steel or sponge iron produced from the reduction of iron ore.

Direct Reduction of Iron ore ("DRI") using hydrogen is a new technology under development that seeks to eliminate CO_2 emissions from the reduction of iron ore in blast furnaces using coke. If sufficient quantities of hydrogen manufactured from renewable sources can be accessed and if a DRI furnace can be paired with an EAF for the second stage of the steelmaking process that is also powered by renewable energy, CO_2 emissions from steel production can be largely eliminated.

RHI Magnesita has a leading market position in EAF-specific refractories, services and heat management solutions, in part due to the unique chemical composition of the Group's vertically integrated raw material supply. EAF refractories produced by RHI Magnesita directly enable substantial reductions in CO_2 emissions at steel plants, if the EAF output is displacing steel that would otherwise have been produced using a blast furnace and BOF.

Digital solutions and other products which increase energy efficiency

RHI Magnesita offers digital solutions and associated physical equipment which achieve CO_2 emissions reductions through process efficiencies, such as wear monitoring and gunning repairs to extend the safe working life of refractory linings. Safely extending the working life of refractory linings can achieve significant energy savings for steel producers by reducing the number of heating and cooling cycles required per unit of steel output.

The Group also offers advanced refractory products which enable its customers to substantially reduce GHG emissions by reducing electricity consumption, improving yield and reducing oxygen consumption, saving up to 13kg CO_2 per tonne of steel produced.

Other solutions and products which directly contribute to CO_2 emissions reductions at customer sites include cold setting mixes, EAF direct purging plugs and converter inert gas purging.

Material recovery from non-hazardous waste

Material recovery from non-hazardous waste covers the "construction and operation of facilities for the sorting and processing of separately collected non-hazardous waste streams into secondary raw materials involving mechanical reprocessing, except for backfilling purposes."

RHI Magnesita aims to increase its secondary raw material ("SRM") input to 10% of raw material used in production of refractories. As part of this effort, RHI Magnesita operates facilities for the sorting and processing of spent refractories from customers' industries. Secondary raw materials which are mechanically processed by RHI Magnesita and transformed from waste to raw material are eligible for consideration under the EU Taxonomy, whilst secondary raw material processed by a third party and purchased externally by the Group are non-eligible.

1 Other than manufacture of renewable energy technologies, manufacture of equipment for the production and use of hydrogen, manufacture of low carbon technologies for transport, manufacture of batteries, manufacture of energy efficiency equipment for buildings.

Close to market research, development and innovation

Close to market research, development and innovation covers "research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the reduction, avoidance or removal of GHG emissions (RD&I) for which the ability to reduce, remove or avoid GHG emissions in the target economic activities has at least been demonstrated in a relevant environment, corresponding to at least Technology Readiness Level ("TRL") 6".

RHI Magnesita conducts close to market research, development and innovation among others to directly avoid GHG emissions (e.g. research on chemically bonded bricks which do not need firing in kilns) or which support other eligible economic activities (e.g. material recovery from non-hazardous waste). These R&D activities may be included in the Operating Expenditure of the other eligible economic activity and are therefore excluded to prevent double counting.

KPIs

Share of Taxonomy eligible revenue, Operating Expenditure and Capital Expenditure — Climate change mitigation:

Turnover

The turnover KPI is calculated as the ratio of turnover associated with taxonomy-eligible economic activities in the reporting period to total turnover in that period. The total turnover of the financial year 2021 of €2,551 million forms the denominator of the turnover key figure and can be taken from the consolidated income statement on page 125 of this Annual Report.

The following eligible activities have been identified as relevant in view of turnover:

- Manufacture of other low carbon technologies
- Material recovery from non-hazardous waste

The total turnover reported in the consolidated income statement is analysed across all group companies to assess whether it is associated with taxonomy-eligible activities. A detailed analysis of the items included in the total turnover is used to allocate the respective turnover to the taxonomy-eligible activities.

Capital Expenditure

The Capital Expenditure KPI indicates the proportion of capital expenditure that is either related with taxonomy-eligible economic activities, part of a plausible plan to expand or achieve environmentally sustainable economic activity, or related to the purchase of outputs and products from taxonomy-eligible economic activities.

The following eligible activities have been identified as relevant regarding the Capital Expenditure KPI:

- Manufacture of other low carbon technologies
- Material recovery from non-hazardous waste
- Close to market research, development and innovation

The project descriptions of the additions of assets in the reporting year served as a basis for the necessary identification.

Total Capex consists of additions to tangible and intangible fixed assets during the financial year, before depreciation, amortisation and any re-measurements, including those resulting from revaluations and impairments, as well as excluding changes in fair value. It includes acquisitions of tangible fixed assets (IAS 16), intangible fixed assets (IAS 38), right-of-use assets (IFRS 16) and investment properties (IAS 40). Additions resulting from business combinations are also included. Goodwill is not included in Capex, as it is not defined as an intangible asset in accordance with IAS 38.

The sum of these identified additions of assets in the reporting year equals the numerator of taxonomy-eligible Capital Expenditure. The total capital expenditures in line with point 1.1.2.1. Annex 1 of the Disclosure Delegated Act equal the denominator.

Operating Expenditure

The denominator of the Operating Expenditure KPI shall cover direct non-capitalised costs that relate to research and development, building renovation measures, short-term lease, maintenance and repair, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets.

The numerator equals to the part of the operating expenditure included in the denominator related with taxonomy-eligible economic activities, part of a plausible plan to expand or achieve environmentally sustainable economic activity, or related to the purchase of outputs and products from taxonomy-eligible economic activities.

The following eligible activities have been identified as relevant regarding the Operating Expenditure KPI:

- Manufacture of other low carbon technologies
- Material recovery from non-hazardous waste
- Close to market research, development and innovation

For the identification of relevant Operating Expenditure, costs including direct non-capitalised costs that relate to research and development as well maintenance and repair have been considered.

Avoidance of double counting

To avoid double counting, data sources for the various reported items are individually cross-checked to identify overlapping classifications. Where double counting is identified, data is removed from one of the overlapping categories.

Material areas identified for removal of double counting are as follows:

- Revenue from Electric Arc Furnace (Manufacture of other low carbon technologies) and revenue from Recycling (Material recovery from non-hazardous waste)

EU Taxonomy reporting in the year to 31 December 2022

In 2022 the Group intends to obtain third party confirmation of its classification of Taxonomy-eligible activities relevant to climate change mitigation, to demonstrate alignment of those activities. The Group also intends to extend its analysis of Taxonomy-aligned or Taxonomy-eligible activities to cover water use, the circular economy, pollution and biodiversity as set out in the EU Taxonomy Regulation.

Taxonomy disclosure table

Year to 31 Dec 2021		Revenue	Operating Expenditure	Capital Expenditure
Manufacture of other low carbon technologies	€ million	431	14	6
	%	16.9%	16.9%	2.3%
Thereof enabling or transitional activities[2]	€ million	431	14	6
	%	16.9%	16.9%	2.3%
Material recovery from non-hazardous waste	€ million	82	3	5
	%	3.2%	3.2%	2.1%
Thereof enabling or transitional activities	€ million	—	—	—
	%	—	—	—
Close to market research, development and innovation	€ million	—	2	1
	%	—	2.6%	0.4%
Thereof enabling or transitional activities	€ million	—	1	1
	%	—	0.8%	0.4%
Total Taxonomy eligible	€ million	514	18	12
	%	20.1%	22.7%	4.8%
Thereof enabling or transitional activities	€ million	431	14	7
	%	16.9%	17.7%	2.7%
Denominator	€ million	2,551	80	261[3]

2 Draft Commission notice on the interpretation of certain legal provisions of the Disclosures Delegated Act under Article 8 of EU Taxonomy Regulation on the reporting of eligible economic activities and assets (2 February 2022) applied without examination of Technical Screening Criteria.

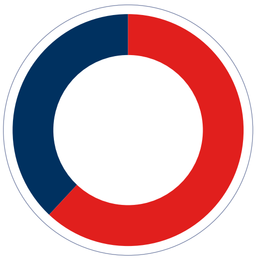
3 See note 12, Property plant and equipment.

Chairman's introduction to corporate governance

In 2021, the Board has supported the management in navigating the business amidst a challenging market backdrop, with stakeholders always at the forefront of decision making.

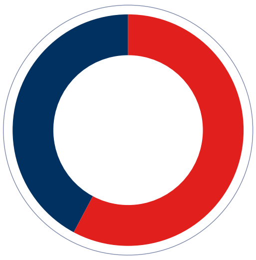
Herbert Cordt
Chairman

Board gender diversity[1]



Male	62%
Female	38%

Board independence[1]



Independent	58%
Not independant	42%

1 As calculated by reference to the UK Corporate Governance Code and excluding the ERDs.

Dear Shareholder,

On behalf of the Board, I am pleased to present the corporate governance report for the year ended 31 December 2021, summarising the role of the Board in providing effective leadership in promoting the long-term sustainable success of RHI Magnesita.

2021 has been another challenging year, and we have been pleased to make good progress against our strategy as we approach 2025. We have learnt a lot about ourselves as a company and as a board as we operate in these volatile times. Our governance processes and practices have undoubtedly aided us in focusing our efforts and attention, so as to continue to deliver value for our shareholders and benefits for our stakeholders. This corporate governance statement will report on our governance approach in full and in this introduction I outline a few key matters for your particular attention.

Board composition

As we reported to shareholders in our 2021 report, we undertook a search for new Non-Executive Directors. We were delighted to welcome three new Independent Non-Executive Directors, Jann Brown, Marie-Hélène Ametsreiter and Sigalia Heifetz in the course of 2021, with their appointments being approved by shareholders at the AGM in June. All were appointed with a significant majority and have each brought a diversity of skills and experience which complemented the existing skills profile of the Board and have strengthened the performance of the Board with their contributions. Their appointments ensured that we are more gender diverse, something we have noted as being a key deliverable from Board reviews in recent years. Their tailored inductions have been completed in 2021 and you can read more about the structure of the programme on pages 77 and 78.

In December 2021, the works councils of Austria and Spain appointed two new Employee Representative Directors for a term of four years each, pursuant to our Articles of Association, who became members of the Board with immediate effect. Martin Kowatsch was appointed by the Austrian Works Council, replacing Franz Reiter, who stepped down from the Board and will retire from the Company in due course. Karin Garcia was appointed by the Spanish Works Council and together, Martin and Karin join Michael Schwarz, whose appointment to the Board was renewed by the German Works Council with effect from 9 December 2021.

We wish Franz all the best for his forthcoming retirement and thank him for his energetic and constructive input over his years as a Board member for RHI AG and subsequently RHI Magnesita N.V. We welcome Karin and Martin and look forward to a co-operative and healthy engagement on a wide range of topics, as well as seeking the opportunity to hear more directly from different sections of our employees. They are being supported with a tailored induction programme which you can read more about on pages 77 to 78 .

Full details of our Board and Executive succession planning and recruitment of new members can be found on pages 89 and 90. Their biographies can be found on pages 83 to 85 .

Diversity

We are pleased to have exceeded the Hampton Alexander target of a 33% female Board with a gender diversity of 38% female Board members. We have always calculated this percentage excluding the ERDs as we cannot influence their appointment. However, we are pleased that the works council in Spain chose to appoint a female Director and therefore, including our ERDs, we are also at 38%.

In order to ensure that we continue to pursue diversity of thought and experience on our Board the Nomination Committee has recommended a refreshed Board diversity policy in 2021, which, in line with Dutch law changes, contains ambitious targets for gender diversity and commits us to reporting to the Parker Review. Whilst we are pleased that we satisfy the ethnic diversity criteria of the Parker Review, with one of our Board identifying as a member of the ethnic minority categories as defined by the UK Office of National Statistics, we will continue to consider our diversity as a Board and as the Company based on our global footprint and operations in a way which is best aligned with our growth agenda.

Independence

The independence of the Board continues to be at the forefront of our governance agenda. With the growth of the ERD group on our Board, we were prompted to review how these Directors operate and how we should calculate the Board's independence, given their differing process of appointment as enshrined in European corporate law.

The UK has embraced worker representatives in recent years. However, workforce representatives on a supervisory board, has been a cornerstone of the DACH (being the region comprising Germany, Austria and Switzerland) corporate legal environment for many years. Our corporate history and Board composition stems from this DACH corporate legal environment. The two systems (UK and DACH) aim for the same outcome of broader stakeholder consideration but may differ in their practical application.

We find, looking at other companies in a similar position, that a differentiation when calculating independence, and indeed other Board statistics, is made between directors appointed by shareholders at the AGM, and those appointed by the workforce. The Board, management and indeed our shareholders, can play no role in the appointment or removal of the ERDs. As such, we are not including our ERDs as part of the denominator in our independence calculations. We have always set them out as a separate category within that calculation and this is consistent with that.

You can read more about the role of the ERDs on **Page 74**

Furthermore, this year Wolfgang Ruttenstorfer, who served on the supervisory board of RHI AG from 2012, reached nine years of service. He meets no other criteria for non-independence suggested under the UK Corporate Governance Code 2018 ("UKCGC"). The Company has changed immeasurably over that period, and Wolfgang continues to demonstrate strong independent judgement and assessments in Board meetings. The Board is comfortable that Wolfgang continues to act independently, however, under the criteria of the UKCGC, he will be reported as a Non-Independent Non-Executive Director going forward.

Finally, in 2021 we took steps to change our Articles of Association to give the casting vote to the Deputy Chairman and Senior Independent Director[1] to ensure independence be preserved in our discussions and decisions and to give assurance to stakeholders that an independent non-executive director would have the power to steer the Company, should it ever be required. It is important to us that, whilst we individually as Directors have a duty to exercise independent judgement, that the Board as a whole can be assured to be independent to our stakeholders.

You can read more about the independence of the Board on **Page 75**

COVID-19 restrictions on the Board

Once again, as a Board with international composition, we were seriously hampered by travel restrictions across multiple jurisdictions, making it very difficult to facilitate physical meetings and site visits. Nonetheless, more interaction and engagement with the business was possible compared to 2020, with one Board site visit undertaken to our R&D centre in Leoben, and other visits taken by smaller groups to Radenthein (Austria), Bonnybridge (Scotland) and Bhiwadi (India). The EMT and Executive Directors were able to visit many more locations in 2021 than in 2020, and reported details back to the Board accordingly.

Following from the findings of the Board review in 2020, we implemented better technology and processes to support the hybrid meetings, although they are still no substitute for in-person interaction which we hope to return to as quickly as possible.

Board review

When we became RHI Magnesita in 2017, we engaged in a three-year programme of external Board reviews delivered by Lintstock. As a nascent Board with a number of new participants and a range of considerations to be aware of, this level of detailed evaluation was felt to be useful, and we have seen significant progress through these evaluations in terms of Board dynamics, inputs to the Board and Board composition.

As we have settled into the natural rhythms of Board operation, following the immediate years post-merger, it was felt that an internal evaluation for 2021, as permitted by the UKCGC, would be suitable. Our Company Secretary administered the Board evaluation for 2021, working together with the SID and the Chairman to develop the areas for focus and the action plan based on the findings.

We were pleased to see that our members consider the Board to be effective, showing good progress from 2020, despite continuing logistical difficulties for the Board arising from COVID-19 restrictions. We identified areas for focus in 2022 and you can read more about the findings on page 89.

Sustainability, stakeholders and strategy

Throughout the 2021 Board programme we again devoted considerable time to the deliberation of the Company's strategy, particularly to assessing progress against our 2025 strategy so far and the execution capability required to deliver it. These discussions were focused on the risks to the strategy execution and how management could mitigate these risks, focusing on our corporate purpose and culture as a key mechanism for delivery.

Sustainability has been a constant seam throughout many of our conversations as a Board and also with stakeholders. It was a cornerstone of the strategy discussion and was discussed at each Board meeting in the year, with Directors recognising it as both a risk and opportunity for the business, and our wider communities.

The Corporate Sustainability Committee (CSC) has reported back to the Board on the proceedings of each of its meetings and the CSC also welcomed various Board members and key senior management as attendees to those meetings throughout the year, ensuring that conversation has been taking place at the highest levels of the organisation.

At RHI Magnesita, we recognise the role we play in the lives of our employees, customers, suppliers, shareholders, and the communities in which we operate. You can read more about our stakeholder engagement on pages 50 to 55. Throughout the year we have appreciated hearing from our shareholders on many different topics, not least on corporate governance. You can read more about these meetings on page 51.

A more detailed overview of the matters discussed and debated by the Board at its meetings during the year is presented on pages 79 to 80.

The report of our compliance in respect of each of the UKCGC and the Dutch Corporate Governance Code 2016 (the "DCGC" and together "the Codes") can be found on page 70. We have reported compliance to the extent possible and explained wherever this has not been achievable.

As in recent years, we will again be holding our AGM virtually, to the extent possible under Dutch law, as we have found it to be an efficient and cost-effective way of engaging with as many shareholders as possible and understanding their views through the business of the meeting.

Finally, all Directors will seek re-election at our AGM on 25 May 2022 and we look forward to engaging with our shareholders at that event.

Herbert Cordt
Chairman of the Board of Directors

1 A dual role held by one individual, currently John Ramsay. You can read the role description on our website.

Corporate governance statement

Compliance with the Dutch Corporate Governance Code ("DCGC") and the UK Corporate Governance Code ("UKCGC")

The Board has applied the principles of, complies with and intends to continue to comply with the requirements of both the DCGC and the UKCGC to the fullest extent possible. A limited number of deviations from these Codes are set out with explanations below.

Deviations from the UK Corporate Governance Code in 2021

The Company does not comply with Provision 9 of UKCGC which states that the Chairman of the Board should be independent on appointment. The Chairman is not considered to be independent for the purposes of the UKCGC, having served on the Board of RHI AG for more than nine years, prior to the merger. This also means the Company is not compliant with Provision 19. The Board, led by the Senior Independent Director, believes that Herbert Cordt continues to demonstrate integrity, objective judgement and independence of character, and that his experience as Chairman of RHI AG's supervisory board is valuable to the Company, providing continuity and corporate memory.

As detailed above, Wolfgang Ruttenstorfer is no longer deemed to be independent under the criteria outlined in the UKCGC, as a result of his role on the RHI AG supervisory board from 2012. The Board greatly benefits from Wolfgang's financial experience, challenge to management and his contributions to the Audit & Compliance Committee, and as such, Wolfgang will continue to be a member of the Committee. We have therefore decided to explain our position in respect of Provision 24 of the UKCGC

Since the introduction of the current UKCGC in 2018, the Company took steps in order to be able to report compliance with the principles and provisions relating to remuneration. Following the publication of FRC guidance on Corporate Governance Reporting in 2021, we will now report partial compliance with Provisions 36, 40 and 41.

Provision 36

The Company consulted circa 70% of its shareholder base about the current Remuneration Policy (the Policy) prior to its approval at the 2021 AGM, explicitly referring to the proposed policy for post-employment shareholding requirements which comprises the continuation of holding periods for annual bonus shares and the LTIP post-cessation of employment. Our Policy received 95.95% support at the 2021 AGM. However the Company notes the clarification by the Financial Reporting Council in 2021, specifically that it is not enough to achieve compliance with the UKCGC by including a policy that only provides for holding periods to continue post-employment.

The Board believes that its current Policy for post-employment shareholding requirements is appropriate and, with other elements of the Policy, achieves the right balance between providing a remuneration structure that is both incentivising and retentive. The Policy ensures alignment to shareholder interests and long-term sustainable performance of the business, both whilst the executives are employed by the business and following their termination. In reaching this conclusion, the Board has taken into account the different elements of the Policy that together achieve these aims including post-employment holding periods for annual bonus shares and vested LTIPs, for both good and bad leavers, in-flight unvested LTIPs for good leavers, as well as shares beneficially owned by the executives.

Provisions 40 and 41

The Company benefits from employee representation on the Board and the Board, annually, approves executive remuneration. This provides a mechanism for our ERDs to understand and engage on behalf of the workforce regarding the alignment of executive remuneration with wider Company pay policy and to provide feedback.

Our remuneration policies and practices, including our approach to salary increases and annual bonus structure are aligned throughout the business. Given this alignment, and the extant mechanism for engagement with the ERDs, the Board is comfortable with the existing approach and does not consider it necessary to provide any additional forms of engagement with the workforce to explain how executive remuneration aligns with wider Company pay policy. The Remuneration Committee will continue to keep this under review.

Deviations from the Dutch Corporate Governance Code in 2021

The Company does not comply with best practice provision 2.2.2 of the DCGC which recommends that, in case of a one-tier board, a Non-Executive Director should be appointed for a period of four years. The appointment of the Non-Executive Directors (other than Employee Representative Directors) has been made on the basis of nominations for three-year terms, subject to performance and annual re-election at the AGM. The Board considers that the three-year term is more consistent with UK listed company practice and does not compromise the spirit of the DCGC provision and does not propose to make changes to the existing Non-Executive appointments.

As explained on page 69, going forward we do not include our ERDs as part of the denominator in our Board independence calculations.

Corporate governance declaration

In complying with the requirements of the DCGC, the Company publishes this corporate governance statement including its compliance with the DCGC. The information required to be included in this corporate governance statement can be found in the following chapters, sections and pages of this Annual Report (the "Annual Report") and are deemed to be included and repeated in this statement:

- the information concerning compliance with the DCGC can be found on page 70;
- the information concerning the Company's main features of the internal risk management and control systems relating to the financial reporting process can be found on pages 38 to 41;
- the information regarding the functioning of the General Meeting and its main authorities and the rights of the Company's shareholders and holders of depositary interests in respect of shares in the Company and how they can be exercised can be found on pages 68 to 121;
- the information regarding the composition and functioning of the Board and its Committees can be found on pages 88 to 121;
- the diversity policy with regard to the composition of the Board and their Committees, can be found on page 89 and
- the information concerning the disclosure of the following items, where they exist, may be found on pages 71 to 81:
  - participations in the Company for which a disclosure obligation exists;
  - special control rights attached to shares and the name of the person entitled to such rights;
  - any limitation of voting rights, deadlines for exercising voting rights and the issue of depository interests for shares with the co-operation of the Company;
  - the regulations in respect of the appointment and dismissal of Executive Directors and Non-Executive Directors and amendments to the Articles of Association;
  - the powers of the Board, in particular to issue shares and to acquire own shares by the Company; and
  - the number of shares without voting rights and the number of shares which do not give any, or only a limited, right to share in the profits or reserves of the Company, with an indication of the powers which they confer.

Corporate governance structure

Listing Rules information

Certain information is required to be published by the Listing Rules (LR 9.8.4C R and LR 9.8.4 R) and this information can be found in the Annual Report as set out in the table below:

1.	Interest capitalised	n/a
2.	Publication of unaudited financial information	n/a
3.	Details of long-term incentive schemes	Pages 97-121
4.	Waiver of emoluments by a Director	n/a
5.	Waiver of future emoluments by a Director	n/a
6.	Non pre-emptive issues of equity for cash	n/a
7.	Item (6) in relation to major subsidiary undertakings	n/a
8.	Parent participation in a placing by a listed subsidiary	n/a
9.	Contracts of significance	n/a
10.	Provision of services by a controlling shareholder	Refer to Note 61
11.	Shareholder waiver of dividends	n/a
12.	Shareholder waiver of future dividends	n/a
13.	Agreements with controlling shareholders	Refer to Note 61

Major shareholdings

At 25 February 2022, the Company is aware of the following persons holding directly or indirectly at least 3% of the issued and outstanding shares in the capital of the Company:

Shareholder[5]	Number of shares	% based on
MSP Stiftung[1]	13,333,340	28.37%
Fidelity Management & Research Company LLC	4,259,559	9.06%
E. Prinzessin zu Sayn-Wittgenstein Berleburg[2]	2,088,461	4.44%
K.A. Winterstein[3]	2,088,461	4.44%
Erste Group	1,810,282	3.85%
Fidelity Worldwide Investment (FIL)	1,783,045	3.79%
Man Group PLC	1,701,815	3.62%
W. Winterstein[4]	1,590,000	3.38%

1 Held directly by MSP Stiftung. MSP Stiftung is a foundation under Liechtenstein law, whose founder is Mag. Martin Schlaff.

2 The interest is held through Chestnut Beteiligungsgesellschaft mbH ("Chestnut"). Ms. Sayn-Wittgenstein made an agreement with Mr. Winterstein which allows Chestnut to exercise the voting rights of Silver Beteiligungsgesellschaft mbH ("Silver") in the Issuer. Ms. Sayn-Wittgenstein and Mr. Winterstein share a family relationship.

3 The interest is held through Silver. Ms. Sayn-Wittgenstein made an agreement with Mr. Winterstein which allows Chestnut to exercise the voting rights of Silver in the Issuer. Ms. Sayn-Wittgenstein and Mr. Winterstein share a family relationship.

4 Held in part directly and in part indirectly through FEWI Beteiligungsgesellschaft mbH.

5 The Company holds 5.01% of its own shares in treasury as a result of the buybacks undertaken 2019-2021.

There are no restrictions on voting and profit rights and no holders of any securities with special control rights. Depositary interests in respect of the Company's shares have been issued by the Company with the Company's co-operation, which can be settled electronically through, and held in the system of CREST. The depositary interest holders hold the beneficial ownership in the shares instead of legal title. Nederlands Centraal Instituut voor Giraal Effectenverkeer B.V. (also known as Euroclear Nederland) holds the legal title to the underlying shares.

Shares may be issued pursuant to a resolution of the General Meeting or of the Board, if and insofar as, the Board has been designated for that purpose by a resolution of the General Meeting. Such designation shall be as set out in the Company's Articles of Association. The Company shall notify each issuance of shares in the relevant calendar quarter to the Dutch Trade Register, stating the number of shares issued.

Transactions with majority shareholders

There have been no transactions between the Company and MSP Stiftung within the meaning of best practice provision 2.7.5 of the DCGC. Since there are no other legal or natural persons who hold at least 10% of the shares in the capital of the Company, no declaration in accordance with best practice provision 2.7.5 of the DCGC has to be published.

Outline of anti-takeover measures and impacts of Brexit

No anti-takeover measures have been implemented. As previously reported, the Company acquired a secondary listing in 2019 on the Vienna Stock Exchange (Wiener Börse) to extend regulatory protections to its shareholders, which could have been lost as a result of the UK's exit from the European Union (EU). Austria has become the sole host member state and the Netherlands continues to be RHI Magnesita's home member state.

The main effect of this is that the Company notifies disclosures, such as share dealing, to each of the three authorities in UK, Netherlands, and Austria. The Company complies with the relevant corporate and listing regulations across all three jurisdictions. The Company's governance structure continues to be primarily derived from its primary listing status in the UK, although there are minor areas in which regulations in other jurisdictions take precedence.

Corporate governance statement
continued

The UK's exit from the European Union (EU) required that the Company restructure its depositary interests to be held by an EU entity in order that they could settle in CREST and be traded in the normal course of business. Accordingly, on 2 June 2021, a transfer of the depositary interests was undertaken. No disruption occurred to the settlement of shares and compliance with post-Brexit regulations was assured.

Share buyback

Under the authority given by shareholders at the Annual General Meeting (AGM) in 2020 to purchase a maximum of 10% of the issued share capital of the Company at the date of acquisition (the "2020 authority"), the Company commenced a share buyback programme on 16 December 2020 to return value to shareholders. This programme concluded on 13 April 2021 and a further programme commenced on 5 May 2021, ending on 4 August 2021. The 2020 authority expired at the AGM in 2021 when a further authority was obtained for purchase of up to 10% of the issued share capital was obtained at the AGM 2021. The remainder of the buyback programme was completed under this authority.

These buybacks, totalling €98 million, were conducted on a non-discretionary basis with Barclays Bank Ireland PLC, which made the share purchases on the Company's behalf, independently of, and uninfluenced by, the Company. The purchases were made on market terms and the average price per share was disclosed in each daily report. The overall average price of the first tranche, ending on 13 April 2021, was 3946 pence per share whilst the second tranche, ending on 4 August 2021, was at an overall average price of 4254 pence per share. The remaining amount authorised under the resolution passed at the AGM 2021, as at 25 February 2022, is 8.61%. This will expire at the end of the 2022 AGM or the date which falls 15 months from the 2022 AGM.

You can read more about these share buybacks on **Page 39**

As at 31 December 2021, the Company held a total of 2,478,686 ordinary shares in Treasury which represent 5.01% of the issued share capital at the date of acquisition of the shares. The Company continues to assess the treatment of these treasury shares and they may be used to satisfy awards made under the terms of the Company's Long-Term Incentive Plan or cancelled in due course.

Before engaging on the programme of share buybacks, the Board discussed the risks and benefits of such a programme and closely considered the medium-term liquidity, leverage profile, outlook and going concern of the Company with detailed presentations from management and consultations with our corporate brokers. The matter was considered in the context of shareholder returns, within the Group's broader capital allocation strategy, and deemed to be in the best interests of a sustainable company, its shareholders and its other stakeholders. The Board will continue to evaluate the potential for additional share buyback programmes to further enhance shareholder returns, after taking into account market conditions and the Group's wider capital allocation priorities.

Board powers, responsibilities and representation

The Board is collectively responsible for the leadership and management of the Company and its business. Its role is to establish the strategy, purpose and values to ensure the Group's long-term and sustainable success. The Board assesses the strategic risks it is willing to take in pursuit of this strategy, ensures sufficient resources, and measures the performance of management against agreed objectives, aligned with the strategy. The Board ensures that appropriate controls and systems are in place to manage risk and considers the Company culture and practices, reviewing alignment with the purpose, values and strategy.

The Board Rules and Matters Reserved to the Board, which are available on the website, set out those matters which are reserved for the Board to consider, including among other items, overall responsibility for strategy and management, major acquisitions and investments, structure and capital, financial reporting and controls, and corporate governance. You can read more about the matters considered by the Board in 2021 on pages 79 and 80.

The Board has delegated responsibility for day-to-day management of the Company to the CEO and his Executive Management Team (the EMT). There is a clear separation of responsibilities between the Board and the EMT, and the main responsibilities of the EMT are to assist the Board with its oversight of strategy, which involves making strategic recommendations to the Board, being accountable for implementing the Board's decisions, and being responsible for directing and overseeing the Company's operations.

The Board has delegated some responsibilities to Committees of the Board, which are outlined in the Committee Terms of Reference, available on the Company website, and summarised in their individual reports on pages 88 to 121. The Chairman of each Committee provides a report to each Board on the matters discussed and resolved upon in the respective Committee meetings.

Each Board Committee has considered the required matters from the respective Terms of Reference and, through the Board review process, has assessed its performance. The composition of the Committees, the number of meetings, attendance at those meetings and key items discussed can be found in each Committee Report on pages 88 to 121.

Pursuant to the Articles of Association, the Board may, if it elects to do so, assign duties and powers to individual Directors and/or committees that are composed of two or more Directors, with the day-to-day management of the Company entrusted to the Executive Directors. Both Executive Directors and Non-Executive Directors must perform such duties as are assigned to them pursuant to the Articles of Association and the Board Rules or a resolution of the Board. Each Director has a duty towards the Company to properly perform the duties assigned to them. Furthermore, each Director has a duty to act in the corporate interests of the Company and its business. Under Dutch law, corporate interest extends to the interests of all stakeholders of the Company, such as shareholders, creditors, employees and other stakeholders. You can read more about stakeholder engagement on pages 50 to 55.

The Board as a whole is entitled to represent the Company. Additionally, (i) the CEO and the Chairman, (ii) the Senior Independent Director and Deputy Chairman[1] and the Chairman and (iii) two Executive Directors, acting jointly, are also authorised to represent the Company. Pursuant to the Articles of Association, the Board may appoint officers who are authorised to represent the Company within the limits of the specific powers delegated to them. You can find our Articles of Association and the role profiles of the above roles on our website.

1 A dual role held by one individual, currently John Ramsay. You can read the role description on our website

Board appointment

Pursuant to the Articles of Association, the Directors, other than the Employee Representative Directors, are appointed by the General Meeting by a majority of votes cast, irrespective of the represented capital. The Board makes nominations to the General Meeting for such appointments. A resolution to appoint the Director other than in accordance with a nomination by the Board may be adopted by the General Meeting by an absolute majority of votes cast representing more than one-third of the Company's issued capital.

Non-Executive Directors (other than Employee Representative Directors) will be nominated for a term of three years, subject to satisfactory performance and annual reappointment by the General Meeting. Employee Representative Directors are appointed for a term of not more than four years. The term of office for each Director (other than Employee Representative Directors) will end on the day of the AGM in the year following appointment. Pursuant to the Articles of Association, Directors may be reappointed for an unlimited number of terms, but the Board's consideration of Non-Executive Directors (other than Employee Representative Directors) for reappointment for a third term would always take into account overall Board independence and stakeholder views, as well as relevant Corporate Governance Codes.

The General Meeting has the power to suspend or remove a Director at any time, by means of a resolution for suspension or removal as outlined in the Articles of Association. The General Meeting is authorised to resolve to amend the Articles of Association, on the proposal of the Board.

Conflict of interest

Dutch law provides that a Director may not participate in the discussions and decision-making by the Board if such Director has a direct or indirect personal interest conflicting with the interests of the Company or the business connected with it.

Pursuant to the Articles of Association and the rules adopted by the Board (the "Board Rules"), the Board has adopted procedures under which each Director is required to declare the nature and extent of any personal conflict of interest to the other Directors.

Board site visits

The agreed Board pattern is that one Board session per annum, typically over a week in April, is held at a location other than the Vienna headquarters. In April 2021 travel was still very difficult, and with the intention to bring in three new Directors, it was agreed that the visit be postponed to later in the year.

In September 2021, the majority of the Board met in person for the first time since January 2020, giving Directors the opportunity to meet colleagues in person, some for the first time, and to build important personal relationships. This meeting took place in Leoben, (left) at our R&D centre, and the Board visited the technology centre, receiving presentations from specialists within the business on topics pertinent to our strategy such as our net-zero brick range, Flow Control, use of secondary raw materials, quality assessment, tools such as computed tomography water modelling. They were able to meet and engage with a broad section of the Company, hearing employees' experiences, about their areas of focus, about their perspective on the strategic initiatives and viewpoints from other stakeholders such as customers, innovation partners and suppliers, with whom the employees engage with regularly. This provided invaluable viewpoints for the Directors on culture and stakeholder experience.

The experience was felt to be overwhelmingly positive, especially for our new Directors, who received a comprehensive overview of the underlying aspects of production, were able to meet specialists in various fields and form deeper relationships with their colleagues on the Board, as well as with the EMT. The existing Directors similarly saw a refreshment in their relationships with their colleagues and the value of meeting in person was substantially reinforced.

Other site visits took place in smaller groups throughout 2021 when and where travel was possible:

- The UK-based Directors visited the Bonnybridge plant, hearing from the management there on safety standards, operational processes, and the plant's contribution to ,and role in, Flow Control.
- The CSC held a meeting of the Committee in Radenthein, seeing the digital innovation and supply chain in action, meeting not only local management, but also attendees of the Committee from the Rotterdam office, Brazil, and Germany, as well as colleagues based in Austria.
- The Executive Directors and David Schlaff visited the Bhiwadi plant in India and were present at the opening of the new R&D centre. They saw the plans for improvements, the automation of production to expand capacity and capability to develop in India, the Middle East and Africa, and met the workforce

Where not all the Board were able to attend the site visits, updates were given at the following meeting to share the learnings and perspectives from the experience.

Corporate governance statement
continued

Culture and purpose

Culture continues to play a large role in Board discussions and the Board took all the available opportunities to engage with colleagues in the business in order to observe and understand the culture within the Company.

Cultural values support the Company Purpose, and the Purpose underpins the Company's stakeholder engagement, demonstrating the Company's place within our wider environment and society. You can read more about how the Board incorporates stakeholder viewpoints into its decision making process on pages 50 to 55.

Read more about our culture on
Page 64

As the Board considered the various operational difficulties in the year, culture was a continuous theme when discussing root causes and solutions. Management devoted significant time and attention to culture, discussing cultural information in detail with the Board throughout the year.

With limited in-person exposure to colleagues at levels across the business because of travel restrictions, the Board sought input from management, received Board presentations in meetings, and requested insight into how a team operated or a region approached problems. Culture has remained an integral element of Board discussions and the Board and its Committees use many sources to assess culture. Given that culture can arguably best be described as "the way we do things around here", it is difficult to use quantitative metrics that accurately communicate the culture to the Board. Nonetheless, data used by the Directors to measure culture include whistleblowing reports, Code of Conduct compliance reports, employee engagement survey results, health and safety reports, responses to Internal Audit reports and the corresponding outstanding actions, workforce remuneration and attrition levels throughout the annual cycle. Directors engage directly with management, throughout the meeting cycle and also beyond, which enables their assessment of management culture.

Culture continues to be a central part of performance evaluations for employees and the Company's internal communications are underpinned by our cultural values. The Board considered the extent to which cultural values were promoted and embodied as part of all succession planning decisions. Given the multiple global locations of operations, local culture is also discussed by the Board when considering the impact and likely success of initiatives. The compliance reports to Directors refer to culture, hand in hand with training and Code of Conduct compliance levels. The Internal Audit reports to the Audit Committee demonstrate that organisational culture is a key factor in achieving good audit results and, where there are improvements, culture is a focus to enable successful implementation. Culture is considered in discussions to identify trends and challenges facing the business. The Corporate Sustainability Committee specifically considers behaviour and culture as key success factors of health and safety campaigns, you can find more details on page 64.

The consideration of culture at Board level has led the understanding of performance in teams such as supply chain management, finance and sales, as well as on the ground in our plants and operations. The Board has considered the culture of different teams, and discussed with management how that culture has contributed to decision making and performance levels of the business. The Board continues to consider how best to effectively measure and assess culture at Board level. The following key cultural themes determine the actions of the Company and specifically feed into performance reviews across the Group, succession planning and risk management:

Whistleblowing

Potential concerns about business ethics or any matters can be reported by all stakeholders to an independently operated, confidential and anonymous whistleblowing hotline, available across all our key operating locations and in the main languages used within the Company. Contact details are publicised throughout the business and are available externally on the website. All reports are assessed by the Head of Internal Audit, Risk & Compliance and then addressed on a case by case basis, typically engaging senior leaders from Legal and HR. The Board routinely reviews this process and the reports arising from its operation, ensuring there are arrangements in place for the appropriate and independent investigation of these cases and that follow-up actions to address the root causes are completed.

The Audit Committee report contains more details on
Page 92

Board workforce engagement

RHI Magnesita's corporate structure has, from the beginning, included Employee Representative Directors. This was a requirement from the merger in 2017 and reflects the approach in continental Europe, particularly the DACH region. The Employee Representative Directors, currently Michael Schwarz, Karin Garcia and Martin Kowatsch, have been appointed by their respective works councils in line with the Company's Articles of Association, and, with experience of the frontline of operations, seek to directly represent the views of the workforce at the highest level of the Company.

The Board welcomes the different viewpoints they provide, bringing increased opportunity for challenge of the executive management, and holding them to account from a different perspective, being that of the workforce who are on the ground, amongst colleagues. The ERDs can attest to the impact of the executives' actions within the business and contribute to the Board accordingly. Not only do the ERDs have the ability to challenge management, but they can also contribute to the NEDs' view of management and understanding of the Company culture, strengthening the independence the NEDs have through providing a broader knowledge of the Company.

The information and discussions at Board meetings helps the ERDs' support of the workforce and provide a mutually beneficial link between colleagues and the Board. Specific details are included in the Board stakeholder engagement report on pages 52 to 53.

Board composition

The Board is composed of 16 Directors which includes two Executive Directors, three Employee Representative Directors and 11 Non-Executive Directors.

The size of the Board at 16 Directors continues to be a challenge, as seen in findings of the Board reviews. However this is mitigated by the careful behaviour of Directors in meetings, the dedicated work of the Committees who then feed their pre-work on matters into the Board meetings and the familiarity of the Board with the nuances of being a dual-listed Company with obligations in three jurisdictions.

Independence

In previous years Wolfgang Ruttenstorfer has been considered independent under the UKCGC and non-independent under the DCGC. This is because he was interim CEO for RHI AG for six months when there was an urgent requirement, following the health-related absence of the CEO. Best practice provision 2.1.8 i. of the DCGC contains a window of five years which Wolfgang is no longer within. Therefore, under the DCGC he is now classed as independent.

Under the UKCGC, the practice has been to include the service of those Directors who were on the RHI AG board when calculating the time served. On this basis, Wolfgang no longer meets the independence criteria of the UKCGC, having joined RHI AG's supervisory board in 2012 and therefore exceeding nine years of service in 2021. He meets no other criteria in Provision 10 of the UKCGC and the Board continues to be comfortable that he provides strong independent challenge to management.

Additionally, per the Chairman's introduction to corporate governance, as European corporate law requires the Company to allow for a significant portion of the Board to be ERDs, the Board feels it is appropriate to follow the process of calculating independence as it is undertaken in the relevant jurisdiction. Which is to say that only Directors who can be appointed by shareholders are counted in the calculation and ERDs are excluded from the denominator.

Accordingly, the Board has seven Directors out of 12 eligible Directors, who are deemed independent (as set out in the table on page 76), thereby constituting a Board which is composed of at least half Non-Executive Directors (excluding the Chairman) considered by the Board to be independent.

The Board has considered the independence of the Non-Executive Directors, including potential conflicts of interest. Each of these Directors has also confirmed that there is no reason why they should not continue to be considered independent.

Skills and experience

The Nomination Committee seeks to ensure the right balance of skills, knowledge and experience on the Board, taking account of the business model, long-term strategy and the sectors and geographic locations in which the Group operates. The Board is structured so that the following experience and capabilities are present in one or more of its Directors:

- knowledge and understanding of the business and products of the Company and its subsidiaries and the markets and geographies in which the Company and its subsidiaries operate, in particular the trends and future developments of these markets and geographies;
- an international background and geopolitical exposure;
- broad board experience, including knowledge of corporate governance issues at main board level as appropriate for the Company with reference to its size and international spread of activities;
- understanding of corporate social responsibility and sustainability matters;
- practical experience in, and relating to, financing and accounting and/or experience in relation to International Financial Reporting Standards (IFRS), as well as in the areas of risk management and internal controls;
- understanding of the markets where the Company is active, in particular emerging markets;
- science, technology and innovation expertise;
- experience and understanding of human resources and remuneration related matters; and
- personal qualities such as impartiality, integrity, tolerance of other points of view, ability to challenge constructively and act critically and independently.

The Nomination Committee considers that all of these aspects are present in a number of the Directors and well represented across the Board. The Board is committed to encouraging diversity to deliver long-term sustainable success for the Company and will continue to pursue its programme in this regard.

Read about Board diversity in the Nomination Committee report on page 88 and 89.

Corporate governance statement
continued

At the date of this Annual Report, the Board is composed as follows:

Name	Position	Year of birth	Date of appointment	Expiry/ reappointment date
Herbert Cordt	Chairman[1]	1947	20 June 2017	2022 AGM
John Ramsay	Deputy Chairman and Senior Independent Director[2,3]	1957	6 October 2017	2022 AGM
Stefan Borgas	Executive Director (CEO)[4,5]	1964	20 June 2017	2022 AGM
Ian Botha	Executive Director (CFO)[4,5]	1971	6 June 2019	2022 AGM
Janet Ashdown	Independent Non-Executive Director[2,3]	1959	6 June 2019	2022 AGM
David Schlaff	Non-Independent Non-Executive Director[4,5]	1978	6 October 2017	2022 AGM
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg	Non-Independent Non-Executive Director[4,5]	1965	6 October 2017	2022 AGM
Fiona Paulus	Independent Non-Executive Director[2,3]	1959	6 June 2019	2022 AGM
Jann Brown	Independent Non-Executive Director[2,3]	1955	10 June 2021	2022 AGM
Karl Sevelda	Independent Non-Executive Director[2,3]	1950	6 October 2017	2022 AGM
Marie-Hélène Ametsreiter	Independent Non-Executive Director[2,3]	1970	10 June 2021	2022 AGM
Sigalia Heifetz	Independent Non-Executive Director[2,3]	1961	10 June 2021	2022 AGM
Wolfgang Ruttenstorfer	Non-Independent Non-Executive Director[6]	1950	20 June 2017	2022 AGM
Karin Garcia	Employee Representative Director[4,5]	1970	9 December 2021	9 December 2025
Martin Kowatsch	Employee Representative Director[4,5]	1972	14 December 2021	14 December 2025
Michael Schwarz	Employee Representative Director[4,5]	1966	8 December 2017	9 December 2025

1 Herbert Cordt was a member of the supervisory board of RHI AG and thus not deemed to be independent on appointment within the meaning of the UKCGC but independent on appointment within the meaning of the DCGC, due to a difference in independence requirements under the respective codes.
2 Independent within the meaning of the UKCGC.
3 Independent within the meaning of the DCGC.
4 Non-Independent within the meaning of the UKCGC.
5 Non-Independent within the meaning of the DCGC.
6 Wolfgang Ruttenstorfer is considered independent under the DCGC and non-independent under the UKCGC.

Individual roles

Roles of Chairman, SID & Deputy Chairman and CEO

The roles of Chairman, the CEO, SID & Deputy Chairman have been formally recorded by the Board. All of these documents can be found on the Company website. The composition of the Board has been structured such that no one individual can dominate the decision-making processes of the Board.

Non-Executive roles

The Employee Representative, Non-Independent and Independent Non-Executive Directors engage with the business of the Board from different perspectives, enabling multifaceted scrutiny to be applied to the Board's decision-making ensuring that the viewpoints of the Company's key stakeholders are represented. All Directors are required to exercise their independent judgement and act in the best interests of the Company, taking into account the interests of its stakeholders, in their decision-making.

Non-Independent Non-Executive Director roles

Herbert Cordt, Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg, David Schlaff and Wolfgang Ruttenstorfer are not considered independent under the UKCGC, having been members of the supervisory board of RHI AG for a number of years prior to the merger in 2017 with Magnesita. However, because of that experience, they contribute strongly to the Board's culture and personality, adding valuable insight gained through experience of the markets in which the Group operates and corporate memory. They can constructively challenge the Executive Directors and scrutinise the performance of management in meeting their objectives with the benefit of historical experience of the operations and industry of the business. Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg and David Schlaff can provide an investor perspective to the management team and challenge them accordingly. The detail of all the Directors' independence and the detail of compliance with the criteria of each Code can be found above and on page 70 respectively.

The Chairman's other significant commitments are set out in the table below:

Name of company	Function
CORDT & PARTNER Management- und Finanzierungsconsulting GesmbH.	Managing Partner
Watermill Group Boston	Advisory Board member
Georgetown University's School of Foreign Service for its MSFS Program	Advisory Board member
Quality Metalcraft/Experi-Metal, Inc.	Advisory Board member
Cooper & Turner Group	Advisory Board member

Time commitment
On appointment, and each subsequent year, Non-Executive Directors confirm that they have sufficient time to devote to the Company's affairs. In addition, they are required to seek prior approval from the Chairman before taking on any additional external commitments, and the Board is advised of any changes. The Board is satisfied that, having considered the demands of the external appointments of each Non-Executive Director and the time requirements from the Company, all Non-Executive Directors are contributing effectively to the operation of the Board. Whilst the Non-Executive Directors are re-elected each year at the AGM, their letters of appointment state a term of three years.

Executive Directors
In accordance with Dutch law, an Executive Director may not be allocated the tasks of: (i) serving as Chairman; (ii) participating in the adoption of resolutions (including any deliberations in respect of such resolutions) related to the remuneration of Executive Directors or instructing an auditor to audit the Company's annual accounts if the General Meeting fails to do so; or (iii) nominating Directors for appointment.

The role of an Executive Director is, amongst other things, to bring commercial and internal perspectives to the boardroom. The Executive Directors, being the CEO and CFO, are responsible for the leadership and management of the Company according to the strategic direction set by the Board.

Company Secretary
Sally Caswell was appointed by the Board as Company Secretary in January 2020. All Directors have access to the advice and services of the Company Secretary, whose responsibilities include ensuring that Board procedures are followed, assisting the Chairman in relation to corporate governance matters and, in conjunction with the General Counsel, ensuring the compliance of the Company with legal and regulatory requirements. In 2021, she assisted the Chairman and the SID & Deputy Chairman in administering the Board Review.

Delegation of Authority
The Board has documented the matters reserved for its approval including approvals of major expenditure, investments and key policies. This was revisited and revised in 2021 to ensure it reflected the current organisational structure, and provided as much clarity as possible to the Board and the organisation as a whole to enable effective delegation of authority.

Tasks that have not been specifically allocated to a specific Director fall within the power of the Board as a whole. The Directors share responsibility for all decisions and acts of the Board and for the acts of each individual members of the Board, regardless of the allocation of tasks.

Board and Committee structure

The Company has a one-tier board structure, with a Board consisting of both Executive Directors and Non-Executive Directors (collectively the "Directors" or the "Board"). As at the date of this Annual Report, the provisions of Dutch law that are commonly referred to as the "large company regime" (structuurregime) do not apply to the Company.

The Board has four Board Committees to ensure a strong governance framework for decision making and assessment of performance against the Company's strategy: the Audit Committee, the Remuneration Committee, the Corporate Sustainability Committee and the Nomination Committee. Each Committee receives support from the Company Secretary. The Terms of Reference of these Committees can be found on our website and the reports of each Committee, including membership and attendance at meetings in 2021, can be found on pages 88 to 121.

Information and support for Directors

In order to build and increase the Non-Executive Directors' appreciation and understanding of the Group's people, businesses, and markets, particularly growth markets, senior managers are regularly invited to make presentations at Board meetings. The strategy meeting involved multiple break-out sessions to provide detail on certain areas of business focus such as CO_2 emissions and digitalisation. The tour of the R&D centre in Leoben also provided opportunity for the Directors to hear from R&D specialists as outlined above.

Training sessions were provided to Directors on topics such as Sustainability & TCFD, cyber security, developments in Dutch law, and a case study on the role of Audit Committees in recent corporate failures. The corporate training portal, used by employees across the organisation, was also made available to Directors, covering topics such as market abuse and anti-bribery & corruption.

Training and additional information sessions on areas such as EU CO_2 certification scheme, have been provided by management on a one-to-one basis for Directors throughout the year. Directors also maintain their own individual non-executive training schedule based on their areas of need and interest and attended a variety of virtual training events hosted by external providers.

There is an established procedure for Directors to seek independent professional advice in the furtherance of their duties if they consider this necessary.

The Company maintains Directors' and Officers' liability insurance which provides appropriate cover for legal action brought against its Directors. In line with Dutch best practice and corporate law, at each AGM there is a resolution to release the Directors from liability for the exercise of their respective duties during the financial year.

Induction

Upon joining the Board, any new Director is offered a comprehensive and tailored induction programme covering all aspects of the value chain, with visits to key sites and meetings with senior managers and other colleagues or advisers as required. Any new members to Committees are provided with the opportunity for a full and detailed induction, even if they are existing members of the Board.

In 2021, five Directors joined the Board. Those joining in June 2021 have been provided with an induction programme tailored to their experience and their role within the Board and the Committees they were joining. The new ERDs' induction programme is ongoing and is covering similar aspects, whilst being tailored to their existing knowledge of the Company.

Directors spent time with senior management, and covered the following topics:

- strategy;
- value chain;
- end markets served by RHI Magnesita;
- driving market forces;
- refractories industry;
- recent corporate history and key corporate subsidiaries;
- competitors and peers, and
- stakeholders such as employees, customers, shareholders, regulators, and local government.

They also met with the Chairmen of each Board Committee to discuss the role of each Committee and, where they were to serve on the Committee, they took additional time with the Chairmen to delve into the detail of the Committee, their role on the Committee, recent topics and ongoing discussions with management and key areas of focus. Where new Directors joined a Committee, they also met key management associated with that Committee to discuss the operational detail, history to topics, and structure beneath the Committee. For example, on joining the Audit & Compliance Committee, Jann Brown met with the Finance leadership team covering topics such as the Company's tax structure, foreign exchange hedging strategy, pensions, insurance, funding structure, including trade finance, and an overview of the Company's control environment

The new Directors received access to the Board portal, containing key constitutional documents, corporate policies, historic meeting papers, minutes, and reports.

They also met with the Company Secretary to discuss their duties as Directors, the Company's corporate make-up, listing requirements in London and Vienna, disclosure requirements and corporate governance matters pertinent to the Company. She also covered Board processes and

Corporate governance statement
continued

procedures, with reference to Board policies, the Matters Reserved and Board Rules.

All of these induction sessions took place via video call and the feedback from the new Directors was very positive.

In addition, the Remuneration and Nomination Committees welcomed new members who were already on the Board. These new members were offered inductions specific to the Committee; each received access to all the historic Committee documents and met with key members of management to understand the details of ongoing matters at the Committees. Additional external training on remuneration was provided to give an overview of stakeholder expectations, regulations and market practice. The Committee Chairmen made time available to discuss the key relationships, stakeholder views and recent decisions taken. Finally, each new joiner attended meetings from January 2021 onwards as observers, prior to their membership commencing from the June 2021 AGM. This allowed them to be fully briefed and cognisant of the Committee matters and its mode of operation.

Board attendance

Seven Board meetings were planned for the year (2020: seven), with certain matters approved by circular resolution outside of Board meetings where three meetings held at short notice on specific items. Given the increased travel restrictions, the Board meetings were held largely via videoconferencing facilities in 2021 and the Board made use of various digital tools to facilitate the meetings, building on feedback from the 2020 Board review to improve the experience for Directors.

The table below shows the number of scheduled meetings attended and the maximum number of scheduled meetings which the Directors were eligible to attend. Jann Brown, Marie-Hélène Ametsreiter and Sigalia Heifetz were invited to attend meetings from April onwards as observers until they were appointed by the AGM as Directors. The meetings where they were observers are included in the following table.

Only in exceptional circumstances would Directors not attend Board and Committee meetings. None of our Non-Executive Directors have raised concerns over the time commitment required of them to fulfil their duties and the Nomination Committee considered the time required of Non-Executive Directors as part of its regular programme.

Board attendance 2021	Total attended	Total meetings eligible to attend
Herbert Cordt	7	7
John Ramsay	7	7
Stefan Borgas	7	7
Ian Botha	7	7
Janet Ashdown	7	7
David Schlaff	7	7
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg	7	7
Fiona Paulus	7	7
Jann Brown[2]	5	5
Karl Sevelda	7	7
Marie-Hélène Ametsreiter[2]	5	5
Sigalia Heifetz[2,3]	3	5
Wolfgang Ruttenstorfer	7	7
Karin Garcia[2]	0	0
Martin Kowatsch[2]	0	0
Michael Schwarz	7	7
Celia Baxter[2]	4	4
Andrew Hosty[2]	4	4

1 In the year, three Board sub-committees were held to approve matters specifically delegated by the Board in accordance with article 17.5 of the Company's Articles of Association. These are not included in the table above.

2 These persons were only Directors for part of the year. For those appointed, it includes meetings where they were observers.

3 Sigalia Heifetz had to undergo medical treatment and is now fully recuperated.

Board operation

The Board meets regularly throughout the year with seven Board and Committee sessions, which are usually spread over two days, in person in Vienna. Board meetings can also be convened as deemed necessary by the Chairman or the Senior Independent Director and Deputy Chairman.

There was one meeting in 2021, where the majority of the Board were together in person. The remainder were held through a combination of in-person attendance and video conferencing. Technology and equipment were developed wherever possible to achieve the best outcomes for attendees in the circumstances and optimise the input from individuals. The structure of the meetings was adjusted to address the needs of those attending on video conference and wherever in-person meeting was permitted under local guidelines, relevant health and safety measures were abided by, such as masks, temperature checks, social distancing, ventilation of the rooms, vaccination passes and COVID-19 testing.

In the meetings, the Chairman takes care to ensure that each Director has opportunity to comment and be heard, whilst enabling an orderly flow.

At the end of each Board meeting, the Non-Executive Directors meet without the Executive Directors and management present to enable an open and frank exchange of views and assessment of performance. Additionally, the SID holds a meeting with the other Non-Executive Directors to discuss the Chairman's performance in the course of the year, with input also provided from the Board review. The Chairman and other Non-Executive Directors hold regular informal, individual, meetings with the Executive Directors and other senior managers in the business, providing the opportunity to raise questions and cover points of interest, which contributes to the development of both the Non-Executive Director and the management members.

Board papers are circulated in advance of meetings, using a secure web-based portal, to allow Directors sufficient time to consider their content prior to the meeting. The Chairman is assisted in this responsibility by the Company Secretary and CEO through the careful preparation of agendas and the timely provision of papers to the Board. The management team continues to take feedback from the Board via the review process on how papers and presentations can be improved to assist the flow of the meeting. An information room within the web portal provides access to useful information, including corporate governance reference materials, analyst reports, and Company finance, treasury and strategy information.

The Board takes the views of its key stakeholder groups into account when challenging management, and in its discussions and decision-making. Inputs to this process include the Company's Net Promoter Score, employee engagement surveys, the Employee Representative Directors' views, regular Investor Relations reports, analyst coverage and views of the two Non-Independent Non-Executive Directors who represent shareholders on the Board.

The Board recognises the importance of balancing stakeholder views, whilst acting in the best interests of the Company. In the event of a decision which has a potentially negative impact on a specific stakeholder group, efforts are made to mitigate these. As an example, in the event of an organisational restructure, which does not benefit certain employees, a transparent communications strategy is implemented to explain the decision and employee are treated in a respectful and generous manner. This aligns with the Company values to be open in decision-making and accountable for actions taken. See the stakeholder engagement report on pages 50 to 55 for more examples of this.

The Board review in 2021, which comprised reviews of the Board, its Committees, the Chairman and individual Directors' self-evaluation, confirmed that the Board was functioning effectively and more detail on the Board review process and outcomes can be found on page 88.

Key areas of Board focus and activity in 2021

Amongst other matters, the Board focused on the following areas in the year:

Group strategy

- Annual two-day strategy meeting session with members of the EMT and senior management teams to examine the current strategy and ensure it was fit for purpose. As part of these discussions, the Board considered the global outlook of economic recovery and macroeconomic trends, developments in key markets in each region, structural trends, technical innovation, review of the business model, and the competitive environment for each region and product area.
- As part of the strategy session, undertook risk management workshop aligned with the strategic opportunities and focused break-out sessions on future opportunities and current position of topics such as the European steel markets and digitalisation.
- Received reports throughout the year outlining potential business development opportunities as they arose, including strategic M&A.
- Approved disposals and acquisitions.
- Considered geopolitical and macro-economic trends and factors.
- Progress against the 2025 strategy, through consideration of a strategic initiatives dashboard, and discussed the execution of the strategy and any associated barriers.

People, succession and leadership

- Board composition, appointing three new NEDs and receiving two ERDs.
- Reviewed Board Committee membership and received updates from the Nomination Committee, including the recommendation for a refreshed Board diversity policy.
- Considered the executive management and CEO succession plans and related actions.
- Considered the 2021 internal Board review and the actions relating to the review, including progress against the actions identified in the year. See pages 88 to 89for further details.
- Reviewed and approved the bonus for 2020 performance and the remuneration of the Chairman, Executive Directors and EMT.
- Discussed retention, performance and resourcing and recommendations made to management in respect of training, incentivisation and external support.
- Discussed employee engagement, morale and wellbeing, particularly in respect of the impact of COVID-19 pandemic.

Financial performance

- Approved the annual budget for 2021.
- Reviewed and approved the Group's full-year 2020 and half-year 2021 results together with the 2020 Annual Report, including ensuring that it is fair, balanced and understandable and confirming that the Group was a going concern. As part of this, the Board considered the external auditor's reports and the key matters raised.
- Received regular financial updates covering revenue, costs, performance year-to-date, and outlook on a monthly basis.
- Reviewed the Group's debt, capital and funding arrangements, particularly in respect of ensuring the ability to take advantage of any opportunities as they arise. Approved entry into an ESG ratings-linked financial instruments.
- Reviewed liquidity, cash flow and scenario planning, particularly with reference to the impact from COVID-19 and macro factors such as inflation, supply chain issues, and political changes in China requiring careful management of inventory.
- Considered capital allocation and payment of dividends, including the approval of the interim dividend and the share buyback.
- Considered disclosures to the market and noted the work of the Disclosure Committee to continually monitor matters at hand.
- Appraised the principal risks, mitigating actions and controls.
- Received updates on the Company's tax strategy and matters at hand with local authorities in various locations.

Markets and sales

- Received updates at each meeting on sales performance, market share and progress against sales initiatives, particularly with reference to customers and the impacts from COVID-19.
- Considered product pricing and costs of production.
- Received reports on recycling and digital initiatives designed to meet customer expectations and develop the Company's offering.

Corporate governance statement continued

Operational performance

- Received updates at each meeting on operational performance, including any impacts to customers and current health and safety compliance levels.
- Received briefings on operational projects, including project management, business cases for payback, timescales, and any barriers to completion.
- Considered individual plant performance and, with reference to the Company's strategy and impacts from COVID-19, noted management's decisions to pause production at plants as required.
- Received frequent reports on supply chain disruption, the task force set up to address the issues and considered management's proposals to improve performance across the value chain.

Technical innovation and sustainability

- Considered the budget dedicated to R&D and particularly the costs of feasibility studies.
- Received updates on the development of low-carbon products and market developments in carbon capture and storage.
- Considered future strategy, partnerships with external parties, and processes to encourage innovation.

Legal and compliance matters

- Received regular updates on whistleblowing, including an annual review of the process.
- Received the Code of Conduct compliance report.
- Received updates on the Group's compliance and cyber security programmes.
- Considered compliance reports, and also received a benchmarking report on the number of compliance cases compared with peers.
- Received updates on any legal developments as they related to the Company.
- Considered and approved revised share dealing and inside information policies, Matters Reserved to the Board, the associated Delegation of Authority matrix, and Board Rules.

Stakeholder engagement and governance

- Approved the Notice and business of the AGM.
- Received input from the Employee Representative Directors on the Board.
- Considered the Company culture and reports on the Company values.
- Received reports on investor engagement at each Board meeting, including verbatim feedback, the discussions held as part of the annual roadshow, and the detailed perception study.
- Received presentations on diversity, and sustainable supplier processes.
- Approved the statement for the Modern Slavery Act and California Transparency in Supply Chains Act.
- Received report on customer satisfaction levels, including Net Promoter Score.
- Reviewed remuneration of senior management, the Executive Directors and the Group-wide bonus scheme on recommendation from the Remuneration Committee.
- Received regular updates on corporate governance and other matters from the Company Secretary, including reviews of any potential conflicts of interest.

Board review

In 2021, the Board considered the externally facilitated 2020 Board review and the progress against actions. Whilst COVID-19 continued to hamper Board activity, progress was made with new appointments to the Board, increasing diversity and digital expertise, and with the inputs to the Board, including updates to Directors on key topics in between meetings and more information to the Board on sustainability and stakeholder groups made available. Time management in meetings and quality of papers was also felt to have improved, as well as the effectiveness of remote meetings through introduction of better equipment to facilitate the hybrid meetings.

As outlined in the Chairman's introduction, in 2021 the Board decided to conduct an internal Board review, facilitated by the Company Secretary. The Board members completed a comprehensive review on the overall Board performance, the Chairman and their own individual performance in 2021. The review covered core areas of the Board and Committee performance, with particular focus on:

- Board composition and diversity;
- stakeholder oversight;
- culture and execution of strategic goals;
- Board dynamics, communication and cohesion;
- Board support, effectiveness of remote meetings, meeting management and focus;
- Board Committee effectiveness;
- support and challenge of the EMT, quality of discussion, and relationships between Directors and management;
- strategic oversight and discussion;
- risk management and internal controls; and
- succession planning, talent management and human resource management.

The review also included questions on the ongoing response to COVID-19 pandemic and the impact on risk management.

The Board considered the themes and output from 2021 review (with outcomes discussed in the Nomination Committee report on page 88) and was pleased to note that, even with the impacts felt from COVID-19 restrictions, the Board was assessed as having maintained or improved its performance from 2020. An action plan, aligned to the outcomes of the 2021 review, to drive further progress through 2022 has been drawn up and progress will be reported in the 2022 Annual Report.

Statement of Directors' responsibilities

The Directors are responsible for preparing the Company's Annual Report. The Company's Annual Report comprises, among others, the Strategic Report, the Governance Report, the Consolidated Financial Statements. The Directors are responsible for preparing the Annual Report for each financial year in accordance with applicable law and regulations, including in accordance with IFRS as adopted by the European Union and the relevant provisions of the Dutch Civil Code. The Directors must not approve the Annual Report unless they are satisfied that it gives a true and fair view of the state of affairs of the Company and its consolidated Group companies and of the profit or loss of the Group for that period. In preparing the Annual Report, the Directors are required to:

a) select suitable accounting policies and then apply them consistently;

b) make judgements and accounting estimates that are reasonable and prudent;

c) state whether applicable IFRS as adopted by the European Union and the relevant provisions of the Dutch Civil Code have been followed, subject to any material departures disclosed and explained in the Annual Report; and

d) prepare the Annual Report on the going concern basis, unless it is inappropriate to presume that the Company will continue in business.

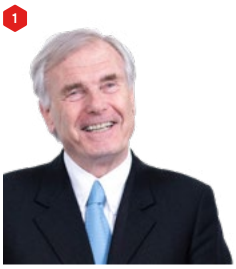
The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose, with reasonable accuracy at any time, the financial position of the Company and the Group and enable them to ensure that the Annual Report complies with applicable law and, as regards the Consolidated Financial Statements, the IAS Regulation. They are also responsible for safeguarding the assets of the Company and the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Each of the Directors, whose names and functions are listed on pages 82 to 85, confirm that, to the best of their knowledge:

- the Company's financial statements and the Consolidated Financial Statements, which have been prepared in accordance with IFRS as adopted by the European Union and the relevant provisions of the Dutch Civil Code, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group;
- the Annual Report gives a true and fair view on the situation on the balance sheet date, the development and performance of the business and the position of the Company and its consolidated Group companies and includes a description of the principal risks and uncertainties that the Company faces; and
- having taken all matters considered by the Board and brought to the attention of the Board during the financial year into account, the Directors consider that the Annual Report, taken as a whole is fair, balanced and understandable. The Directors believe that the disclosures set out in the Annual Report provide the information necessary for shareholders to assess the Company's position, performance, business model and strategy.

After conducting a review of management analysis, the Directors have reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future. For this reason, the Directors consider it appropriate to adopt the going concern basis in preparing the Annual Report. Directors are also required to provide a broader assessment of viability over a longer period which can be found on pages 43 and 44 (the "Viability Statement") of the integrated report and accounts. The consolidated financial statements on pages 126 to 203 were approved and signed by the Board on 27 February 2022.

Board of Directors

1

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Employee Representative Directors

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Chairman

1. Herbert Cordt N
Chairman

Appointment date: June 2017
Nationality: Austrian

Herbert was Chairman of the Supervisory Board of RHI AG from 2010 until 2017, as well as Vice-Chairman from 2007 to 2010. He is Managing Partner at Cordt & Partner GmbH, his international boutique corporate finance consultancy, which advises clients on corporate finance matters. In the course of his career he has held a variety of senior executive and managing director positions in telecommunications and financial institutions in European firms, providing a wide range of business acumen and international experience.

Herbert obtained a Doctorate in Law from the University of Vienna, graduated from the Diplomatic Academy of Vienna and received a Master's of Science degree in Foreign Service from Georgetown University Washington D.C.

Current external appointments: Watermill Group Boston (Advisor), Cooper & Turner Group (Advisory Board Member), Quality Metalcraft/Experi-Metal, Inc. (Advisory Board Member), CORDT & PARTNER Management und Finanzierungsconsulting GesmbH (Managing Partner), Georgetown University's School of Foreign Service for its MSFS Program (Advisory Board Member).

Senior Independent Director and Deputy Chairman

2. John Ramsay A N
Independent Non-Executive Director

Appointment date: October 2017
Nationality: British

John has held senior financial executive roles across the world, including serving as Chief Financial Officer of Syngenta AG, as well as being their Interim CEO for a period. John started with Syngenta AG as Group Financial Controller in 2000 and prior to that was Finance Head of Asia Pacific for Zeneca Agrochemicals. Earlier in his career he was a Financial Controller of ICI Malaysia and regional controller for Latin America. He started his career working in audit and tax at KPMG and his knowledge in accounting and finance provides valuable practical experience.

John is a Chartered Accountant and also holds an Honours Degree in Accounting.

Current external appointments: Koninklijke DSM N.V. (Supervisory Board Member), Croda International plc (Non-Executive Director, Chair of Audit Committee) and Babcock International plc (Non-Executive Director).

Chief Executive Officer

3. Stefan Borgas
Chief Executive Officer

Appointment date: June 2017
Nationality: German

Stefan's career has focused on business transformations. He was CEO at RHI AG from December 2016 until October 2017. Prior to that, he was president and CEO at Israel Chemicals Ltd and between 2004 and 2012, he was CEO at Lonza Group. In his early career, he worked at BASF Group, where he held various management positions.

Stefan has a business administration degree from the University Saarbrücken and an MBA from the University of St. Gallen-HSG.

Current external appointments: Afyren SAS (Chairman) and Borgasadvisory GmbH (owner).

Chief Financial Officer

4. Ian Botha
Chief Financial Officer

Appointment date: June 2019
Nationality: South African/British

Ian enjoyed a highly successful career with FTSE listed Anglo American plc in the related mining and metals industry for over 20 years. Whilst there, he held a variety of international executive roles including as Group Financial Controller and divisional Chief Financial Officer, and most recently as Finance Director of listed Anglo American Platinum. Ian has significant experience in finance and accounting, investor relations, strategy, M&A and governance, as well as excellent business acumen and a track record in financial and performance improvements.

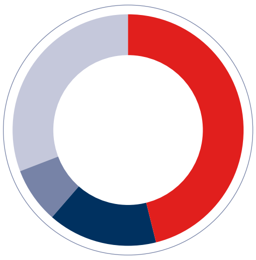
Ian holds a Bachelor's degree in Commerce from the University of Cape Town and is a Chartered Accountant.

Current external appointments: none.

Board Committee member

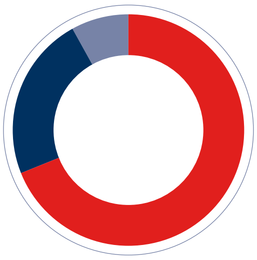
- N Nomination Committee
- A Audit & Compliance Committee
- S Corporate Sustainability Committee
- R Remuneration Committee
- Chairman of Committee

Directors by length of tenure



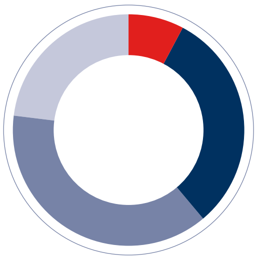
0-3	6
3-5	2
5-9	1
9+	4

Directors by ethnicity



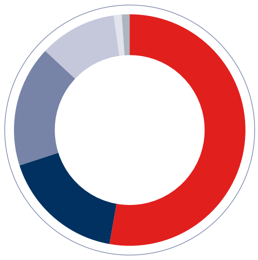
White	69%
Prefer not to say	23%
Other ethnic groups	8%

Directors by age



40—49	8%
50—59	31%
60—69	38%
70—80	23%

Directors by nationality



Austrian	38%
British	31%
German	15%
Israeli	8%
South African / British	8%

As described in the Corporate Governance Statement, these statistics do not include the Employee Representative Directors.

Board of Directors continued

Non-Independent Non-Executive Directors

5. Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg
Non-Independent Non-Executive Director

Appointment date: October 2017
Nationality: German

Stanislaus was a member of the Supervisory Board of RHI AG from 2001. He has been a Supervisory Board member on several "Stadtwerke" (municipality owned utilities) as well as undertaking senior executive roles, including CEO and CFO, in the energy industry. He has deployed industrial knowledge combined with financial detail throughout his career, and was an Investment Banking Director at Deutsche Bank AG. Over the past five years he has focused on private equity work in a German mid-cap environment and also engages in a broad range of asset management activities in a family office environment.

Stanislaus holds a Sloan Fellows Master's in Business Administration from MIT Sloan School of Management and studied Business Administration and Economics at Université de Fribourg. He is a Chartered Financial Analyst (CFA).

Current external appointments: STUV Steinbach & Vollmann Holding GmbH (CEO).

6. David Schlaff
Non-Independent Non-Executive Director

Appointment date: October 2017
Nationality: Austrian

David was a member of the Supervisory Board at RHI AG from 2010 until 2017. Currently Chief Investment Officer and joint Managing Director at M-Tel, he has key management and supervisory experience in international financial and manufacturing institutions. He has undertaken roles at LH Financial Services Corporation and Forstmann-Leff Associates Inc, and he has held advisory and supervisory board positions at Latrobe Specialty Steel Company and A/S Ventspils Nafta.

David holds a Bachelor's degree in Business Administration from the Interdisciplinary Center Herzliya in Israel.

Current external appointments: M-Tel Holding GmbH (Chief Investment Officer and Joint Managing Director).

7. Wolfgang Ruttenstorfer A
Non-Independent Non-Executive Director

Appointment date: June 2017
Nationality: Austrian

Wolfgang was a member of the Supervisory Board of RHI AG from 2012 to 2017, where he acted as the Interim CEO for six months, following the sickness-related absence of the CEO. He started his professional career in oil and gas at OMV, where he became CEO and then Chairman of the Management Board. He has held numerous supervisory board roles, including as Chairman, in industries such as telecommunications, real estate, healthcare and insurance. Wolfgang also served as Secretary of State in the Austrian Federal Ministry of Finance. His varied career brings a wide range of strategic and business management experience.

Wolfgang graduated from the Vienna University of Economics and Business.

Current external appointments: Flughafen Wien Aktiengesellschaft (Supervisory Board member) and Erne Fittings GmbH (Supervisory Board member).

Independent Non-Executive Directors

8. Janet Ashdown S R
Independent Non-Executive Director

Appointment date: June 2019
Nationality: British

Janet has had a distinguished career working for BP plc for over 30 years, holding a number of international executive positions throughout the value chain. Until the end of 2012, Janet was CEO of Harvest Energy Ltd and throughout her career has provided leadership through change. Janet also has a wide range of board and committee experience as a Non-Executive Director, including the UK Nuclear Decommissioning Authority, a public body where she chairs the Safety and Sustainability Committee. Her experience in the energy sector has provided her with significant skills in general management, particularly in environmental and sustainability matters.

Janet holds a BSc in Energy Engineering from Swansea University.

Current external appointments: Nuclear Decommissioning Authority UK (Non-Executive Director and Chair of Safety & Sustainability), Victrex plc (Non-Executive Director, Chair of Remuneration) and Stolt-Nielsen Limited (Non-Executive Director).

9. Fiona Paulus S R
Independent Non-Executive Director

Appointment date: June 2019
Nationality: British

Fiona has over 37 years' global investment banking experience, having held senior management roles with a number of leading international investment banks, such as Credit Suisse, Royal Bank of Scotland, Deutsche Bank and Citigroup. During her career, Fiona has led and managed a variety of global banking businesses, from start-ups to businesses with US$4 billion in total revenues. Additionally, Fiona has advised companies in over 70 countries in the global energy and resources sectors on various strategic initiatives, including M&A, equity and debt financings, and risk management.

Fiona has a BA in Economics from the University of Durham.

Current external appointments: Interpipe Group (Non-Executive Director), Redcliffe Advice (Managing Director) and Gleacher Shacklock LLP (Senior Advisor).

Employee Representative Directors

14. Karin Garcia
Employee Representative Director

Appointment date: December 2021
Nationality: Spanish

Karin studied at the University of Oviedo and finished her degree in computer science in 1994, specialising in systems support. She started with the Group at RHI in 1997, first working in the commercial execution team and then she transferred to the IT on-site support in Oviedo as a Regional Site Service Coordinator where she continues to work as a senior site coordinator.

Karin has been appointed as an Employee Representative Director by the Spanish Works Council.

Current external appointments: none.

15. Martin Kowatsch
Employee Representative Director

Appointment date: December 2021
Nationality: German

Martin has been with the Group since 1987 and is the Chairman of the works council at the Flagship Digital Plant Flagship in Radenthein. He is a trained Company electrician, completed an one-year Chamber of Labour/trade union training, then studied education/group dynamics and organisational development.

Martin graduated from the Alpen Adria University.

Martin has been appointed as an Employee Representative Director by the Austrian Works Council.

Current external appointments: none.

16. Michael Schwarz
Employee Representative Director

Appointment date: December 2017
Nationality: German

Michael has been with the Group since 1983 and is a member of the works council at RHI Magnesita Deutschland AG.

Michael has been appointed as an Employee Representative Director by the German Works Council.

Current external appointments: none.

10. Janice "Jann" Brown A

Independent Non-Executive Director

Appointment date: June 2021
Nationality: British

Jann started her career with KPMG, where she qualified as a Chartered Accountant and a Chartered Tax Adviser, moving into industry in 1998 and since then has worked in a number of roles, both executive and non-executive, primarily in the energy sector but also in engineering services, manufacturing and investment management. As a result of these roles, Jann has extensive international business experience, particularly in India and the Middle East. Her listed company board experience, both as an executive and a non-executive, brings an awareness of the importance of governance, culture and strong ethics. She is an experienced financial professional and is a Past President of the Institute of Chartered Accountants of Scotland.

Jann is a Chartered Accountant, and also holds an Honours Degree in History from Edinburgh University.

Current external appointments: Pharos Energy plc (Managing Director), and ICAS Foundation (Trustee and board member).

11. Karl Sevelda R N

Independent Non-Executive Director

Appointment date: October 2017
Nationality: Austrian

Karl progressed to CEO of Raiffeisen Bank International AG after being Deputy CEO and undertaking management roles in the Raiffeisen Bank group where he was responsible for corporate customers and corporate trade and export finance worldwide. Prior to this he held several senior management positions in Creditanstalt-Bankverein where he focused on corporate and export finance. Additionally, he has held the position of Secretary to the Federal Minister for Trade and Industry of Austria.

Karl holds a Master's and Doctorate Degree from Vienna University of Economics and Business.

Current external appointments:
SIGNA Prime Selection AG (Supervisory Board member), Liechtensteinische Landesbank AG (Non-Executive Director), and Custos Privatstiftung (Management Board member).

12. Marie-Hélène Ametsreiter S

Independent Non-Executive Director

Appointment date: June 2021
Nationality: Austrian

Marie-Hélène has been a General Partner with Speedinvest, a leading European Venture Capital firm, since 2014. As the lead partner of the Industrial Tech team, she drives seed stage investments in start-ups supporting the digitisation of Europe's industrial sector, including manufacturing, logistics, construction and climate technology. Before Speedinvest, Marie-Hélène was responsible for the Corporate Sustainability Program at OMV, a leading Austrian oil and gas producer, and prior to that was CEO of the Croatian mobile telecom operator Vipnet. She has extensive skills and experience in sustainability, digitisation and automation.

Marie-Hélène graduated in Business Administration from the Vienna University of Economics and studied at the University of California.

Current external appointments:
Greyparrot.ai Ltd (Non-Executive Director), Conundrum Industrial Ltd (Non-Executive Director), AMODO, Inc. (Non-Executive Director) and Speedinvest Deutschland GmbH (Managing Director).

13. Sigalia Heifetz

Independent Non-Executive Director

Appointment date: June 2021
Nationality: Israeli

Sigalia served in the Israeli Air Force as Operation Room Controller and Training Commander and later joined BDO. She was a member of professional committees at the Israeli Institute of CPAs until 1997, when she became a Partner at BDO until 2003. Since 2008 Sigalia has provided consulting services to international investors. She holds non-executive directorships at a number of leading public corporations across a range of sectors and industries. She brings a wealth of international experience and geopolitical exposure, alongside solid business and financial acumen.

Sigalia holds a BA in Accounting & Economics from the University of Tel Aviv (Israel) and is a Certified Public Accountant. She has completed two Executive MBAs with INSEAD (France) and Tsinghua (China).

Current external appointments:
Plus500 Ltd (Non-Executive Director), Maman Cargo Terminals and Handling Ltd (Non-Executive Director), Tamar Petroleum Ltd (Non-Executive Director), Clal Biotechnology Industries Ltd (Non-Executive Director, including Clal Industries and subsidiaries within the group) and Vesta Investment and Management Ltd (Owner).

Directors serving part of the year

Franz Reiter

Employee Representative Director

Appointment date: December 2017
Nationality: Austrian

Franz stepped down from the Board on 14 December 2021, and was replaced by Martin Kowatsch.

Celia Baxter

Independent Non-Executive Director

Appointment date: October 2017
Nationality: British

As reported in the 2020 Annual Report, Celia did not stand for re-election at the June 2021 AGM

Andrew Hosty

Independent Non-Executive Director

Appointment date: October 2017
Nationality: British

As reported in the 2020 Annual Report, Andrew did not stand for re-election at the June 2021 AGM.

Board Committee member

- N Nomination Committee
- A Audit & Compliance Committee
- S Corporate Sustainability Committee
- R Remuneration Committee
- Chairman of Committee

Executive Management Team

The EMT combines broad experience and complementary skill sets to deliver the Group's strategic priorities.

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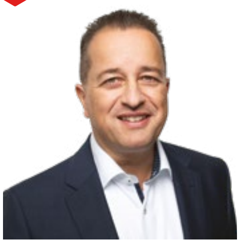

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Executive serving for part of the year

8


1. Stefan Borgas
Chief Executive Officer

2. Ian Botha
Chief Financial Officer

For full biographies, see **Page 83**

3. Gustavo Franco
Chief Sales Officer

Gustavo was appointed Chief Sales Officer in January 2020, prior to which he was Senior VP of Process Industries and Minerals. He joined Magnesita in 2001 as a Technical Marketing Engineer, after finishing his Bachelor's degree in Mechanical Engineering at the Federal Center for Technological Education of Minas Gerais and since then has developed his career in the refractory industry.

Over the course of six years, he progressed through various sales managerial roles in South and North America and was part of the Executive Committee of Magnesita Refratários from 2015 to 2017. In 2018 he completed the Senior Executive Programme with the London Business School.

4. Luis Rodolfo Bittencourt
Chief Technology Officer

Luis started working for Magnesita in 1986 and has held several positions in his career in the refractory and mining industry including Mining/Geology Manager, Technical Purchasing Manager, Plant Manager, and R&D VP.

He is currently President of the Brazilian Refractory Producers Association and the Latin America Refractory Producers Association. He holds a Bachelor's degree in mining engineering from the Federal University of Minas Gerais, a Master's degree in Metallurgical Engineering from the University of Utah, and a PhD degree on Ceramic Engineering from the University of Missouri.

5. Rajah Jayendran
Chief Operations Officer

Rajah has held various senior operational and strategic development roles at multinational companies such as Thyssen-Krupp Uhde GmbH, Bayer MaterialScience AG, Lonza AG, and ChemChina-Bluestar Group Co, working in China, Singapore and Switzerland. He has valuable experience in the industry in Asia. He also has experience in renewable solutions and operational performance management. In 2018, Rajah became a key team member at RHI Magnesita, holding the position of Senior Vice President Operations Europe/CIS/Turkey until, in October 2021, he joined the EMT as Chief Operations Officer (COO). Rajah brings a detailed knowledge of the Company's global operations and expertise in production efficiencies.

Rajah graduated in engineering from TU — Ruhr-Universität Bochum.

6. Simone Oremovic
Executive Vice President People, Project & Value Chain

Simone joined RHI Magnesita in an executive capacity in November 2017, and her role covers People, Culture, Corporate Communications as well as all global projects for the Group. Simone has 20 years of experience in Human Resources.

She started her career at General Electric where her main focus was on leadership and talent management, as well as Human Resources process. She is a certified Six Sigma Master Black Belt. She has held leading Human Resources roles in Telekom Austria Group, IBM Austria, and Baxter AG. Her role since October 2021 covers People, Culture, Global Projects for the Group as well as building the new end-to-end Value Chain and running the operational supply chain.

Simone has a degree from the European Business School (Paris) and from the Economic University of Vienna.

7. Ticiana Kobel
Executive Vice President Legal, Corporate Communications & Purchasing

Ticiana has extensive legal experience in a wide range of global businesses, such as SR Technics Group and Bühler Group, leading legal departments in manufacturing, aviation, technology, the service sector and engineering industries. In these roles. She was in charge of crucial projects pertaining to varied matters, such as complex strategic procurement, spin-offs, sales and acquisitions, and corporate governance issues, and assisted with the design and implementation of compliance functions, mergers and acquisitions, and partnerships.

Ticiana has a law degree with an emphasis in corporate law from the Federal University of Minas Gerais and an LLM in International Economic Law and European Law at the University of Geneva.

Executive serving for part of the year

8. Gerd Schubert
Gerd served as Chief Operations Officer until 1 October 2021 when he stepped down from the Executive Management Team to lead projects in the Company focusing on sustainability and innovation in manufacturing processes, prior to his intended retirement.

Nomination Committee report

Herbert Cordt
Chairman of the Committee

Committee members and meeting attendance

	Attendance in 2021	Member since
Herbert Cordt (Chairman)	4/4	October 2017
Celia Baxter	3/3	October 2017, resigned June 2021
John Ramsay	4/4	October 2020
Karl Sevelda[1]	1/1	June 2021

1 Karl Sevelda was appointed to the Committee from 10 June 2021. He was present at meetings from the beginning of 2021 as an attendee.

The Committee has delivered greater Board diversity in 2021 and continues to consider how the considerable skills and experience now available on the Board are best used to guide and help management to achieve their strategic ambitions.

Committee purpose, roles and responsibilities

The Committee's purpose is to ensure that the Company has the competencies and depth of skills within the Board and senior executives to meet the demands of a global business and to support the development of the Group's strategy, whilst paying particular attention to independence and diversity.

Roles and responsibilities:

- review the structure, size and composition (including the skills, knowledge, experience and diversity) of the Board and its Committees and to recommend any changes to the Board;
- succession planning for Directors and other senior executives;
- lead the process for recruitment of any new Directors, including the Chairman, and their recommendation to shareholders;
- assess annually the time commitment required from Non-Executive Directors (NEDs); and
- review the results of the Board performance review relating to composition of the Board or the effectiveness of any individual Director.

More detail on the duties of the Committee can be found in its Terms of Reference on the corporate governance section of our website.

Activities in 2021

The Committee met four times in 2021, covering the roles and responsibilities set out above and in particular, the Committee considered the following matters:

Time commitment from NEDs

The Committee considered, as it does annually, the review of time required from the NEDs to fulfil their duties satisfactorily. This covered meetings, the preparation time, additional time Directors spent outside of meetings in discussion with management, and recognised the additional complexity of Company operations, given the impacts of COVID-19 and operational disruption. No NED has raised any concerns about the time requested of them.

Prior to recommending the new NEDs who joined the Board in June 2021, the Nomination Committee carefully considered their roles held elsewhere, with reference to the recommendations by proxy voting agencies and the UK Corporate Governance Code, and were satisfied they had sufficient time available to dedicate to the Company.

The Board received a report outlining external appointments held by Directors and were comfortable that none of the Directors are compromised by their other commitments in the time they can dedicate to the Company.

Board review

The Committee takes responsibility for the preparation of the annual Board reviews. In 2021, following three years of external reviews facilitated by Lintstock, the Board review was undertaken internally, and the Company Secretary worked closely with the SID & Deputy Chairman to prepare the questionnaires, covering Board performance, individual performance, and the Chairman's performance.

The Board considered the overall themes arising from the 2021 review and each committee then reviewed the specifics of the evaluation relating to the respective committees and their scope of work. Actions were agreed as required.

The findings of the 2021 review still showed significant impacts arising from COVID-19 restrictions; as no doubt was the case for other international Boards. Board members regretted the absence of meeting colleagues within the organisation and getting a sense for the operational culture on a regular basis. In September 2021 a Board site visit was achieved and the feedback showed how valuable a visit this had been. The intention is to continue physical meetings as much as possible in 2022. Nonetheless, despite the limitations on personal interaction, the responses showed a feeling of greater cohesion compared to 2020 and the Chairman's role in generating this was appreciated.

During the year a significant advance was made in Board diversity, with the appointment of three new female NEDs in June 2021. Progress was also seen in the integration of sustainability within the operations and strategy of the Company, albeit with more to be achieved in future, given the importance of sustainable production for the Company's stakeholders.

The Board agreed actions for the year ahead, with a view to further improving its effectiveness. Key points considered included:

Area of assessment	Agreed action
Stakeholder oversight	Continue to explore ways of understanding stakeholder views more comprehensively and incorporate them into decision making.
Delivery of the 2025 strategy	Sustained focus in Board discussions on execution of strategy, particularly around ensuring lessons learned and engaging with constructive criticism.
Board papers	Further focus on style and structure of papers; consideration of improvements in the Board paper portal.
Board skills	More structured ongoing training sessions for NEDs, to further both professional development and industry knowledge.
Culture	Maintaining Board oversight of Company culture and continuing to take opportunities to experience the culture.

The Board was satisfied to see sustained improvement in Board effectiveness since listing in 2017, with its members unanimously agreeing that discussions and debates were open, honest and constructive, whilst continuing to hear ideas for improvement and more varied perspectives from its new members.

The Committee also considered its own effectiveness arising from the Board review output. This concluded that the performance of the Committee continued to be effective but needed to engage the full Board earlier on emerging issues.

Board diversity

The Committee and the Board have dedicated time in the annual schedule to discussing diversity, both at Board level and within the organisation. Board gender diversity has increased to 38%, exceeding our target of 33% by 2021, and the Board adopted a formal Board diversity policy, which was recommended by the Committee which was recommended by the Committee. Furthermore, half of the Board Committees are chaired, or the seats filled, by women.

The Company reported to the Hampton Alexander Review and Parker Review in respect of 2021, meeting each of these reviews' recommendations for FTSE250 boards. As discussed in the Corporate Governance Report the Employee Representative Directors, being appointed by the workforce with no input by the Board or shareholders, are not able to be influenced in terms of appointment. Therefore, the Board's view is that it is inappropriate to include them in any calculation of Board diversity. Nonetheless, the Board were pleased that the nomination from the Spanish works council was of a female Director and welcomed Karin Garcia to the Board in December 2021.

The Committee and the Board will continue to support the Company's approach in facilitating people development, ensuring that talent, regardless of age, gender and background, enjoys career progression within the Group. Diversity of nationality, culture and ethnicity are all important factors to engender diversity of thought.
The Committee believes that the diversity of nationalities and culture represented amongst the Board and EMT provides a diverse and global perspective; 43% of the EMT are of Brazilian heritage, representing our legacy as a Company and the spread of our operations. More details on the Group's diversity and inclusion work can be found on page 23.

Succession planning

EMT succession planning

The Committee monitors the development of the executive team ("EMT") below the Board to ensure that there is a diverse supply of senior executives and potential future Executive Directors with appropriate skills and experience.

The Committee considers the skills and experience of individuals at different levels in the organisation with an indication of their expected time to develop to the next level, and requirements in order to achieve that progression, such as experience of a different business function or additional training. Furthermore, it considered how succession planning would be treated in different scenarios (e.g. in an immediate scenario or in an orderly fashion). A summary of this was provided to the Board for its consideration. Diversity is considered as part of succession planning, and management are encouraged to incorporate tools and measures to further generate and encourage diversity in the pipeline of the organisation. The decrease in gender diversity of the direct reports of the EMT and the associated causes has been noted and in Board discussions, management have been encouraged to refocus their efforts in order to drive progress in 2022. Information on the gender diversity of the EMT and its direct reports is on page 65.

During 2021 Gerd Schubert stepped down from his role as COO and Rajah Jayendran succeeded him. This was part of an orderly succession plan, with Gerd retiring in due course.

Nomination Committee report
continued

As a result of the supply chain focus required in the year, the EMT, supported by the Board, took steps to reorganise the allocation of responsibilities to ensure due time and attention could be dedicated to these priorities. Ticiana Kobel took on additional responsibilities of Corporate Communications and Purchasing, which aligned with her skill set and experience and streamlined the Operations Department scope. Simone Oremovic used her project management skills to build a focused taskforce to address immediate issues within the supply chain. This provided great opportunity for widening their experience within the Company and the organisation has benefited from their fresh perspective on matters.

Board succession planning and composition

Since the Committee last reported to shareholders, Andrew Hosty and Celia Baxter stood down from the Board at the end of their three-year term at the June 2021 AGM, and three new Non-Executive Directors were recommended by the Committee to the Board to be appointed by shareholders, three Non-Executive Directors Jann Brown, Marie-Hélène Ametsreiter and Sigalia Heifetz. The appointment process started with a clear scope of desired attributes, skills and experience. A range of candidates were considered, and in order to make a selection, a shortlist proceeded through a thorough interview process, with a number of different Directors, and detailed references. The Committee were aided in the comprehensive search by Egon Zehnder, signatory to the Voluntary Code of Conduct for Executive Search Firms. Egon Zehnder has no other connection to the Company or individual Directors.

The Committee considers the succession planning for the CEO and CFO on an ongoing basis, both on the basis of immediate and orderly succession. The development of internal candidates for these roles is considered by the Committee and the Board.

In 2021, the Committee also considered, with reference to Board composition, the impact of the change in ERDs, nominated to the Board by the workforce, and how the Company could support their induction and contributions to the Board. Additionally, the Committee considered the independence of the Board directors, as outlined in detail on page 75.

On an ongoing basis, the Committee considers the tenure of Directors with reference to the retirement and resignation profile, which can be found on the website. In thinking about future recruitment to the Board, the Committee continues to monitor Directors' skills and experiences, as well as diversity to engender constructive debate and a varied mix of ideas. The Board profile is published on the website:

https://ir.rhimagnesita.com/wp-content/uploads/2022/01/bod-diversity-policy-for-upload.pdf

As of June 2021 there were the following changes in Board Committee composition:

- Janet Ashdown became Chairman of the Remuneration Committee
- Fiona Paulus became a member of the Remuneration Committee, stepping down from the Audit & Compliance Committee
- Jann Brown joined the Audit & Compliance Committee
- Marie-Hélène Ametsreiter became a member of the Corporate Sustainability Committee
- Karl Sevelda joined the Nomination Committee

The Nomination Committee ensured that the refreshment of Board Committee composition made use of our Directors' skill sets and experience. The induction plans provided gave opportunity for greater understanding of these areas and the Committees are benefiting from fresh perspectives.

The membership of Board Committees can be seen on pages 83 to 85.

Herbert Cordt
Chairman of the Committee

Corporate Sustainability Committee report

Janet Ashdown
Chairman

Committee members and meeting attendance

	Attendance in 2021	Member since
Janet Ashdown	4/4	June 2019
Fiona Paulus	4/4	June 2019
Marie-Hélène Ametsreiter[1]	2/2	June 2021
Andrew Hosty[2]	2/2	June 2019 to April 2021

1 Marie-Hélène Ametsreiter was appointed to the Committee following the 2021 AGM.

2 Andrew Hosty resigned as a Director and ceased to be a Committee member at the 2021 AGM.

RHI Magnesita improved its CO_2 emissions intensity in 2021 through the increased use of secondary raw materials and renewable electricity. This year we have published our first comprehensive TCFD disclosure, setting out the climate related risks and opportunities for our business.

Committee purpose, roles and responsibilities

The role of the Corporate Sustainability Committee is to support the Board and act as an advisory body to ensure the long-term sustainability of the business.

- Through the oversight of relevant KPIs and the Group's performance against them, the Committee ensures that the Group's activities generate sustainable value, not only for customers and shareholders, but also for employees, suppliers and communities wherever the Group operates.
- On behalf of the Board, the Committee oversees the effective management of risks associated with climate change, health and safety, along with other ESG risks.

More detail can be found in the Terms of Reference in the corporate governance section of our website.

Activities in 2021

The Corporate Sustainability Committee (CSC) met four times in 2021. In addition to performing the duties listed above, the Committee addressed the following issues:

Climate Change

- Reviewed progress against RHI Magnesita's CO_2 emissions intensity reduction targets and the Group's €50 million investment in carbon capture technologies; reviewed opportunities to reduce customer CO_2 emissions
- Noted that the increased use of renewable electricity and progress of energy efficiency projects, which remain on track
- Monitored the increased use of secondary raw materials, including a new internal pricing mechanism to incentive sales of products with higher recycled content
- Took part in a joint CSC and Audit Committee TCFD workshop and approved the Group's first comprehensive TCFD disclosure

Health & Safety

- Received reports on the company's COVID-19 related safety protocols
- Considered safety performance at operational sites for both employees and contractors. After a decade of consistent improvement, our safety performance deteriorated slightly in 2021. Root causes for this were considered and management were challenged to deliver improvements

Diversity

- Received reports on the Group's strategy to improve diversity in its leadership and workforce
- Monitored progress against diversity targets

Sustainable Supply Chain

- Reviewed a new sustainable procurement initiative to assess suppliers using environmental, social and ethical criteria

External ESG ratings

The Committee was pleased to note that RHI Magnesita received another industry-leading score from CDP and a Gold rating from EcoVadis, amongst other positive ratings from independent analysts.

- CDP — B
- EcoVadis — Gold
- MSCI — AA
- Sustainalytics — medium

More information on our performance and approach to sustainability issues can be found on pages 56 to 59.

Janet Ashdown
Chairman of the Committee

Audit & Compliance Committee report

John Ramsay
Chairman of the Committee

Committee members and meeting attendance

	Attendance in 2021	Member since
John Ramsay (Chairman)	6/6	October 2017
Jann Brown	3/3	June 2021
Wolfgang Ruttenstorfer	6/6	October 2017
Fiona Paulus	3/3	September 2019 to June 2021

The Committee effectively delivered review, insight and challenge to respond to the demands of 2021 and ensure the continued improvement of corporate governance standards within the Group

Committee purpose, roles and responsibilities

The purpose of the Committee is to ensure the integrity and transparency of corporate reporting, the quality of work and independence of the external auditor and to evaluate the robustness of internal controls and risk management processes.

The Committee's main roles and responsibilities are:

- advising the Board on the Group's overall risk appetite, tolerance, current risk exposures and future risk mitigation strategy;
- supervising the recording, management and submission of financial information by the Group and advising the Board on whether, taken as a whole, the reported financial information is fair, balanced and understandable;
- supervising the functioning of the Internal Audit department, and in particular, review and approve the annual Internal Audit work plan and taking note of the findings and considerations of the Internal Audit department;
- supervising the relationship with the external auditor, including in particular, assessing its independence, effectiveness, remuneration and non-audit related work for the Group;
- supervising the compliance with recommendations and observations of the internal auditor and the external auditor;
- supervising the financing of the Group and the policy of the Group on tax planning;
- reviewing the adequacy and effectiveness of the Group's Compliance function; and
- recommending the appointment of an external auditor by the Annual General Meeting (AGM).

More detail on the duties of the Committee can be found in the Terms of Reference on the corporate governance section of our website.

Activities in 2021

The Committee met six times in 2021. Due to COVID-19 limitations video conferencing was used for some members and attendees during these meetings.

Discussions at the meetings covered the responsibilities outlined above, with a particular focus on the continued impact of COVID-19 on the risk profile of the Group, the emerging issues relating to supply chain, the effectiveness of end-to-end business processes and other issues arising in 2021.

The Chairman, the Chief Financial Officer, the Head of Financial Reporting, the Head of Internal Audit, Risk and Compliance, the General Counsel and the External Auditor attend the Committee meetings and the Company Secretary acts as Secretary to the Committee. Board members can attend at their discretion; the Chief Executive Officer typically attends each meeting and other Company executives are invited to attend for specific agenda items. The Chairman of the Committee has had regular private discussions with the External Auditor, the Head of Internal Audit, Risk and Compliance and the Chief Financial Officer during the year.

Specific areas of scrutiny for the Committee in 2021 included:

Review of Going Concern Statement and Scenario Modelling

The ability of the Group to continue as a going concern depends upon continued access to sufficient financing facilities. Judgement is required in the estimation of future cash flows and compliance with the debt covenant in future years. The Committee assessed the forecast levels of net debt, headroom on existing borrowing facilities, compliance with the debt covenant and the debt maturity profile. This analysis covered the period to 31 December 2023 and considered a range of downside sensitivities, including the impact of lower production volumes and higher costs. In these discussions the Committee sought the opinion of the External Auditor and ensured that the External Auditor challenged management sufficiently on the breadth, depth, and variety of scenarios, as well as sought confirmation that sufficient substantiation to the key assumptions in the scenarios was validated. The Committee concluded it was appropriate to adopt the going concern basis.

The Committee received a series of risk and financially based updates on the supply chain and related challenges in 2021. The Committee posed a series of questions to examine the impact on the results in 2021, the internal control framework improvements prompted by these events and the extent to which these events were included in future modelling scenarios.

Alternative performance measures: Adjusted EBITA and Adjusted EPS

RHI Magnesita continues to use a number of alternative performance measures ("APMs"), which reflect the way in which management assesses the underlying performance of the business.

Read more about APMs on **Page 211**

The Group's APM policy defines criteria for calculation of Adjusted EBITA and Adjusted EPS. The Committee considered both the overall policy and the use of each APM, as well as the impact that they may have on the clarity and understandability of the financial statements together with regulatory positioning on such reporting. The Committee enquired as to any investor feedback received by Management on the use of APMs. A robust discussion led by the Committee reviewed each of the adjustments made in Adjusted EBITA and Adjusted EPS and concluded that their use is appropriate.

Benchmarking and Stakeholder feedback on the financially-based end-to-end Company processes

The Committee received a comprehensive report encompassing external perspectives and feedback from internal stakeholders on the performance of financially based processes within the Company. The Committee engaged in a discussion with Management on the issues raised and the options considered for delivering the cross-functional improvements identified. The Committee endorsed the Management plans and will monitor the delivery of the actions through 2022 and beyond.

Impact of the increased level of regional based governance

The Committee held a detailed discussion with Management over the governance approach being delivered in each of the regions within the Company. The Committee received observations from Internal Audit, Risk & Compliance comparing the governance performance across the regional footprint. The Committee sought to understand the history, capability levels and plans to develop the regional governance structure. The resultant discussions led by the Committee highlighted that the regionalisation activity had started from different base points in each region and been subject to different COVID-19 impacts. The Committee challenged Management on the root causes presented to explain the variation in governance performance across the regions.

Tax strategy

The Committee dedicated significant focus in 2021 to the review and challenge of the tax strategy. The Committee received updates through 2021 as the tax strategy evolved, actions were executed and Management outlined the responses to the continuing engagement with the Austrian and Netherlands tax authorities. The Committee considered the risks of the tax strategy, the effectiveness of actions being executed and encouraged insight from the External Auditor. The Committee endorsed the tax strategy as presented at each meeting and will continue to monitor the progress of the projects impacting the tax position.

Information security risks

The Committee continued to give high focus to information security risks, particularly as specified in the Dutch Corporate Governance Code. Cyber and information security risk is included amongst the Group's principal risks on pages 44 to 49. Multiple presentations were received by the Committee to both inform the Committee of the emerging risks and outline the internal controls. The Committee gave specific attention to the results of "phishing" tests and the measures taken by Management to improve awareness levels amongst staff of this risk. The Committee requested a greater insight into the Company Crisis Management plans and their application to any information security risk based incident.

Compliance programme

The Committee reviewed and challenged the annual Compliance programme as presented by Management. The Committee sought to ensure that the Compliance programme remains fresh and that the volume of material is comprehensive whilst also being succinct to have impact and make an efficient use of Management time. The Committee enquired how the Compliance activity is benchmarked and the basis on which the success of Compliance activities is measured.

Compliance with Market Abuse Regulations (MAR)

The Committee reviewed the completion of internal trainings on MAR and sought explanations from Management for the regional variation in training completion levels. Management outlined broader actions to promote Compliance (including training completion).

Treasury and foreign exchange risk management

The Committee reviewed the treasury policy and made enquiries of Management in relation to the funding options to support the Company strategy delivery.

Insurance strategy

The Committee reviewed the Insurance strategy and continued to monitor the plans for a captive insurance scheme.

Pension scheme liabilities

The Committee received an update on the status of the various pension schemes in geographies across the Group and specific updates on the funding and liabilities of the schemes. Following discussion, the Committee gave positive feedback on the quality of the information produced, the management of the pension schemes and the future actions proposed by Management.

Audit & Compliance Committee report continued

Response to Consultation on "Restoring trust in corporate governance and audit"

The Committee and Management jointly prepared the Company response to the UK Department of Business, Energy and Industrial Strategy ("BEIS") consultation exercise on the white paper " Restoring trust in corporate governance and audit". While supportive of the general principles contained within the paper, the discussions with the Committee and Management and the subsequent response submitted highlighted some practical implementation concerns and some cost burdens for companies.

Core Committee activity performed in 2021 included:

Whistleblowing programme

The whistleblowing programme, which is monitored by the Committee and overseen by the Board of Directors, is designed to enable employees, customers, suppliers, managers, or other stakeholders to raise concerns on a confidential basis where conduct is deemed to be in violation of our Code of Conduct or contrary to our values.

The Committee discussed with management the broadly static level of whistleblower reports received in 2021 compared to 2020. The wide range of topics raised in these reports and the large geographical spread of the reports were observed by the Committee. Management described that the majority of the reports arise from Brazil (as in previous years) where employees typically prefer to use the whistleblowing programme to raise Human Resources related concerns.

The Committee made enquiries of management in relation to the reports received on the whistleblowing programme in order to conclude its effectiveness during 2021. The Committee accepted Management's explanation that the cases in 2021 each related to individual circumstances and had been appropriately investigated and root causes addressed.

Risk management

Risk management is the responsibility of the Board and is integral to the achievement of the Group's objectives. The Board establishes the system of risk management, setting risk appetite and maintaining the system of internal control to manage risk within the Group. The Group's system of risk management and internal control is monitored by the Committee under delegation from the Board. Details of the Group's risk management approach, risk appetite and principal risks are outlined in the Risk, viability, and internal control section of the Annual Report on pages 38 to 49.

The Committee receives quarterly reports on risk management and made enquiries to management to assess and monitor the effectiveness of the approach. The Committee specifically considered Fraud Risks based on a management assessment. The Committee also includes risk-based challenge in all its subject matter deep dives performed in 2021.

The Committee specifically challenged Management on the effectiveness with which "Black Swan" risk events were being captured or considered within the risk management framework. The Committee encouraged Management to use the learnings from the supply chain challenges in 2021 as a prompt to develop an enhanced approach for identifying and evaluating potential future "Black Swan" events.

Reviewing the results of Internal Audit work and the 2021 plan

The Committee reviewed the effectiveness and resources of the Internal Audit department and concluded that the Internal Audit function is effective and has adequate resources. The Committee continued to assess the independence of Internal Audit within the combined departmental model of Internal Audit, Risk & Compliance. The Committee paid particular attention to the results of the External Quality Assessment of Internal Audit performed in 2021. The Committee ensures that this timing meets the requirement of such an assessment being performed at least every five years. The Committee considered the positive results showing the required level of Internal Audit independence and the high quality of the work performed. The Committee will monitor the delivery in 2022 of the improvement points raised in the assessment which largely focused on detailed process enhancements.

Based on the reports received on the results of Internal Audit work, the Committee satisfied itself that the 2021 internal audit plan was on track and discussed areas where control improvement opportunities were identified. The Committee also reviewed progress in completion of agreed management actions.

The Committee reviewed the proposed 2022 Internal Audit plan. The current Chief Audit Executive will be released from this role in early 2022 to lead a process improvement project with a specific emphasis on internal financial controls. The Committee discussed the approach to appoint a successor or engage a temporary Chief Audit Executive. The Committee raised a series of challenges to the plan focusing on any impact to Internal Audit quality and independence and following receiving appropriate assurances and supplementary information, the Committee approved the proposed approach. The Committee approved the 2022 Internal Audit plan, having discussed the scope of work and its relationship to the Group's risks.

External audit

The Group's External Independent Auditor, PricewaterhouseCoopers Accountants N.V. ("PwC"), was first appointed as the Group auditor following the Company's first appointment process at the AGM held on 4 October 2017, shortly before the listing of the newly formed RHI Magnesita. PwC has performed this role in each subsequent year. PwC will be proposed for reappointment at the 2022 AGM. In line with the External Auditor engagement partner rotation rules, the Committee has undertaken meetings to support the nomination by PwC of a new engagement partner for 2022.

In assessing the performance of PwC, the Committee discussed and agreed with PwC three key areas of continued focus:

- Improving the audit approach especially aligning the scoping to Company processes;
- Adjusting the external audit process to match the accelerated reporting timetable; and
- More efficient and consistent communication and coordination especially with the respective component audit teams.

The Committee received a description of the manner in which the External Auditor plan was aligned with business priorities, the plans to address the areas of focus , major change projects and the risk assessments. Having discussed the proposals from PwC to address these issues, the Committee approved the audit plan together with the audit fee. This process involved active discussion of the audit approach, (the assessment of work conducted on) key audit matters, materiality level and audit risks.

The Committee considered and challenged the document presented describing the rationale and work performed by PwC in reaching their assessment of key audit matters and key risks.

The Committee discussed the report presented by the External Auditor on the year end audit. The Committee requested more insight from Management on the root causes of the matters raised by the External Auditor and sought to form an expectation of the typical level of such issues. The Committee also discussed observations from the External Auditor on the IT elements of their year end audit work.

The Committee also received updates during the year on the external audit process, including how the Auditor had challenged the Group's assumptions on the issues noted in this report. The External Auditor had unrestricted access to, and attended all, Committee meetings in 2021. They also had private meetings with the Committee in the absence of management. They were asked for their input and opinion on a range of topics throughout the year.

External Auditor's independence

The External Auditor reports to the Committee on the actions taken to comply with professional and regulatory requirements, as well as best practice designed to ensure its independence. Following due review and scrutiny, the Committee recommended that PwC and Esther van der Vleuten should continue as the External Independent Auditor and designated auditor for the financial year 2021.

In 2021, the Group maintained the non-audit services policy for the External Auditor as reviewed in 2020. This policy is consistent with the applicable EU Directive, Dutch and UK legislation and guidance, including recommendations set out in the Financial Reporting Council's ("FRC's") Guidance on Audit Committees (2016) and the requirements of the FRC's Revised Ethical Standard (2019).

The definition of permitted non-audit services corresponds with the European Commission's recommendations on the auditor's independence and with the Ethical Standards issued by the Audit Practices Board in the UK. Non-audit work, non-pervasive to the Group, by a local (non-Dutch) PwC firm, is only undertaken where there is commercial sense, where pre-approval is obtained from the Committee and when the ultimate Responsible Independence Partner at PwC Netherlands has approved the allowance of such non-audit work abroad. During 2021, very limited non-audit work to local RHI Magnesita entities for a total of €0.0 million (2020: €0.1 million) was performed by local PwC offices. Non-audit fees represented are disclosed in Note 59 of the financial statements.

The Group confirms compliance during the year with the provisions of the Competition and Markets Authority Order on mandatory tendering for the appointment of the External Auditor and Audit Committee responsibilities.

It is proposed that the next external audit tender is undertaken in 2025, The committee has formed this proposal to match the next scheduled partner rotation for PwC. The committee considered an earlier tender process and balanced the benefits of a tender process against the workload of undertaking a tender and believes that the approach proposed is in the best interests of the Company.

Fair, balanced and understandable financial statements

The Group's financial statements should be fair, balanced, understandable and provide the information necessary for stakeholders to assess the Group's position, performance, business model and strategy. The Committee and the Board are satisfied that the 2021 Annual Report meets this requirement, with appropriate weight having been applied to both positive and negative developments throughout the year.

In justifying this statement, the Committee has taken into consideration the preparation process for the Annual Report and Accounts, including:

- detailed timetable and instructions are provided to all contributors;
- updates and/or revisions to regulatory reporting requirements are continuously monitored and provided to contributors;
- early-warning meetings are conducted between the finance function and the External Auditor in advance of the year-end reporting process;
- external advisers provide advice to management and the Committee on best practice regarding the preparation of the Annual Report;
- a Committee meeting was held in Q1 2022 to review and approve the draft 2021 Annual Report and Accounts in advance of the final sign-off by the Board;
- review of significant accounting matters as explained in the notes to the Consolidated Financial Statements; and
- conclusions drawn by the External Auditor concerning key audit matters contributing to their audit opinion, specifically impairments taxation, fraud risk, climate change and other Environmental, Social and Governance components were considered by the Audit Committee.

Committee Governance

The Committee held training sessions in the year, covering topics such as TCFD and a case study on the role of Audit Committees in recent corporate failures. These sessions were on topics suggested by the Committee members but were made available to all Directors. Individual members took actions to continue their own professional development. You can read more about induction plans for new members on page 90.

The Committee considered its performance in 2021, aided by feedback from the Board Review process. This review concluded that the Committee has been operating highly effectively. Focus in 2022 will be given to supporting and guiding management as they seek to deliver greater transparency in financial information and systems. Plans to implement additional training for Committee members will be enacted once the practical restrictions of COVID-19 allow.

The Board considered the independence status of Wolfgang Ruttenstorfer, a member of the Committee, and under the criteria of the UK Corporate Governance Code, Wolfgang is no longer deemed independent. He is however independent under the Dutch Corporate Governance Code. The Committee's Terms of Reference are clear that a member should be independent under either Code and the Directors remain comfortable that Wolfgang remains independent in his approach and actions as a Director and member of the Committee. Further explanation of the position under Provision 24 of the UK Corporate Governance Code can be found on page 70.

John Ramsay
Chairman, Audit Committee

Remuneration Committee report

Janet Ashdown
Chairman of the Committee

Committee members and meeting attendance

	Attendance in 2021	Member since
Janet Ashdown (Chairman)	5/5	October 2020
Karl Sevelda	5/5	October 2017
Fiona Paulus[2]	5/5	June 2021
Celia Baxter[1]	2/2	October 2017, resigned June 2021

1 Celia Baxter resigned as a Director and so ceased to be Committee Chairman at the 2021 AGM when she stepped down from the Board.

2 Fiona Paulus was appointed to the Committee following the 2021 AGM. She was present at the January and February meetings as an attendee.

The Remuneration Committee is committed to its role in promoting the delivery of long-term value. Remuneration is closely aligned to RHI Magnesita's strategy, culture and operations.

Current Committee membership and operation

Janet Ashdown is the Chairman of the Committee and at the time of appointment as Chairman, had extensive experience on other listed companies' remuneration committees and so comfortably met the requirement for at least one years' experience prior to chairing a Remuneration Committee. Fiona Paulus and Karl Sevelda are current members of the Committee. All Committee members are Independent Non-Executive Directors (NEDs) within the meaning of the UK and Dutch Corporate Governance Codes. The Company Secretary is the secretary to the Committee. Other individuals, such as the Chairman of the Board, the Chief Executive Officer, the Executive Vice President People, Projects & Value Chain (who is responsible for Human Resources), and external professional advisers may be invited to attend for all or part of any meeting as and when appropriate and necessary. No individual is present when their own remuneration is discussed. The Committee meets at least three times a year and at such other times as the Chairman of the Committee shall require or as the Board may direct.

Committee purpose, roles and responsibilities

The Remuneration Committee's purpose is to develop a reward package for Executive Directors and senior managers that supports our vision and strategy as a Group, and to ensure the rewards are performance based, encourage long term shareholder value creation, and take account of the remuneration of the whole workforce.

Terms of Reference

Changes of the Committee

Celia Baxter stepped down from the Board at the 2021 AGM and Janet Ashdown assumed the role of Chairman of the Committee. Fiona Paulus joined the Committee as a member following the 2021 AGM.

Activities in 2021

The key activities and decisions taken throughout the year were:

- Bringing the new Remuneration policy to the AGM for approval. It was approved by a majority of 95.95% of votes represented at the AGM.
- Considering market and corporate governance trends and how they might apply to the Company
- Reviewing and amending the Terms of Reference of the Committee.
- Discussing the output from the Committee evaluation and agreeing actions in response
- Considering the retention mechanisms available for Executive Directors (EDs), Executive Management Team ("EMT"), and senior management in light of LTIPs continuing not to vest
- Considering the outturn of the 2020 and 2021 bonus, the performance of in-flight LTIPs, reviewing the 2022 bonus and LTIP performance conditions and targets.
- Reviewing the remuneration of the EDs, EMT, and senior management within the context of wider global workforce remuneration and where there were changed responsibilities.
- Reviewing the fee for the Chairman of the Board.
- In November, Janet Ashdown took part in an investor roadshow, where topics discussed included Executive Director remuneration, views on evolving incentive structures in the market, the performance conditions used, how incentives could drive progress against the Company's sustainability strategy and how the performance against newer ESG KPIs would be assured.
- Approval of a refreshed expenses policy for the Board
- Review of the performance of remuneration advisers and their scope of services.

Dear Shareholders

This is my first report since taking over as Chairman of the Committee in June 2021. I would like to take the opportunity to thank Celia for her dedicated service to both the Committee and the wider Board.

On behalf of the Board, I present our 2021 Directors' Remuneration Report. This report includes my letter to the shareholders, our Directors' Remuneration Policy, approved by shareholders at the 2021 Annual General Meeting and our Annual Report on Remuneration for the year ending 31 December 2021, which sets out how our Directors' Remuneration Policy was implemented during the year and will be operated in 2022.

RHI Magnesita is incorporated and registered in the Netherlands, making it subject to Dutch corporate law. It has its primary listing on the London Stock Exchange and a secondary listing on the Vienna Stock Exchange. As a result, we are required to comply with both UK and Dutch reporting requirements and their respective Corporate Governance Codes. Our Remuneration Report is therefore presented on this basis and, recognising transparency of reporting, includes certain voluntary disclosures. This letter on pages 96 to 98, the summary on page 99 and the Annual Report on Remuneration on pages 112 to 112 will also be presented for approval by an advisory vote at the AGM on 25 May 2022.

Remuneration is aligned with our strategy, culture and operations

Our Remuneration Policy continues to support our strategy, culture and operations. Our bonus targets for management throughout the Company are aligned to those of the executive and senior management. This provides a clear line of sight of Company objectives, supports our organisational culture, fosters teamworking, and incentivises appropriate behaviours across the workforce. The Directors led the Company's strategy review process in September 2021, which supported the subsequent agreement of bonus KPIs being are directly aligned with the three pillars of our strategy.

Our long-term incentive plan ("LTIP") rewards the creation of shareholder value and profitability. Totals hareholder return ("TSR") and EPS are used as LTIP KPIs to incentivise the creation of long-term value. In order to support achievement of our 2025 strategy to reduce carbon emissions, putting us on the path towards net zero carbon emissions and assisting in the reduction of our customer's carbon footprint, we have included CO_2 emission intensity targets in our incentives since 2021. We have recognised that the reduction of CO_2 emissions intensity is a target better achieved over a longer time-frame and have therefore moved the reduction of CO_2 emissions for 2022 from our bonus to our LTIP and focused on the use of secondary raw material as a bonus target for 2022 where results can be more easily recognised over the shorter term. You can read more about this on page 121. LTIP awards vest after a three-year performance period to the extent targets are met, with a further two-year holding period for the Executive Management Team.

RHI Magnesita's performance during 2021

2021 was a difficult year for RHI Magnesita with business volatility continuing as COVID-19 restrictions continued to impact production, and global supply chain pressures impacted operations. Costs increased, mainly due to high sea freight, which could not be fully passed on to our customers, negatively impacting margins. Nevertheless, we are facing strong demand and good shipping volumes. Our working capital has also increased due to increases in raw material inventories ahead of anticipated shortages as detailed on page 35. As laid out in the Chairman's Statement and the Chief Executive Officer's Review, despite all these difficulties, the Group recorded in 2021 a robust revenue of €2,551 million, which means an increase of 12.9% against the prior year; adjusted EBITA of €280 million, an increase of 8% compared to 2020; and a decrease in operating free cash flow of -€236 million compared to €290 million in 2020. It has been within this context that the Committee has considered the Annual Bonus scheme, the 2021 outturn and the 2022 targets, as well as reviewing 2019 LTIP performance and agreeing 2022 performance conditions.

Incentive outcomes for the year

As set out in the Annual Report on Remuneration, our remuneration outcomes for the year were as follows:

Annual Bonus Plan

The 2021 annual bonus outcome results in a 24% annual bonus for the CEO and CFO. This is as a result of good performance against the strategic initiatives. Although neither of the Adjusted EBITA or Operating Cash Flow metrics were achieved, the Committee noted that a robust level of profit had been delivered against a challenging target range, particularly when taken in the context of the market challenges already noted above. The Committee also considered that management had managed the business effectively over the year, managing strong volume demand with rising cost pressures, while ensuring strong levels of liquidity with good progress against the important strategic elements of the bonus. In the circumstances, the Committee agreed that the level of formulaic bonus which aligned to bonuses payable to eligible members of the workforce was appropriate and the exercise of discretion was not required. Further details of our performance against 2021 bonus targets can be seen on page 113. No adjustments have been made to the targets due to COVID-19.

The Company has continued its practice of not taking any state issued COVID-19 related support.

LTIP

An LTIP award was made in 2019, based on three performance conditions. The performance period of this award was the three financial years 2019, 2020 and 2021. More details are available on page 113. None of the performance targets have been met and the awards will therefore lapse.

The Committee is comfortable that the Policy operated as intended during the year.

LTIP awards granted in the year

LTIP awards were made to the CEO and CFO on 15 March 2021 at normal grant levels of 200% of salary for the CEO and 150% of salary for the CFO. The Committee carefully considered appropriate performance measures, taking into account the economic and business outlook. The measures for the 2021 awards were of 50% adjusted EPS, 25% absolute TSR and 25% Use of secondary raw material to support management's focus on delivering material increases in the share price (plus dividends) and sustained aggregate EPS over the performance period as well as our environmental commitments . Details of the awards and performance conditions can be found on page 114.

Implementation of the Remuneration Policy for 2022

The base salaries of the CEO and CFO were increased by 4.45% and 4.44% respectively, with effect from 1 January 2022. Both of these executives are employed in Austria, and this compares with an average of 4.45% for the majority of Austrian based employees.

Annual bonus maximum opportunity for 2022 is unchanged from 2021 at 150% of salary. The bonus metrics and weightings were reviewed for 2022. The bonus will continue to be based on EBITA and operating cash flow recognising that both these metrics continue to reflect our key financial priorities. In addition, an element of the bonus will once again be focused on achievement of our strategic priorities, including an ESG measure, as drivers of future profitability and growth. The targets and performance against them will be disclosed retrospectively in the 2022 Remuneration Report, provided they are not considered to be commercially sensitive at that time.

Remuneration Committee report
continued

The quantum of the CEO and CFO's **LTIP awards for 2022** remain unchanged with a face value of 200% and 150% of salary, respectively. The awards will be made in March 2022 based on the share price at that time. Executives will receive the award shares in 2027 (subject to a three-year vesting period and two-year holding period) if performance targets are met. The performance targets that will determine vesting of the share awards, will continue to be based on absolute TSR and Adjusted EPS targets reflecting the ongoing focus of management to deliver material increases in the share price (plus dividends) and sustained EPS growth. For 2022 the Committee has included as its third ESG related performance measure the reduction of CO_2 emissions intensity to support the longer-term focus of management on achieving the 2025 strategy to reduce carbon emissions. The performance targets are set out on page 121. The Committee is comfortable, taking into account the ongoing economic and market uncertainty as well as the business outlook that the targets are as challenging as those set for prior LTIP awards, whilst also acting as a retention tool. The Committee has the ability to scale back the level of vesting if it considers the outcome to be reasonably unacceptable, or to avoid any "windfall gain" or if it is not reflective of the underlying performance of the Company.

How our remuneration practices support our strategy

Element of reward	Metrics	Strategic Pillar: Market Leadership	Strategic Pillar: Enhance Business Model	Strategic Pillar: Execute Cost Reductions
Bonus	Profit		●	
	Free Cash Flow			●
	Strategic initiatives	●	●	●
LTIPs	Earnings Per Share			●
	Total Shareholder Return	●		●
	Economic Profit	●		●
	Use of Secondary Raw Materials		●	
	Reduction of CO_2 emissions	●	●	

ESG metrics

The Committee was pleased to be a leader in the refractory industry in introducing ESG related measures as part of the reward structure for the Group in 2021 and in 2022 will continue to include ESG metrics in the structure of incentives. Representatives of the Committee consulted with investors during 2021 and shareholders were supportive of the linking of management incentives to sustainability targets.

The chosen metrics are aligned with the Company's strategy and sustainability targets, which aim to reduce CO_2 emissions intensity by 15% by 2025 and increase the use of secondary raw material to 10%. To achieve further emissions reduction in the longer term, the Group is investing €50 million into the development of new technologies to capture, store and utilise its CO_2 emissions.

The Committee is comfortable that the ESG targets in the LTIP and the annual bonus are both material and stretching for the business. In deciding on the targets, it has received data on the progress in these areas to date and the expected development in the coming years to reach the overall strategy. The Chairman of the Committee is also the Chairman of the Corporate Sustainability Committee and Fiona Paulus is a member of both committees. The Committee is therefore well positioned to assess progress against the sustainability strategy and devise appropriate links to management incentives. The targets set are quantifiable, based on regularly reported operational and management information and CO_2 emissions intensity in the target scope are assured by an independent third party. The use of secondary raw materials is included as an annual bonus target this year (having been included in the 2021 LTIP) to focus performance since it is a key lever to deliver progress in reducing Scope 1 CO_2 emissions in the short term.

Our conversation with our shareholders

At the 2021 AGM the Committee proposed the new Remuneration Policy which was approved by a majority of 95.95% of votes from and as a result we are comfortable that the Policy meets shareholder expectations. The Committee believes that the remuneration policy has operated as intended during 2021. The remuneration outcomes for 2021 are aligned to the Company's strategy, the complex structure of the business and the long-term shareholder interests.

The Committee continues to reflect on remuneration approach for the workforce and the executive team, particularly as the world transitions to a post-COVID-19 world. With all the macro-social economic changes around us, the Directors feel it is appropriate to take the time, as we go into 2022, to consider the Company's practices and Remuneration Policy afresh to ensure it remains fit for purpose. We will also closely monitor the market for best practice and emerging trends. Any changes would of course be made with shareholders and stakeholder experience in mind, and consultation as appropriate. The Committee values shareholder feedback and finds it most useful to hear their opinions, guidance and their concerns. We carefully consider all input when reviewing the reward design and determining outcomes. You can read more about this in the stakeholder engagement report on pages 107 and 108.

As outlined in the Corporate Governance Statement on page 70, we are reporting partial compliance with Provisions 36, 40 and 41 of the UK Corporate Governance Code on Remuneration. We explain our partial compliance in the Corporate Governance Statement and will continue to keep our practices under review in respect of these provisions.

At the 2022 AGM, shareholders will be asked to vote on the Directors' Remuneration Report. I hope that the Committee will have your support. As Committee Chairman, I continue to be available to engage with shareholders wishing to discuss remuneration matters.

Janet Ashdown
Chairman of the Remuneration Committee

At a glance: Operation of Remuneration Policy for the financial year ending 31 December 2021

Policy element	S Borgas (CEO)	I Botha (CFO)
Base salary from 1 January 2021	€1,052,000	€615,000
% Increase from prior year	2.5%	2.5%
Retirement allowance	Allowance of 15% of base salary	Allowance of 15% of base salary
Annual bonus	Up to 150% of base salary	Up to 150% of base salary
Annual bonus metrics	Adjusted EBITA (35%) and Operating Cash Flow (35%) measured on a constant currency basis and Strategic deliverables (30%) . The strategic element was equally weighted on; Increase global value market share, reduce conversion cost and reduce CO_2 emission intensity.	
Amount paid for threshold performance	0%	0%
Amount paid for target performance	75% of salary (50% of maximum annual bonus)	
Actual bonus result for 2021 performance	Bonus paid €374,775 (24% of maximum)	Bonus paid €219,094 (24% of maximum)
Payment of bonus in shares	50% of annual bonus in excess of target after tax is used by the executive to acquire shares that are held for a minimum of three years	
LTIP Award	200% of base salary	150% of base salary
LTIP metrics	50% of the award: Adjusted EPS (cumulative for the three-year performance period) 25%of the award: Absolute TSR 25% of the award: Use of Secondary raw material	
Payment for threshold performance	25%	
Performance and post vesting holding periods	Three years and two years respectively	
Malus and clawback	Malus applies to the period prior to vesting for LTIP awards and payment of the annual bonus Clawback applies to cash bonus and LTIP awards for a period of three years following the date of vesting and three years following any cash payment	
Dividends on vested awards	Participants are eligible for dividend equivalents on performance shares awarded under the LTIP	
Shareholding requirement	200% of base salary to be met within five years	
Shareholding as % of salary at 2021 year-end	80%	53%[1]

1 Calculated assuming a tax rate of 50%.

Directors' Remuneration Policy

This Directors' Remuneration Policy was approved by over 95% of voting shareholders at the June 2021 AGM and became effective from 1 January 2021. The full Remuneration Policy as approved by shareholders is available in the 2020 Annual Report on our website.

Policy overview

The aim of the Company's remuneration strategy is to provide a level of fixed pay that, together with incentives, will attract, retain and motivate high-calibre, high-performing executives, aligning them to the long-term performance of the Company and its long-term share performance while rewarding them for creating and delivering shareholder value.

The policy is aligned to and supports our cultural values which are set out below:

- Innovative
- Open
- Pragmatic
- Performing

The mission of the Company is "Taking innovation to 1200°C and beyond". Achieving our mission requires high-performing senior management and the Policy is designed to motivate them to perform to a high standard and reach the stretching goals set. In addition, the remuneration arrangements for the Executive Directors contribute to long-term value creation by:

- providing a fair and appropriate level of fixed remuneration that does not result in overreliance on variable pay and undue risk-taking, thereby encouraging the executives to focus on sustained long-term value creation.
- providing a balance of short- and long-term incentives to ensure there is focus on short-term objectives that will over time build to create long-term value creation as well as long-term goals.
- requiring executives to acquire and retain shares in the Company.
- offering long-term incentives where the reward is delivered in shares which aligns executives to shareholder interests and value as well as the performance of the Company over the longer term.
- requiring performance measures in our long-term incentive to be measured over the longer term and for shares to be held post-vesting for a further two-year period; and
- incorporating metrics focused on long-term shareholder value, such as total shareholder return and reduction of both our and our customers' carbon emissions through the increased use of secondary raw material.

When implementing the Remuneration Policy, the Remuneration Committee considered the six factors listed under Provision 40 of the UK Corporate Governance Code:

- Clarity: The Policy and the way it is implemented is clearly disclosed in this policy section of the Remuneration Report and the Annual Statement and supporting reports, with full transparency of all elements of Directors' remuneration.
- Simplicity: The Policy is simple and straightforward, based on a mix of fixed and variable pay. The annual bonus and LTIP include performance conditions which are aligned with key strategic objectives and drivers of the RHI Magnesita business.
- Risk: The Committee believes that the performance targets in place for the incentive schemes provide appropriate rewards for stretching levels of performance without driving behaviour which is inconsistent with the Company's risk profile. Potential reward is aligned with market levels of peer companies and the reputational risk from a perception of "excessive" pay-outs is limited by the maximum award levels set out in the Policy and the Committee's discretion to adjust formulaic remuneration outcomes. To avoid conflicts of interest, Committee members are required to disclose any conflicts or potential conflicts ahead of Committee meetings. No Executive Director or other member of management is present when their own remuneration is under discussion.
- Predictability: The Policy includes full details of the individual limits in place for the incentive schemes as well as "scenario charts" which set out potential pay-outs in the event of different levels of performance, based on a number of reasonable assumptions. Any discretion exercised by the Committee in implementing the Policy will be fully disclosed.
- Proportionality: The link between the delivery of strategy, long-term performance, shareholder return and the remuneration of the Executive Directors is set out in the Remuneration Report.

Alignment to culture: As explained above and in the rest of this report, the approach to Directors' remuneration is consistent with the Group's culture and values.

When determining the implementation of the remuneration policy, the Committee also reviews and considers those matters referred to aspects in section 3.1.2 of the Dutch Corporate Governance Code which comprise: long-term value creation, scenario analyses, ratio of fixed to variable remuneration components, market price of shares, terms and conditions governing share and share option awards.

When reviewing the Remuneration Policy, the Committee will follow the process set out below:

- The Committee will consider market and governance developments (including the UK Corporate Governance Code and Dutch Corporate Governance Code) as well as wider pay context, such as pay ratios and Group reward arrangements
- The Committee will consider the guidelines of shareholder representative bodies, proxy agencies and investor expectations.
- The Committee will consult with shareholders and employees ahead of any future AGMs where the remuneration policy is put to a vote.
- All changes, adoption or revisions to the existing policy will be brought to shareholders for approval.

Policy table for Executive Directors

Element and purpose	How it operates	Maximum opportunity	Performance-related framework and recovery
Base salary To assist in the recruitment and retention of appropriate talent. To provide a fair fixed level of pay commensurate for the role ensuring no overreliance on variable pay.	Salaries are paid monthly and reviewed annually. The Company's policy is to set salaries at market competitive levels taking into account salaries at companies of a similar size by market capitalisation, revenue and any other factors considered relevant by the Committee such as international business mix and complexity. Decisions on salary are influenced by: • The performance and experience of the individual • The performance of the Group • The individual's role and responsibilities and any change in those responsibilities • Pay and employment conditions of the workforce across the Group including salary increases • Rates of inflation and market-wide increases across international locations • The geographic location of the Executive Director	There is no prescribed maximum annual base salary or salary increase.	Salaries will be reviewed by the Committee annually taking into account the various factors noted in the "How it operates" section of the policy.
Retirement allowance To provide competitive retirement benefits for recruitment and retention purposes.	Executive Directors may participate in a defined contribution plan, and/or receive cash in lieu of all or some of such benefit. Only base salary is pensionable. The pension will be set at a rate aligned to the majority of the workforce in the country of the Executive Director's appointment, structured as required by the local regulation in the country of appointment, and in line with industry norms.	Pension is capped at the rate applicable to the majority of employees in the country of appointment for the Executive Director (currently Austria where it is 15% of salary).	None
Other benefits To provide a competitive benefit package for recruitment and retention purposes as well as to support the personal health and wellbeing of the Executive Director.	Benefits currently provided include: private health insurance, life insurance, car/car allowance and fuel allowance. Additional benefits and tax payable as a result of reimbursement of reasonable business expenses may be provided from time to time if the Committee decides payment of such benefits and tax is appropriate and in line with market practice.	There is no maximum level of benefits provided to an Executive Director.	None

Directors' Remuneration Policy
continued

Policy table for Executive Directors continued			
Element and purpose	How it operates	Maximum opportunity	Performance-related framework and recovery
Annual bonus To provide focus on the short-term performance of the Company and to provide a reward for achieving short-term personal, strategic and financial Company performance. To provide a mechanism for alignment with longer-term performance and shareholder objectives. The requirement for Executive Directors to acquire shares with their bonus aligns them to the "development of the market price of the shares" in the Company as provided in the Dutch Corporate Governance Code.	The annual bonus is based on the Group's performance as set and assessed by the Committee on an annual basis. The annual bonus is paid in cash and the Executive Directors are required to acquire shares in the Company with 50% of the amount paid in excess of target (after tax) which will be held for a minimum period of three years.	Up to 150% of base salary. Target potential opportunity is 50% of maximum opportunity.	Details of the performance targets set for the year under review and performance against them will normally be provided each year in the Annual Report on Remuneration. If for reasons of commercial sensitivity, the targets cannot be disclosed then they will be disclosed in the following year. Performance will normally be measured over a one-year period. Targets will be based on the Group's annual financial and non-financial performance for the particular performance year. At least 70% of the bonus will be subject to financial performance metrics. The Committee may scale back the bonus that is payable if it considers the outcome to be reasonably unacceptable or if it is not representative of the underlying performance of the Company and/or there have been regulatory, environmental or health and safety issues that the Committee considers are of such severity that a scale back of the bonus is appropriate. For the financial targets, not more than 25% of the maximum potential bonus opportunity will be payable for achieving threshold performance rising on a graduated scale to 100% for maximum performance. Threshold performance being the level of performance required for the bonus to start paying. In relation to strategic targets, the structure of the target will vary based on the nature of the target set and it will not always be practicable to set targets using a graduated scale. Vesting may therefore take place in full if specific criteria are met in full. Payments under the annual bonus plan may be subject to clawback/malus for a period of three years from payment in the event of a material misstatement of the Company's financial results, an error in calculating the level of grant or level of vesting or payment, a failure of risk management including the liquidation of the Group, if the participant has been guilty of fraud or gross misconduct or the Company has been brought into disrepute. The clawback/malus provisions as set out above do not limit Article 2:135 of the Dutch Civil Code.

Policy table for Executive Directors continued

Element and purpose	How it operates	Maximum opportunity	Performance-related framework and recovery
Awards granted under the RHI Magnesita Long-Term Incentive Plan (LTIP awards) To incentivise and reward execution of the longer-term business strategy. To provide alignment to shareholders and the longer-term performance of the Company and to recognise and reward value creation over the longer term. The "development of the market price of the shares" in the Company is, as required by the Dutch Corporate Governance Code, taken into account by providing a long-term incentive using shares as the delivery mechanism. In addition, part of the award is determined by Total Shareholder Return which is a measure of share price performance.	LTIP awards may take the form of nil-cost options or conditional awards. Awards are normally made annually. Awards normally vest after three years subject to performance and continued service. Where Executive Directors cease employment or are under notice prior to the three-year vesting date, different rules may apply. Shares resulting from the exercise of an option or vesting of a conditional award cannot be sold until five years have elapsed from the date of award, other than to pay tax. To the extent an award vests, the Committee may permit dividend equivalents to be paid either in the form of cash or shares representing the dividends that would have been paid on those shares during the vesting period (and where the award is a nil-cost option to the fifth anniversary of award). Dividend equivalents are payments in cash or shares equal to the value of the dividends that would have been paid during the period referred to above, on the number of shares that vest.	200% of salary (face value of award) annually (normal limit), where the face value is the market value of the shares subject to an award at the time it is awarded. In exceptional circumstances on recruitment 250% of salary (face value of award).	Awards vest based on three-year (or longer) performance measured against a range of challenging targets set and assessed by the Remuneration Committee. The Committee will determine the specific metrics and targets that will apply to each award prior to the date of award subject to the vesting of at least 25% of an award being determined by Total Shareholder Return. The targets for each award will be set out in the Annual Report on Remuneration. In relation to financial targets not more than 25% of the total award will vest for threshold performance rising on a graduated scale to 100% for maximum performance. Threshold performance being the level of performance required for the LTIP award to start to vest. In relation to strategic targets the structure of the target will vary based on the nature of the target set and it will not always be practicable to set targets using a graduated scale and so vesting may take place in full if specific criteria are met in full. The Committee may scale back the level of vesting if it considers the outcome to be reasonably unacceptable or if it is not reflective of the underlying performance of the Company and/or there have been regulatory, environmental or health and safety issues that the Committee considers are of such severity that a scale back of the LTIP award is appropriate. LTIP may be subject to clawback/malus for three years from the date of vesting in the event of a material misstatement of the Company's financial results, an error in calculating the level of grant or level of vesting or payment, a failure of risk management including the liquidation of the Group, if the participant has been guilty of fraud or gross misconduct or the Company has been brought into disrepute. The clawback/malus provisions as set out above do not limit Article 2:135 of the Dutch Civil Code.
Share ownership To increase alignment between management and shareholders and to promote the longer-term performance of the Company.	Requirement for the Executive Directors is to normally retain all of the shares acquired from annual bonus payments following expiry of the three-year holding period and normally 50% of vested Performance Shares (net of tax) following the two-year holding period until the shareholding requirement is achieved. Executive Directors are expected to hold 200% of salary in shares. The Committee normally expects this requirement to be met within five years of appointment and for the CEO 7 June 2018 being the date of approval of the Company´s first Directors' Remuneration Policy. Holding periods for annual bonus shares and long-term incentive awards continue post cessation of employment in respect of bonus shares acquired with 2021 bonus and LTIP awards granted in 2021 and future years, thereby providing a post-employment shareholding requirement.	200% of salary	None.

Directors' Remuneration Policy
continued

The table below sets out the Remuneration Policy for the Non-Executive Directors (including the Chairman).

Policy table for Non-Executive Directors

Element and purpose	How it operates	Maximum opportunity	Performance-related framework and recovery
To provide fees reflecting the time commitments and responsibilities of each role to enable recruitment of the right calibre of Non-Executive Directors who can further the interests of the Group through their experience, stewardship and contribution to the strategic development of the Group.	The Non-Executive Directors are paid a basic fee. Supplemental fees may be paid for additional responsibilities and activities, including for a Committee Chairman and member of the main Board Committees and the Senior Independent Director. The cash fee is normally paid quarterly in arrears. The Chairman's fee is inclusive of all of his responsibilities. Reasonable expenses incurred by the Non-Executive Directors in carrying out their duties may be reimbursed by the Company including any personal tax payable by the Non-Executive Directors as a result of reimbursement of those expenses. The Company may also pay an allowance in lieu of expenses if it deems this is appropriate. Fees are reviewed periodically.	There is no prescribed maximum annual fee or fee increase. The Board is guided by the general increase in the non-Executive market and the Group's global workforce, but may decide to award a lower or higher fee increase to recognise, for example, an increase in the scale, scope or responsibility of the role and/or take account of relevant market movements.	None.

Performance criteria

The Committee assesses annually, at the beginning of the relevant performance period, which performance measures, or combination and weighting of performance measures, are most appropriate for both annual bonus and any LTIP awarded to reflect the Company's strategic initiatives for the performance period. The Committee has the discretion to change the performance measures for awards granted in future years based upon the strategic plans of the Company, as it will do for 2022's award. The Committee sets what it considers are demanding targets for variable pay in the context of the Company's trading environment and strategic objectives and considering the Company's internal financial planning, and market forecasts. Any non-financial goals will be well defined, and the performance against the goals will be independently assured.

The short term financial and non-financial criteria of our variable remuneration may, as noted above, vary from year to year to ensure alignment with the strategic plans of the Company. Set out below is a summary of the measures for 2022 and other measures that have been used since 2018 and may be incorporated again (in addition to other measures) for future incentives:

Annual bonus

Financial criteria

- Adjusted EBIT and EBITA are a reflection of the Company's operating profits, operating performance and business efficiency supporting the value of RHI Magnesita for the shareholders. They reflect the way in which management assesses the underlying performance of the business, excluding certain non-recurring items from the adjusted figures.
- Operating cash flow supports the Company's capacity to expand its operations or investment in additional assets/ acquisitions, as well as dividends paid to shareholders. It is calculated by taking adjusted EBITDA plus changes in working capital and in other assets/liabilities minus capex spend.

Non-financial criteria

- Strategic deliverables supporting financial targets such as adjusted EBIT or EBITA and operating cash flow with initiatives and strategic projects, such as enhancing the current business model or Company's footprint and global value market share and ESG measures such as CO_2 emissions intensity reduction, use of secondary raw materials and reducing conversion costs.

LTIP

Financial criteria

- TSR — combination of movements in share price and dividends earned on shares reflecting the total return earned by holding the Company's shares.
- Adjusted EPS — reflects the income statement in a clear way and takes the equity structure into account and the Board believes Adjusted EPS to be one of the indicators which demonstrates the value created for its shareholders.
- Economic Profit Growth — measures value creation, considering all economic resources employed within the business, taking into account the costs of making and selling a product/service.

Bonus & LTIP

Non-financial criteria

- Use of secondary raw materials — measures the rate at which secondary raw material is used in our production network compared to virgin raw materials. Despite this not being a wholly financial target, this will nonetheless be independently verified by an external provider.
- **Reduction of CO_2 emissions intensity** — to reduce the tonnes of CO_2 emitted per tonne of production by 15% by 2025 compared to 2018 baseline, including Scope 1 emissions, Scope 2 emissions and Scope 3 emissions from raw materials.

The criteria listed above directly link to the Company's strategy, long-term interests and sustainability. Performance targets are set at a level to maintain good financial health. This enables the Company to perform well, deliver shareholder returns and invest sustainably to achieve strategic deliverables. The assessment of the fulfilment of performance criteria for the annual bonus and for LTIP awards is set out on pages 113 and 114..

Discretions retained by the Committee

The Committee operates the Group's variable pay plans according to their respective rules. In administering these plans, the Committee may apply certain operational discretions.

These include the following:

- determining the extent of vesting based on the assessment of performance;.
- determining the status of leavers and, where relevant, the extent of vesting.
- determining the extent of vesting of LTIP awards under share based plans in the event of a change of control.
- making appropriate adjustments required in certain circumstances (e.g. rights issues, corporate restructuring events, variation of capital and special dividends); and
- adjusting existing targets if events occur that cause the Committee to determine that the targets set are no longer appropriate and that amendment is required so the relevant award can achieve its original intended purpose, provided that the new targets are not materially less difficult to satisfy.

The Committee also retains discretion to make non-significant changes to the Policy without reverting to shareholders (for example, for regulatory, tax, legislative or administrative purposes).

Malus and clawback

The Committee may, at any time within three years from the date of LTIP awards vesting or payments under the annual bonus plan, determine that malus or clawback provisions may apply. Malus enables the Committee to reduce bonus or share awards (including to nil) before they vest. Clawback enables the Committee to reclaim shares acquired from share awards and/or bonuses paid including the cash value of shares and dividends. The Committee can also operate clawback through the reduction including to nil of other awards held by the individual before they vest or bonus before it is paid. The provisions apply in the following circumstances: (i) material misstatement of the Company's financial results; (ii) an error in calculating the level of grant or level of vesting or payment; (iii) a failure of risk management including the liquidation of the Group (iv) if the participant has been guilty of fraud or gross misconduct or the Company has been brought into disrepute. The clawback/malus provisions as set out above do not limit Article 2:135 of the Dutch Civil Code.

Executive Directors' service contracts and payments for loss of office

Service contracts and letters of appointment are available for inspection at the Company's registered office.

Service contracts and loss of office

It is the Company's policy that notice periods for Executive Directors will not exceed 12 months and the service contracts for the Executive Directors are terminable by either the Company or the Executive Director on 12 months' notice.

Directors' Remuneration Policy
continued

Service contracts and loss of office

Name	Position	Date of appointment	Notice period
Stefan Borgas	CEO	20 June 2017	12 months
Ian Botha	CFO	1 April 2019	12 months

The Committee's policy in relation to termination of service contracts is to deal with each case on its merits having regard to the circumstances of the individual, the termination of employment, any legal advice received and what is in the best interests of the Company and its shareholders. An Executive Director's service contract may be terminated early (other than for cause) by payment in lieu of salary in equal monthly instalments over the notice period. The Company may include pension contributions and benefits within the payment in lieu of notice if this is deemed appropriate or is specifically provided for in the service contract. Unless a contract specifically provides otherwise, all payments would discontinue or reduce to the extent that alternative employment is obtained. There are no enhanced provisions on a change of control and there are no specific severance arrangements. Whilst not part of the formal policy, in the event of a change of control, LTIP awards will vest based on performance to the change of control. In addition, awards will normally be scaled back pro rata to the proportion of the performance or vesting period served, with the Remuneration Committee having the discretion to reduce the scale back in exceptional circumstances if it deems it to be appropriate.

An Executive Director's service contract may be terminated without notice for certain events such as gross misconduct in which case no payments or compensation beyond sums accrued to the date of termination will be paid.

The Company may also pay outplacement costs, legal costs and other reasonable relevant costs associated with termination and may settle any claim or potential claim relating to the termination.

Treatment of variable pay awards on termination

Annual bonuses and LTIP awards are non-contractual and are dealt with in accordance with the rules of the relevant plans.

At the discretion of the Committee, in certain circumstances, for example, to incentivise short-term retention and completion of key business deliverables, and where poor performance is not relevant to the cessation, a pro-rata bonus may become payable at the normal payment date for the period of employment with financial performance targets based on full-year performance. Where the Committee decides to make a payment, the rationale will be fully disclosed in the Annual Report on Remuneration.

The default treatment for share-based awards is that any unvested award will lapse on termination of employment or, in certain circumstances on the executive giving notice. However, under the rules of the LTIP under which awards will be made, in certain prescribed circumstances, such as death, injury, ill-health, retirement with the Company's agreement, redundancy, leaving the Group because the employer company or business leaves the Group or where the Committee determines otherwise, awards are eligible to vest subject to the performance conditions being met over the normal performance period (or a shorter period where the participant has died) and with the award being reduced (unless the Committee considers, in exceptional circumstances, a different treatment is appropriate) by an amount to reflect the proportion of the performance period not actually served.

Approach to recruitment and promotions

The recruitment package for a new Director will be set in accordance with the terms of our Policy. On recruitment, the salary may be set below the normal market rate, with phased increases as the Director demonstrates performance within the Company. Annual bonus opportunity will reflect the period of service for the year.

The normal annual LTIP award limit is 200% of salary face value in a financial year (face value being the market value of the shares subject to an award at the time it is awarded). A higher limit of 250% of salary (face value) is included for use in exceptional circumstances for the Company to be able to attract and secure the right candidate if required. A LTIP award may be made shortly after an appointment if the usual annual award date has passed.

With internal appointments, any variable pay element awarded in respect of the candidate's prior role will normally be allowed to continue according to its terms.

The Policy enables the Committee to include those benefits it deems appropriate for an Executive Director. On recruitment, this may include benefits such as relocation, housing or schooling expenses. In arriving at a benefits package, the Committee's prevailing consideration will be to pay only what is considered necessary and appropriate, taking into account the importance of securing the right candidate for the job, acting in the best interests of the Company's stakeholders and limiting certain benefits to a specified period where possible.

On recruitment, the Company may compensate for incentive pay (or benefit arrangements) foregone from a previous employer. Replacement share awards would be made under the Company's LTIP and any subsequently adopted share plans using the separate specific limit for these purposes of 250% of salary (face value) or as necessary and as permitted under the Listing Rules. The new awards would take account of the structure of awards being forfeited (cash or shares), quantum foregone, the extent to which performance conditions apply, the likelihood of meeting any existing performance conditions and the time left to vesting.

Policy for Executive Directors on external appointments

Subject to Board approval, Executive Directors may accept external non-executive positions and retain the fees payable for such appointments.

Non-Executive Directors

Letters of appointment and policy on recruitment

All Non-Executive Directors have letters of appointment for a fixed period of three years, subject to reappointment each year at the AGM. No additional compensation is payable on termination, with fees being payable to the date of termination. The appointments are terminable by either party on three months' written notice.

On appointment of a new Non-Executive Director, the fee arrangement will be set in accordance with the approved Remuneration Policy in force at that time.

Name	Position	Date of initial appointment	Expiry date of current term
Herbert Cordt	Non-Independent Non-Executive Director, Chairman	20 June 2017	AGM 2024
David Schlaff	Non-Independent Non-Executive Director	6 October 2017	AGM 2024
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg	Non-Independent Non-Executive Director	6 October 2017	AGM 2024
John Ramsay	Independent Non-Executive Director	6 October 2017	AGM 2024
Janet Ashdown	Independent Non-Executive Director	6 June 2019	AGM 2022
Sigalia Heifetz	Independent Non-Executive Director	10 June 2021	AGM 2024
Marie-Hélène Ametsreiter	Independent Non-Executive Director	10 June 2021	AGM 2024
Jann Brown	Independent Non-Executive Director	10 June 2021	AGM 2024
Wolfgang Ruttenstorfer	Independent Non-Executive Director	20 June 2017	AGM 2024
Karl Sevelda	Independent Non-Executive Director	6 October 2017	AGM 2024
Fiona Paulus	Independent Non-Executive Director	6 June 2019	AGM 2022
Michael Schwarz	Employee Representative Director	8 December 2017	9 December 2025[1]
Karin Garcia	Employee Representative Director	9 December 2021	9 December 2025[1]
Martin Kowatsch	Employee Representative Director	14 December 2021	14 December 2025[1]

1 Michael Schwarz, Karin Garcia and Martin Kowatsch are the Employee Representative Directors and have been selected in accordance with the applicable local law provisions by the employee representatives. They are appointed for a term of not more than four years.

How the views of shareholders and employees are taken into account

Owing to the Board members' wide range of experience and backgrounds, and with Employee Representatives members and shareholders represented in person, there is ample opportunity for stakeholder feedback on the Policy and its implementation on an ongoing basis.

The Committee formally consults directly with employees on executive pay via the Employee Representative Directors appointed to the Board. Other engagement activities include employee surveys, CEO calls, regular townhall meetings and an active CEO Channel, as part of the MyRHIMagnesita app, where employees can ask questions on any issues including executive pay. The Committee receives periodic updates from the CEO and the Executive VP People, Projects and Value Chain which include employee feedback received on remuneration practices across the Group. No substantive questions have been raised on executive remuneration. The Committee takes due account of the overall approach to remuneration and the remuneration structures for employees in the Group when setting pay for the Executive Directors.

There are representatives of two of the Company's major shareholders on the Board and thus regular consultation on all elements of remuneration is ongoing. The Committee Chairman meets directly with representatives of various institutional shareholders on remuneration and appreciates the opportunity to understand their questions, seek to understand their expectations and then provide those views to the Committee and to the wider Board as required. In November 2021, the Committee Chairman participated in an investor roadshow with the Senior Independent Director and the Deputy Chairman where remuneration, and particularly the links with the sustainability agenda, were discussed with five institutional shareholders. The Committee, and the wider Board, found the sessions very useful to hear direct feedback from investors and understand their expectations for the future in terms of driving management performance through incentives.

The Committee Chairman seeks feedback from shareholders on any substantive remuneration matters and any consultation exercise would typically cover over 70% of shareholders. This feedback, best practice in the market, and any views also received from time to time, as well as guidance from shareholder representative bodies more generally, will be considered as part of the Company's annual review of Remuneration Policy and implementation of that policy. The Committee has engaged with shareholders regarding the changed Policy and investors approved at in the last AGM.

How the views of shareholders and employees are taken into account continued

In addition to this, the website provides an important tool for investor engagement. It contains a wide range of information on our Company and has a section dedicated to investors, which includes certain remuneration information, such as our LTIP rules, our investor calendar, financial results, presentations, press releases, with news relating to RHI Magnesita financial and operational performance and contact details.

Remuneration market data for companies of a comparable size and complexity to the Company was considered as part of the Committee's formulation of the Policy. This remuneration data was only one of many factors considered by the Committee.

The Committee has taken note of the views of the Executive Directors with regard to the amount and structure of their remuneration and the provisions of 3.1.2 of the Dutch Corporate Governance Code (matters that should be taken into consideration when formulating the Remuneration Policy) have been brought to their attention.

You can read more on our stakeholder engagement on page 50.

How the Executive Directors' Remuneration Policy relates to the wider Group

The Policy described above applies specifically to the Company's Executive and Non-Executive Directors. The Committee is aware of and provides feedback on the wider Group remuneration structures. The Company's policy is for the Policy and structure to be cascaded as far as practicable to the senior management team and for the overriding principles to be taken into account for the Group-wide policy.

Base salaries for the whole Group are operated under broadly the same policy as for the Executive Directors and are reviewed annually.

The key difference between the Policy and the wider Group's policy is that the Executive Directors' packages (and the senior management team to a lesser extent) are weighted more to variable pay. From 2019 on, the bonus targets are the same for Executive Directors and for all eligible white-collar employees. All our employees take part in annual discretionary bonus schemes, which is based on the same metrics as those applicable to the Executive Directors as shown in Annual Report on Remuneration. Our approach is to incentivise our employees to focus on and contribute to the Company's key goals.

LTIP awards are awarded to those employees identified as having the greatest potential to influence strategic outcomes. Given the cost of operating such a plan, the Committee considers this is the right approach and in the best interests of the Company and its shareholders.

A comparison of the remuneration structure between the wider workforce and the Board is illustrated in the table below.

Competitive pay and cascade of incentives

Organisational level	Number of employees	Maximum bonus as percentage of salary	Maximum proportion of bonus payable in cash (% of maximum award)	Maximum proportion of bonus deferred in shares (% of maximum award)	Maximum LTIP award based on annual salary
Executive Directors	2	150%	75%[1]	25%[1]	150–200%
Executive Management Team	5	80–140%	85%[2]	15%[2]	80–150%
Senior Leaders	c30	40%	100%	0%	20–50%
Functional Directors	c90	30%	100%	0%	0%
Senior Managers	c150	25%	100%	0%	0%
Managers	c450	20%	100%	0%	0%
Specialists	c1,600	10%	100%	0%	0%
Professionals	c1,900	5%	100%	0%	0%
Other bonused employees	c8,100	Various[3]	100%	0%	0%

1 Half of annual bonus in excess of target, after tax, is used by the Executive Directors to acquire shares that must be held for a minimum of three years.

2 EMT members are required to acquire shares in the Company with 30% of the amount above target (after tax) which must be held for a minimum of three years.

3 Various local bonus programmes are in place for the operational, administrative and blue-collar employees of the Company.

Summary of remuneration structure for employees below the Board

Element	Policy features for the wider workforce	Comparison with Executive Director remuneration
Salary Read more on **page 101**	Salary is the basis for a competitive total reward package for all employees, and we conduct an annual salary review for all employees. As we determine salaries in this review, we take account of comparable pay rates from market references, skills, knowledge and experience of each individual, individual performance, and the overall budget we set for each country. In setting the budget each year, we forecast inflation, unions and collective agreements and business context related to such things as growth plans, workforce turnover and affordability.	We review the salaries of our Executive Directors and executive team annually. The primary purpose of the review is to stay aligned with relevant market comparators and stay competitive, as well as to ensure any increases are aligned with the wider workforce in Europe and North America, except in exceptional circumstances.
Pensions and benefits Read more on **page 101**	We offer market-aligned benefits packages reflecting normal practice in each of the countries where we operate.	We have differences in the Executive Directors' benefits to reflect market practice and role differentiation. Our incumbent Executive Directors' pension allowance (and that for new appointments) is aligned to that of the workforce in their country of appointment.
Annual bonus and LTIP Read more on **pages 102 and 103**	Our white-collar global workforce participates in an annual cash bonus plan. The plan is based on our Company KPIs. This structure places equal emphasis on the importance of an employee's personal contribution to the success of RHI Magnesita. We operate different bonus plans for those employees of our business where remuneration models in the market are markedly different, such as sales and production areas.	Annual bonus for Executive Directors is directly related to the same performance measures and outcomes as the wider workforce. LTIP are provided to our senior executives and senior roles who have influence on the overall performance of the Company.

Pay ratios

The Dutch Corporate Governance Code recommended from the financial year 2018, and the UK Directors' Reporting Regulations required from 2019, that the Committee report pay ratios including changes from the prior year as part of its determination of executive pay and wider executive remuneration decisions. The total employee remuneration figure used for the ratio below is for all employees in all Group companies and includes countries with significantly lower levels of pay than Europe and the United States. RHI Magnesita only has around 100 employees in the UK and falls below the required threshold for UK pay ratio reporting requirements. As UK employees represent less than 1% of RHI Magnesita's employees, the Committee considers that the above approach is appropriate in the circumstances.

RHI Magnesita is positioned around the median CEO pay ratio of other basic materials and industrial companies of a similar size listed on the FTSE.

A significant proportion of the Executive Directors' remuneration is delivered through incentives, annual bonus and LTIP, where awards are linked to Company performance and share price movement over the longer term. This means that the pay ratio will depend on the incentive outcome. No LTIP vested during the last two years.

The table below shows the pay ratio in respect of each year from 2018 to 2021:

Pay ratio	**2021**	2020[1]	2019	2018
CEO	**21.1**	41:1	34:1	49:1
CFO	**13.1**	25:1	16:1[2]	N/A

1 Pay ratio is lower due to not achieving target bonus KPIs.

2 The pay ratio rose due to the increase in base salary for the CEO and CFO in 2020.

3 CFO pay ratio is lower as Ian Botha joined the Company on 1 April 2019: with the full salary and bonus, the ratio would be 21:1.

The proportion of fixed and variable remuneration

To support the Policy's objectives to deliver long-term sustainable success of the Company, the remuneration package of our Executive Directors includes a mix of fixed and variable remuneration. The proportion for 2022 is approximately 40% for fixed pay and 60% variable remuneration on a target basis (calculated on the same basis as the target scenario shown below). Variable pay is split between the annual bonus, with 50% of payment over target being held in shares, and long-term incentive.

Directors' Remuneration Policy
continued

Remuneration scenarios for Executive Directors

The Policy provides that a significant proportion of remuneration is determined by Group performance. The graph below illustrates how the total pay opportunities vary under three different performance scenarios: minimum, target and maximum. We have also shown an assumed share price appreciation of 50% for the LTIP award during the performance period under the maximum payment scenario.

Assumptions

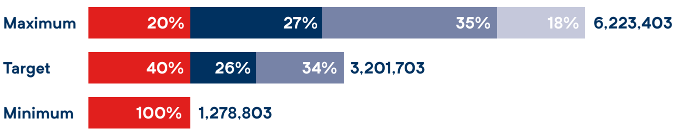
Minimum: Fixed pay only (base salary, pension and benefits, excluding relocation benefits).

Target: Fixed pay plus 50% of 2022 maximum annual bonus opportunity for the CEO and CFO with 50% vesting of the 2022 LTIP award.

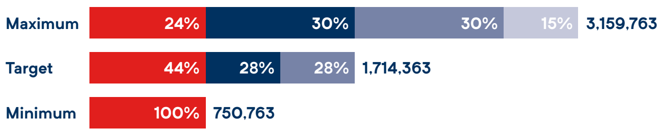
Maximum: Fixed pay plus maximum annual bonus opportunity and 100% vesting of 2022 LTIP award with an assumed share price appreciation of 50% for the LTIP award during the performance period.

As required under the Dutch Corporate Governance Code, scenario analysis was carried out as part of the formulation of the Policy and to establish that the policy results in appropriate and fair levels of remuneration, including that the level and ratio of fixed to variable pay does not encourage inappropriate risk-taking or overreliance on variable pay while ensuring there is sufficient alignment to investors, the long-term performance of the Company and development of the market value of the shares of the Company.

CEO
Values in €



CFO
Values in €



Fixed pay · Annual bonus · LTIP · 50% share price growth on LTIP

Annual Report on Remuneration

Annual Report on Remuneration

The following section provides details of how the Company's Directors were paid during the financial year to 31 December 2021.

As a Dutch incorporated and registered and UK listed company RHI Magnesita is required to comply with both UK and Dutch reporting requirements, including the UK and Dutch Corporate Governance Codes.

The Committee together with the Board has determined to provide certain voluntary disclosures recognising the importance of transparency of reporting and investor expectation as a UK listed company to comply with the UK Directors' Remuneration Reporting Regulations. This Annual Report is compiled on this basis.

The Remuneration Committee members, activities and meetings during the year are set out on page 96, along with the Committee's purpose, roles and responsibilities and is thereby included in this part of the report by reference.

Advisers

Korn Ferry ("KF") signatories to the UK Remuneration Consultants Group's Code of Conduct ("Code of Conduct") and was appointed by the Committee in 2017 having submitted a proposal which demonstrated their skills and experience in executive remuneration. KF provides advice to the Committee on matters relating to UK governance including consulting on the remuneration report and analysing market trends.

The Committee was satisfied that the advice provided by Korn Ferry was objective and independent having noted their commitment to the Code of Conduct. Korn Ferry's fees for advice to the Committee in 2021 were £52,215. Korn Ferry's fees were charged on the basis of the time spent advising the Committee. Korn Ferry provided other human capital related services during the year to a separate part of the business, but these services were carried out by a team wholly separate to the remuneration advisory team. The Committee is comfortable that the controls in place at Korn Ferry do not result in the potential for any conflicts of interest to arise.

Statement of voting at AGM

At last year's AGM, held on 10 June 2021, votes on the business pertaining to remuneration, were cast as follows:

Resolutions	Votes for	% of votes cast	Votes against	% of votes cast	Total votes validly cast	Total votes cast as a % of the relevant shares in issue	Number of votes withheld
Advisory vote on Annual Report on Remuneration	36,339,606	95.83	1,582,904	4.17	39,070,758	81.53%	1,148,248
Adopt the Directors' Remuneration Policy which takes effect from 1 January 2021	37,487,854	95.95	1,582,904	4.05	39,070,758	81.53%	0

The total voting rights of the Company on the day on which shareholders had to be on the register in order to be eligible to vote was 47,924,771. A "Vote withheld" is not a vote in law and is not counted in the calculation of the % of shares voted "For" or "Against" a resolution.

Annual Report on Remuneration
continued

Single total figure table (audited)

The following table shows a single total figure of remuneration in respect of qualifying services for the 2021 financial year for each Executive and Non-Executive Director of the Company, together with comparative figures for 2020.

	Salary		Taxable benefits[2]		Pension[3]		Bonus		LTIP		Total remuneration		Total fixed remuneration		Total variable remuneration	
Director[1]	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020[3]	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Executive Directors																
Stefan Borgas	**€1,052,000**	€969,000	**€183**	€8,823	**€157,800**	€145,539	**€374,775**	€769,500	**0**	–	**€1,584,758**	€1,892,862	**€1,209,983**	€1,123,362	**€374,775**	€769,500
Ian Botha	**€615,000**	€566,667	**€12,003**	€21,277	**€92,250**	€85,110	**€219,094**	€450,000	**0**	–	**€938,347**	€1,123,054	**€719,253**	€673,054	**€219,094**	€450,000
Non-Executive Directors																
Herbert Cordt	**£241,000**	£227,167	**–**	–	**–**	–	**–**	–	**–**		**£241,000**	£227,167	**£241,000**	£227,167	**–**	–
John Ramsay	**£122,900**	£93,163	**–**	–	**–**	–	**–**	–	**–**		**£122,900**	£93,163	**£122,900**	£93,163	**–**	–
Janet Ashdown	**£104,522**	£87,163	**–**	–	**–**	–	**–**	–	**–**		**£104,522**	£87,163	**£104,522**	£87,163	**–**	–
David Schlaff	**£71,100**	£67,087	**–**	–	**–**	–	**–**	–	**–**		**£71,100**	£67,087	**£71,100**	£67,087	**–**	–
Stanislaus Prinz zu Sayn Wittgenstein-Berleburg	**£71,100**	£67,087		–	**–**	–	**–**	–	**–**		**£71,100**	£67,087	**£71,100**	£67,087	**–**	–
Fiona Paulus	**£84,728**	£79,943	**–**	–	**–**	–	**–**	–	**–**		**£84,728**	£79,943	**£84,728**	£79,943	**–**	–
Jann Brown	**£52,566**	–	**–**	–	**–**	–	**–**	–	**–**	–	**£52,566**	–	**£52,566**	–	**–**	–
Karl Sevelda	**£82,314**	£74,820		–	**–**	–	**–**	–	**–**		**£82,314**	£74,820	**£82,314**	£74,820	**–**	–
Marie-Hélène Ametsreiter	**£48,017**										**£48,017**		**£48,017**			
Sigalia Heifetz	**£48,017**										**£48,017**		**£48,017**			
Wolfgang Ruttenstorfer	**£79,300**	£74,820	**–**	–	**–**	–	**–**	–	**–**		**£79,300**	£74,820	**£79,300**	£74,820	**–**	–
Celia Baxter[4]	**£42,234**	£90,287	**–**	–	**–**	–	**–**	–	**–**		**£42,234**	£90,287	**£42,234**	£90,287	**–**	–
Andrew Hosty[4]	**£36,182**	£77,333		–	**–**	–	**–**	–	**–**		**£36,182**	£77,333	**£36,182**	£77,333	**–**	–
Michael Schwarz[5]	**–**	–	**–**	–	**–**	–	**–**	–	**–**		**–**	–	**–**	–	**–**	–
Karin Garcia[5]	**–**	–	**–**	–	**–**	–	**–**	–	**–**		**–**	–	**–**	–	**–**	–
Martin Kowatsch[5]	**–**	–	**–**	–	**–**	–	**–**	–	**–**		**–**	–	**–**	–	**–**	–

1 All amounts are disclosed in the currencies in which the relevant elements of pay are set. Actual payment may be made in the currency where the recipient resides using the exchange rate at the time of payment.

2 Benefits in 2021 for Stefan Borgas of €183 (garage and insurance) for the year; Stefan exchanged his car to an electric car during 2021. Under Austrian tax law, electric cars are not taxable employee benefits which results in a significant reduction in CEO taxable benefits for 2021. The benefits for Ian Botha included a car benefit of €11,694 and €309 garage and insurance benefits.

3 Pension figures represent the 15% of salary cash allowance received by Executive Directors.

4 Andrew Hosty and Celia Baxter stepped down from their Board roles on 10 June 2021 therefore their fees were prorated accordingly.

5 Employee Representative Directors do not receive additional remuneration for this role as they are remunerated as employees of the Group.

No loans, advances or guarantees have been provided to any Director. No Long-term incentives vested during the year and so there was no impact of share price appreciation.

2021 annual bonus performance against targets (audited)

The targets set for the annual bonus and performance against them are set out below. For 2021, the Committee reintroduced a strategic element to the bonus once again to provide drivers for profitability aligned with the Company's refreshed strategy and CO_2 emissions intensity reduction targets. The financial targets focused on driving earnings and cash flow, thereby preserving the Group's balance sheet strength and financial liquidity. The Committee is comfortable that this bonus payment represents a fair level of reward for the performance achieved by the Executive Directors and the business.

There is a payment of 24% of maximum annual bonus for the CEO and CFO as a result of good performance against the strategic initiatives, including growing market share. Although neither of the Adjusted EBITA or Operating Cash Flow metrics were achieved, the Committee noted that a robust level of profit had been delivered against a challenging target range, particularly when taken in the context of the market challenges already noted above. The Committee also considered that management had managed the business effectively over the year, managing strong volume demand with rising cost pressures, while ensuring strong levels of liquidity with good progress against the important strategic elements of the bonus. In the circumstances, the Committee agreed that the level of formulaic bonus which aligned to bonuses payable to eligible members of the workforce was appropriate.

								Pay-out (€)[3]	
Measure	Weighting	Threshold (0% of maximum)	Target (50% of maximum)	Max (100% of maximum)	Actual performance	Pay-out (% of max)[2]	Pay-out (% of salary)	CEO	CFO
Adjusted EBITA (€m)	35%	291	322	354	280	0%	0%	€0	€0
Operating Cash Flow (€m)[1]	35%	157	189	212	-236	0%	0%	€0	€0
Increase global value market share	10%	14.0%	14.4%	14.7%	14.3%	37%	6%	€59,175	€34.594
Reduce conversion cost	10%	-6.0%	-7.0%	-7.5%	-11.9%	100%	15%	€157,800	€92.250
Reduce CO_2 emissions[4]	10%	-0.8%	-1.2%	-1.4%	-3.7%	100%	15%	€157,800	€92.250
Total	**100%**	—	—	—	—	**24%**	**36%**	**€374,775**	**€219.094**

1 Operating cash flow at constant currency. EBITA w/o restructuring expenses + capex + change in working capital + cash tax.

2 The maximum CEO and CFO annual bonus in 2021 was 150% of salary.

3 Executive Directors are required to acquire shares in the Company with 50% of the amount paid in excess of target (after tax) which will be held for a minimum period of three years. As the target bonus as a percentage of salary was not achieved (75%), the bonus is payable wholly in cash.

4 You can read more on the reduction of CO_2 emissions intensity on page 91.

LTIP awards where vesting is based on performance periods ending during the financial year ending 31 December 2021 (audited)

LTIP awards vesting

The details for the LTIPs due to vest in 2022 are shown below:

The LTIP awards[1] granted on 19 August 2019 and vesting in 2022 were based on performance to the year ended 31 December 2021. The performance targets for these awards and actual performance against those targets were as follows:

Metric	Weighting	Threshold target (25% vests)	Stretch target (100% vests)	Actual	% Vesting
Relative TSR[2]	33.33%	50th percentile (27.90%)	75th percentile and above[3] (73.81%)	-3.75%	0%
Adjusted EPS (final year of performance period)	33.33%	€7.80 per share	€9.00 per share	€4.46 per share	0%
Cumulative economic profit	33.33%	€600 M	€670 M	€340 M	0%
Total	100%				0%

1 Awards are structured as nil cost options.

2 Measured against the FTSE 350, excluding sectors with limited direct relevance to RHI Magnesita.

3 Awards vest on a straight-line basis between threshold and maximum.

LTIP awards where vesting is based on performance periods ending during the financial year ending 31 December 2021 (audited) continued

LTIP awards vesting continued

The details of the LTIPs vesting in 2022 as a result of performance noted above are shown below:

Executive	Grant date	Vest date	Number of shares granted	Number of shares to vest	Dividend equivalent	Estimated value
Stefan Borgas	19 August 2019	19 August 2022	38,397	0	0	0
Ian Botha	19 August 2019	19 August 2022	16,840	0	0	0
	19 August 2019	19 August 2022	16,841	0	0	0

1 In 2019, Ian Botha received two grants of performance shares. The grant of 16,840 shares represents the annual LTIP grant. The grant of 16,841 shares represents the buy-out award for the performance share awards forfeited when joining RHIM. The buyout award vests three years after grant subject to meeting 2019 corporate performance conditions for 2019 PS awards shown above.

LTIP awards awarded during the financial year ending 31 December 2021 (audited)

During the year, the CEO received an LTIP award of 200% of salary and the CFO received an LTIP award of 150% of salary.

Details of the LTIP award and the performance targets that will determine the extent to which the award vests are set out below.

Director	Scheme	Basis of award	Date of award	Percentage of salary award	Share price used[1]	Face value €000	Percentage vesting at threshold performance	Number of shares	End of performance period
Stefan Borgas	LTIP	Annual award[3]	15 March 2021	200%	€48.28	2,104	25%	43,579	15 March 2024
Ian Botha	LTIP	Annual award[3]	15 March 2021	150%	€48.28	922.5	25%	19,107	15 March 2024

1 The face value of the awards was calculated using the average closing price for the five trading days prior to the award being granted being £41.38 converted to € (using average FX rate over the same five-day period of €0.857to £1 = €48.28).

2 Awards are structured as nil cost options.

Performance targets for 2021 LTIP awards

Performance measure	Weighting	Threshold (25% vesting)[1]	Intermediate (75% of vesting)[1]	Maximum (100% vesting)[1]	Performance period[2]
Absolute TSR	25%	13%	20%	25% and above	15 March 2021 to 15 March 2024
Adjusted EPS (cumulative for the three-year performance period)	50%	€12.00	€14.50	€16.89	1 January 2021 to 31 December 2023[4]
Use of Secondary Raw Material[3]	25%	6.5%	7.5%	8.0%	

1 Awards vest on a straight-line basis between threshold intermediate and maximum.

2 For the TSR element, measured from date of grant to third anniversary on 15 March 2024 with a two-month average TSR before each date and for the EPS element and Secondary Raw Material Element, three financial years until 31 December 2023.

3 Use of secondary raw material as a percentage of total raw materials used, evaluated at the end of 2023 based on the current production network (and excluding any changes in raw material usage due to any future M&A activity).

4 In line with the Remuneration Policy, a two-year holding period post vesting holding period applies.

Performance targets for 2020 LTIP awards

Performance measure	Weighting	Threshold[1] (25% vesting)	Intermediate[1] (75% of vesting)	Maximum[1] (100% vesting)	Performance period[2]
Absolute TSR	50%	30% cumulative TSR growth over the 3 years	30% cumulative TSR growth over the 3 years	30% cumulative TSR growth over the 3 years	8 April 2020 to 7 April 2023
Cumulative Underlying Earnings Per Share	50%	€6.50/share	€8.00/share	€9.50/ share	1 January 2020 to 31 December 2022

1 Awards vest on a straight-line basis between threshold, intermediate and maximum.

2 For the TSR element, measured for a period of three years from the date of grant with a two-month average before each date. The EPS element is three financial years until 31 December 2022.

Annual Report on Remuneration
continued

Statement of Directors' shareholding and share interests (audited)

Under the share ownership requirements set out in the Directors' Remuneration Policy, the Executive Directors are normally required to build and maintain over five years a shareholding equivalent to at least 200% of salary. At the 2021 year-end, the Executive Directors each held shares in the Company as detailed below. Shares are valued using the Company's closing market share price on 31 December 2021 of £33.06.

The table below shows how each Director complies with the shareholding guidelines on 31 December 2021

	Shares held at 31 December 2021	Shares held by connected persons	Shares held at 31 December 2020	Number of shares	Number of options	Unvested and subject to a service requirement only	Unvested and subject to performance conditions	Vested but unexercised	Exercise during the year	Shareholding requirement	Current shareholding % salary[1]	Requirement met?
Executive Directors												
Stefan Borgas	**21,300**[1]	1,150	18,600	21,300	172,372	—	172,372	—	—	200% salary	80%[2]	No
Ian Botha	**—**	—	—	—	109,027	16,592	92,435	—	—	200% salary	53%[3]	No
Non-Executive Directors												
Herbert Cordt	**350,000**	—	350,000			—	—			—	—	—
John Ramsay	**2,130**	—	2,130			—	—			—	—	—
Janet Ashdown	**—**	—	—			—	—			—	—	—
David Schlaff[4]	**—**	—	—			—	—			—	—	—
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg[5]	**—**	—	—			—	—			—	—	—
Fiona Paulus	**—**	—	—			—	—			—	—	—
Jann Brown												
Karl Sevelda	**2,000**	—	1,000			—	—			—	—	—
Marie-Hélène Ametsreiter	**—**	—	—			—	—	—	—	—	—	—
Sigalia Heifetz												
Wolfgang Ruttenstorfer	**—**	—	—			—	—			—	—	—
Celia Baxter[6]	**1,002**		1,002		—	—	—	—	—	—	—	—
Andrew Hosty[6]	**389**		389			—	—		—	—	—	—
Karin Garcia	**—**	—	—			—	—			—	—	—
Martin Kowatsch	**1,223**	—	—			—	—			—	—	—
Michael Schwarz	**—**	—	—			—	—			—	—	—

1 Shareholding determined using an FX rate of 1.1943 for GBP to EUR on 31 December 2021.

2 Includes shareholdings of connected persons.

3 Includes unvested shares which are subject to a service requirement and assumes a tax rate of 50%.

4 According to the latest disclosures by the shareholder: 13,333,340 held directly by MSP Stiftung. MSP Stiftung is a foundation under Liechtenstein law, whose founder is Mag. Martin Schlaff.

5 According to the latest disclosures by the shareholder: 2,088,461 interests are held through Chestnut Beteiligungsgesellschaft mbH ("Chestnut"). Ms. Sayn-Wittgenstein made an agreement with Mr. Winterstein which allows Chestnut to exercise the voting rights of Silver Beteiligungsgesellschaft mbH ("Silver") in the Issuer. Ms. Sayn-Wittgenstein and Mr. Winterstein share a family relationship. 2,088,461 held through Silver. Ms. Sayn-Wittgenstein made an agreement with Mr. Winterstein which allows Chestnut to exercise the voting rights of Silver in the Issuer. Ms. Sayn-Wittgenstein and Mr. Winterstein share a family relationship. 1,590,000 held in part directly and in part indirectly through FEWI Beteiligungsgesellschaft mbH.

6 Shareholding for Celia Baxter and Andrew Hosty are only considered until 10 June 2021, when they stepped down from the Board.

There were no changes in the Directors' shareholdings and share interests between the end of the year and 25 February 2022.

Directors' interests in RHI Magnesita's LTIP

The table below details outstanding share awards including the annual LTIP awards granted to the CEO and CFO during 2021.

	Scheme	Award date	Share price used €	Share awards held at 1 January 2021	Awarded during the year	Vested during the year	Share awards lapsed during the year	Share awards held at 31 December 2021	Total share value at award (face value) €	Vesting date
Stefan Borgas	Performance shares	7 June 2018	57.773	28,594	—	—	28,594[6]	—	1,652,000[1]	7 June 2021
	Performance shares	19 August 2019	44.534	38,397	—	—	—	38,397	1,709,972[2]	19 August 2022[5]
	Performance shares	8 April 2020	22.7	90,396				90,396	2,052,000[4]	8 April 2023
	Performance shares	15 March 2021	48.28		43,579			43,579	2,104,000[5]	15 March 2024
Ian Botha	Performance shares	19 August 2019	44.534	16,840		—	—	16,840	750,000[2]	19 August 2022
	Performance shares	19 August 2019	44.534	16,841		—	—	16,841	750,000[2]	19 August 2022
	Performance shares	8 April 2020	22.7	39,647				39,647	900,000[4]	8 April 2023
	Performance shares	15 March 2021	48.28		19,107			19,107	922,500[5]	15 March 2024
	Conditional Award	26 November 2019	45.202	16,592	—	—		16,592	750,000[3]	26 November 2022

1 The face value of the awards was calculated using the average closing price for the five trading days prior to the LTIP award being granted being £50.62 converted to € (using average FX rate over the same five days period of €1.14 to £1 = €57.773).

2 The face value of the awards was calculated using the average closing price for the five trading days prior to the LTIP award being granted being £41.06 converted to € (using average FX rate over the same five days period of €1.0846 to £1 = €44.534).

3 The face value of the awards was calculated using the average closing price for the five trading days prior to the LTIP award being granted being £38.73 converted to € (using average FX rate over the same five days period of €1.167 to £1 = €45.202).

4 The face value of the awards was calculated using the average closing price for the five trading days prior to the award being granted being £19.976 converted to € (using average FX rate over the same five day period of €0.881 to £1 = €22.7).

5 The face value of the awards was calculated using the average closing price for the five trading days prior to the award being granted being £41.38 converted to € (using average FX rate over the same five-day period of €0.857 to £1 = €48.28).

6 Following the testing of the performance conditions, this award has now lapsed.

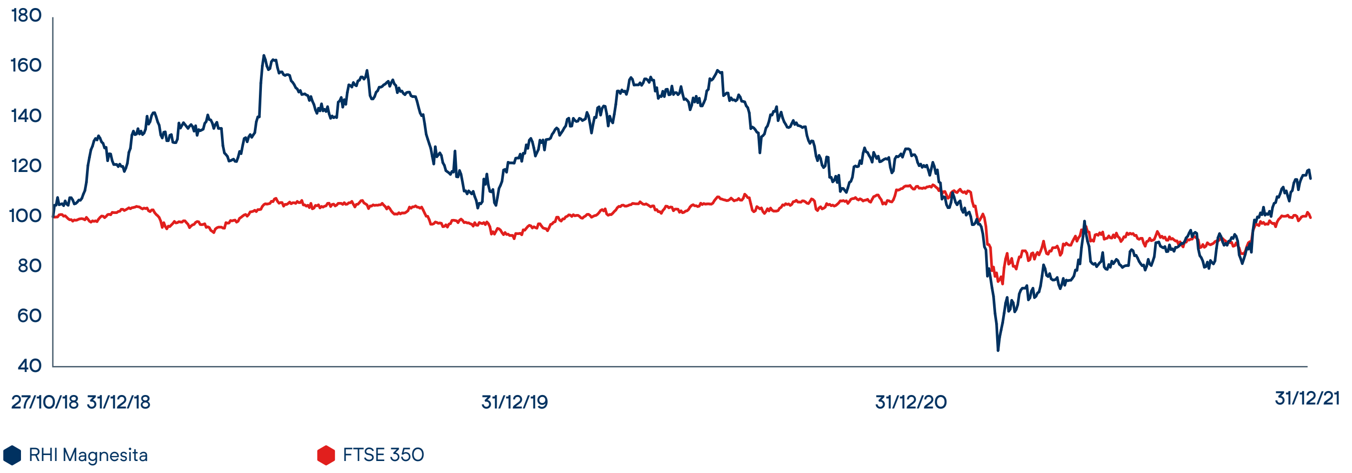
Review of past performance and CEO remuneration table (unaudited)

Share price performance

Shares are valued using the Company's closing market share price on 31 December 2021 of £33.06 (2020: £35.06). During 2021, the shares traded in the range of £29.46 — £47.04.

RHI Magnesita total shareholder return

The graph below compares the Total Shareholder Return of the Company with the FTSE 350 Index from Admission date of 27 October 2017 to 31 December 2021. This is considered an appropriate comparator for RHI Magnesita because it is a constituent of the index.



Source: Datastream (Thomson Reuters).

Remuneration of the CEO

	2017	2018	2019	2020	**2021**
Single figure of total remuneration[1]					
Stefan Borgas	€476,981	€2,073,350	€1,490,427	€1,892,862	**€1,584,758**
Annual bonus pay-out as % of maximum[2, 3]					
Stefan Borgas	83.16%	88.04%	38.9%	50%	**24%**
Long-term incentive vesting rates as % of maximum[4]					
Stefan Borgas	N/A	N/A	N/A	0%	**0%**

1 The 2017 single figure of total remuneration relates to the period 27 October 2017 to 31 December 2017.

2 The 2017 annual bonus pay-out as a % of maximum relates to bonus targets set prior to the merger of the two companies that now form RHI Magnesita N.V.

3 The percentage of maximum shown for the 2020 annual bonus is the amount paid to the CEO. The formulaic bonus outcome is 100% of maximum.

4 A long-term incentive plan was introduced when the Company was formed in October 2017. The first 2018 LTIP award was eligible to vest in 2021 based on a performance period ending 31 December 2020 (and to 31 January 2021 for the TSR element). The performance conditions were not met. The 2019 awards vest in 2022 based on a performance period ending 31 December 2021. As detailed elsewhere, no 2019 LTIP award is payable as performance conditions have not been met. See page 114.

Annual percentage change in remuneration of the CEO (unaudited)

The table below illustrates the percentage change in annual salary, benefits and bonus between 2020 and 2021 for the CEO and the average for all Austrian employees of the Company. The CEO is an Austrian-based employee; therefore, the Committee feels that a comparator based on all Austrian employees is appropriate for the purposes of this analysis.

	Salary change (2020 to 2021)	Benefits change (2020 to 2021)	Annual bonus change (2020 to 2021)
CEO	2.5%	-2.3%[1]	-51.3%
Average of employees	2.9%	-5.5%[1]	-49.0%

1 Eligible employees have exchanged their car to an electric car during 2021. Due to Austrian tax law electric cars are not a taxable employee benefit (compared to non-electric cars). Therefore CEO and employee taxable benefits for 2021 fell slightly.

Directors and employee remuneration over time (unaudited)

The table below shows the Directors' total remuneration year on year change (on a full-time equivalent basis)

Year	Total remuneration in FY 2021	Change % 2020 to 2021	Change % 2019 to 2020	Change % from 2018 to 2019[1]
Executive Directors[2]				
Stefan Borgas	**€1,584,758**	-16.28%[3]	27%	-28.1%
Ian Botha	**€938,347**	-16.45%[4]	N/A[4]	N/A[4]
Non-Executive Directors				—
Herbert Cordt	**£241,000**	6.09%	3.2%	—
John Ramsay	**£122,900**	31.92%	12.9%	6.4%
Janet Ashdown	**£104,522**	19.92%	N/A[4]	N/A[4]
David Schlaff	**£71,100**	5.98%	3.2%	—
Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg	**£71,100**	5.98%	3.2%	—
Fiona Paulus	**£84,728**	5.99%	N/A[4]	N/A
Jann Brown	**£52,566**	N/A[4]	—	—
Karl Sevelda	**£82,314**	10.02%	3.2%	—
Marie-Hélène Ametsreiter	**£48,017**	N/A[4]	—	—
Sigalia Heifetz	**£48,017**	N/A[4]	—	—
Wolfgang Ruttenstorfer	**£79,300**	5.99%	3.2%	—
Karin Garcia[5]	**—**	—	—	—
Martin Kowatsch[5]	**—**	—	—	—
Michael Schwarz[5]	**—**	—	—	—
Celia Baxter[6]	**£42,234**	N/A[4]	3.1%	6.1%
Andrew Hosty[6]	**£36,182**	N/A[4]	-3.9%	3.8%
Company performance				
Adjusted EPS	**4.46**	36.0%	-41.1%	4.8%
Reported EBIT in € million	**213.8**	77.3%	-55.8%	-4.4%
Operating Cash Flow in € million	**-236**	-181.4%	1.7%	-23.0%
Average remuneration (on a full-time equivalent basis)				
Employees of the Company[7]	**€73,962**	-3.4%	7.7%	4.1%

1 For notes on the change from 2018 to 2019, please see the 2019 Annual Report and for the change from 2019 to 2020 the 2020 Annual Report.
2 The Executive Directors waived 20% of basic salary and the Non-Executive Directors took a voluntary fee reduction of 10 % for a four-month period from 1 April 2020. The percentage change from 2020 to 2021 reflects this reduction.
3 Due to not reaching target on Company KPIs the bonus decreased and therefore the overall remuneration dropped also.
4 Where the incumbent did not serve for the full year, the calculation has not been made as it is unrepresentative.
5 Employee Representative Directors do not receive remuneration for that role, they are remunerated as employees of the Group.
6 Andrew Hosty and Celia Baxter ceased to be Directors on 10 June 2021.
7 The group of RHIM employees covers the parent company, namely all employees within the Austrian subsidiaries.

Relative importance of spend on pay (unaudited)

The following table sets out the change in distributions to shareholders by way of dividend and share buyback and overall spend on pay in the financial year ended 31 December 2020 compared with the financial year ended 31 December 2021.

	2021 € million	2020 € million	Percentage change
Total gross employee pays	**547.6**	575.6	-4.86%
Dividends	**71.2**	73.5	-4.22%
Share buyback	**95.5**	2.6	

You can find more information on the share buyback on page 37.

Payments to past Directors (audited)

There were no payments to past Directors in the period 1 January to 31 December 2021. Andrew Hosty and Celia Baxter stepped down from the Board on 10 June 2021 and received fees to that date (£36,182 and £42,234 respectively).

Payments for loss of office (audited)

No payments were made to any Director in respect of loss of office in the period 1 January to 31 December 2021.

2022 remuneration (unaudited)

Set out below is how the Directors' Remuneration Policy will be implemented during 2022. There are no significant changes in the way that the Remuneration Policy will be implemented in 2022.

Salaries and fees for 2022

Directors' salaries and fees (on a full-time equivalent basis)

Subject to approval at the 2022 AGM, the Directors' salaries and fees will be increased in alignment with the general workforce increases (4.44%) from 1 January 2022. Owing to rounding, the exact percentages of increase differ but are never more than 4.45% which was the average increase of the Austrian workforce.

	2022[2]	2021[2]	Percentage change
Executives			
Stefan Borgas	**€1,098,800**	€1,052,000	4.45%
Ian Botha	**€642,300**	€615,000	4.44%
Non-Executives			
Chairman (inclusive of all Committee fees)	**£251,700**	£241,000	4. 44%
Non-Executive Directors	**£74,200**	£71,100	4.36%
Deputy Chairman & Senior Independent Director	**£28,500**	£27,300	4.40%
Chairmen of Audit & Compliance Committee, Remuneration Committee, Nomination Committee (unless held by the Chairman) and Corporate Sustainability Committee	**£19,900**	£19,100	4.19%
Membership of the Audit and Compliance and Remuneration Committees	**£8,500**	£8,200	3.66%
Membership of the Nomination and Corporate Sustainability Committee	**£5,600**	£5,400	3.70%

1 Fee and salary increases are rounded to the nearest 100.

The Company does not contribute to defined benefit pension schemes on behalf of Executive Directors or Non-Executive Directors. No director has a prospective entitlement under a defined benefit scheme.

Annual bonus for 2022

The maximum potential annual bonus opportunity for FY22 remains at 150% of salary for both the CEO and CFO. The Committee has set bonus KPIs for 2022 which focus on key 2022 financial measures as well as our strategic priorities. Both CEO and the CFO are required to use 50% of any bonus earned in excess of target (net of tax) to acquire shares in the Company that will be held for a minimum of three years.

	Weighting	
Performance criteria	2021	**2022**
Adjusted EBITA	35%	**35%**
Operating Cash Flow	35%	**35%**
Strategic Initiatives [1]		
Increase global value market share	10%	**10%**
Reduce conversion cost	10%	**10%**
Reduce CO_2 emissions	10%	**N/A**
Use of Secondary Raw Material	N/A	**10%**

1 The specific targets relating to the 2022 bonus have not been disclosed at this stage as they are considered by the Committee to be commercially sensitive, and it is not considered in the interests of shareholders to disclose further details on a prospective basis. Details will be provided on a retrospective basis in next year's Annual Report on Remuneration.

2022 LTIP awards

The CEO will be granted a LTIP award over shares with a value at grant of 200% and the CFO will be granted a LTIP award over shares with a value at grant of 150% of salary. Taking into account the ongoing market and economic outlook and uncertainty, the Committee decided to retain the focus on absolute (rather than relative) total shareholder return, and total cumulative EPS. As outlined earlier in this report, the Committee recognises the importance of attaining our targets for the reduction of carbon emissions. For 2022 we have moved our CO_2 emission target from the annual bonus to the LTIP aligning it to our long-term reduction strategy. The measures and the targets are set out below.

Performance measure	Weighting	Threshold (25% vesting)	Intermediate (75% of vesting)	Maximum (100% vesting)	Performance period
TSR[1]	25%	15%	22%	27%	2022 to 2024 (+2 year holding period post vesting)
Adjusted EPS (cumulative for the three-year performance period)[2]	50%	14.25/ps	16.50/ps	19.25/ps	
Reduce CO_2 emissions per tonne against 2018 [2]	25%	-11.5%	-12.5%	-13.0%	

1 Measured from the date of grant to third anniversary with a two-month average before each date.
2 Measured over the three financial years to 31 December 2024.
3 Awards vest on a straight- line basis between threshold intermediate and maximum.

This report was reviewed and approved by the Board on 25 February 2022 and signed on its behalf by order of the Board.

Janet Ashdown
Chairman of the Remuneration Committee

Financial Statements

Other Information

Consolidated Statement of Financial Position

as of 31.12.2021

in € million	Note	31.12.2021	31.12.2020
ASSETS			
Non-current assets			
Goodwill	(10)	114.4	110.8
Other intangible assets	(11)	282.6	265.7
Property, plant and equipment	(12)	1,089.7	958.6
Investments in joint ventures and associates	(13)	5.7	16.3
Other non-current financial assets	(14)	14.6	14.5
Other non-current assets	(15)	41.2	26.6
Deferred tax assets	(16)	202.4	199.2
		1,750.6	**1,591.7**
Current assets			
Inventories	(17)	976.5	477.4
Trade and other current receivables	(18)	568.2	351.8
Income tax receivables	(19)	35.1	27.7
Other current financial assets	(20)	2.9	0.3
Cash and cash equivalents	(21)	580.8	587.2
Assets disposal groups	(5)	0.0	16.6
		2,163.5	**1,461.0**
		3,914.1	**3,052.7**

EQUITY AND LIABILITIES			
Equity			
Share capital	(22)	49.5	49.5
Group reserves	(23)	736.4	596.6
Equity attributable to shareholders of RHI Magnesita N.V.		785.9	646.1
Non-controlling interests	(24)	36.3	20.0
		822.2	**666.1**
Non-current liabilities			
Borrowings	(25)	1,321.0	983.0
Other non-current financial liabilities	(26)	106.0	88.8
Deferred tax liabilities	(16)	48.4	45.0
Provisions for pensions	(27)	269.0	303.6
Other personnel provisions	(28)	68.7	70.5
Other non-current provisions	(29)	63.6	62.6
Other non-current liabilities	(30)	5.9	4.8
		1,882.6	**1,558.3**
Current liabilities			
Borrowings	(25)	218.1	131.5
Other current financial liabilities	(26)	19.2	44.0
Trade payables and other current liabilities	(31)	878.8	522.7
Income tax liabilities	(32)	38.2	25.8
Current provisions	(33)	55.0	86.4
Liabilities disposal groups	(5)	0.0	17.9
		1,209.3	**828.3**
		3,914.1	**3,052.7**

Consolidated Statement of Profit or Loss

from 01.01.2021 to 31.12.2021

in € million	Note	2021	2020
Revenue	(34)	2,551.4	2,259.0
Cost of sales	(35)	(1,967.9)	(1,708.9)
Gross profit		**583.5**	**550.1**
Selling and marketing expenses	(36)	(108.1)	(110.9)
General and administrative expenses	(37)	(217.4)	(198.3)
Restructuring	(38)	(58.8)	(113.8)
Other income	(39)	29.1	19.7
Other expenses	(40)	(14.5)	(26.2)
EBIT		**213.8**	**120.6**
Interest income	(41)	14.2	5.9
Interest expenses on borrowings		(20.7)	(20.1)
Net income/(expense) on foreign exchange effects and related derivatives	(42)	2.8	(42.8)
Other net financial expenses	(43)	(21.2)	(29.7)
Net finance costs		**(24.9)**	**(86.7)**
Result from joint ventures and associates	(13)	100.2	7.6
Profit before income tax		**289.1**	**41.5**
Income tax	(44)	(39.4)	(13.9)
Profit after income tax		**249.7**	**27.6**
attributable to shareholders of RHI Magnesita N.V.		243.1	24.8
attributable to non-controlling interests	(24)	6.6	2.8

in €			
Earnings per share – basic	(51)	5.10	0.51
Earnings per share – diluted		5.05	0.50

Consolidated Statement of Comprehensive Income

from 01.01.2021 to 31.12.2021

in € million	Note	2021	2020
Profit after income tax		**249.7**	**27.6**
Currency translation differences			
Unrealised results from currency translation	(6)	70.5	(227.8)
Deferred taxes thereon	(44)	0.6	39.9
Current taxes thereon		0.1	3.7
Unrealised results from net investment hedge	(55)	(14.1)	15.8
Deferred taxes thereon		3.5	(2.0)
Current taxes thereon		0.0	(2.0)
Reclassification to profit or loss	(40)	0.0	0.3
Reclassification to profit or loss – Disposal subsidiaries	(5)	(7.9)	0.0
Cash flow hedges			
Unrealised fair value changes	(54)	8.7	(3.6)
Deferred taxes thereon	(44)	(2.1)	0.9
Items that will be reclassified subsequently to profit or loss, if necessary		**59.3**	**(174.7)**
Remeasurement of defined benefit plans			
Remeasurement of defined benefit plans	(27)	25.3	(0.7)
Deferred taxes thereon	(44)	(5.2)	0.6
Share of other comprehensive income of joint ventures and associates	(13)	0.6	0.0
Reclassification to other reserves due to disposal of joint ventures and associates		(0.5)	0.0
Items that will not be reclassified to profit or loss		**20.2**	**(0.1)**
Other comprehensive income after income tax		**79.5**	**(174.8)**
Total comprehensive income		**329.2**	**(147.2)**
attributable to shareholders of RHI Magnesita N.V.		320.5	(147.5)
attributable to non-controlling interests	(24)	8.7	0.3

Consolidated Statement of Cash Flows

from 01.01.2021 to 31.12.2021

in € million	Note	2021	2020
Cash (used in) / generated from operations	**(47)**	**(53.3)**	**366.6**
Income tax paid less refunds		(38.5)	(47.6)
Net cashflow from operating activities		**(91.8)**	**319.0**
Investments in property, plant and equipment and intangible assets		(252.1)	(156.9)
Investments in subsidiaries net of cash acquired		3.2	(8.5)
Cash flows from sale of subsidiaries net of cash disposed of		(4.8)	0.0
Cash receipts from the sale of equity instruments of interests in joint ventures		100.0	0.0
Cash inflows from the sale of property, plant and equipment		12.2	10.5
Dividends received from joint ventures and associates		7.6	10.8
Investment subsidies received		2.4	0.0
Interest received	(49)	2.7	6.0
Cash outflows / inflows from non-current receivables		(0.1)	0.2
Net cashflow from investing activities		**(128.9)**	**(137.9)**
Acquisition of treasury shares		(95.5)	(2.7)
Dividend payments to shareholders of the Group		(71.2)	(49.1)
Dividend payments to non-controlling interests		(1.4)	(1.1)
Proceeds from borrowings and loans		516.1	97.6
Repayments of borrowings and loans		(112.7)	(23.7)
Changes in current borrowings		5.5	7.4
Interest payments	(49)	(26.6)	(30.5)
Repayment of lease obligations		(16.3)	(15.8)
Interest payments from lease obligations		(1.1)	(1.3)
Cash flows from derivatives		0.9	1.5
Net cashflow from financing activities	**(48)**	**197.7**	**(17.7)**
Total cash flow		**(23.0)**	**163.4**
Change in cash and cash equivalents		**(23.0)**	**163.4**
Cash and cash equivalents at beginning of year[1)]		589.2	467.2
Foreign exchange impact		14.6	(41.4)
Cash and cash equivalents at year-end	(21)	580.8	589.2

1) thereof shown under assets held for sale €2.0 million as of 31.12.2020.

Consolidated Statement of Changes in Equity

from 01.01.2021 to 31.12.2021

		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	Accumulated other comprehensive income/expenses relating to disposal groups	Equity attributable to shareholders of RHI Magnesita N.V.	Non-controlling interests	Total equity
Note	(22)	(23)	(23)	(23)	(23)	(23)	(23)	(23)			(24)	
31.12.2020	**49.5**	**(21.5)**	**361.3**	**288.7**	**376.8**	**(13.7)**	**(145.7)**	**(257.1)**	**7.8**	**646.1**	**20.0**	**666.1**
Profit after income tax	**-**	**-**	**-**	**-**	**243.1**	**-**	**-**	**-**	**-**	**243.1**	**6.6**	**249.7**
Currency translation differences	-	-	-	-	-	-	-	58.5	(7.9)	50.6	2.1	52.7
Market valuation of cash flow hedges	-	-	-	-	-	6.6	-	-	-	6.6	-	6.6
Remeasurement of defined benefit plans	-	-	-	-	-	-	20.0	-	0.1	20.1	-	20.1
Share of other comprehensive income of joint ventures and associates	-	-	-	-	(0.5)	-	0.6	-	-	0.1	-	0.1
Other comprehensive income after income tax	**-**	**-**	**-**	**-**	**(0.5)**	**6.6**	**20.6**	**58.5**	**(7.8)**	**77.4**	**2.1**	**79.5**
Total comprehensive income	**-**	**-**	**-**	**-**	**242.6**	**6.6**	**20.6**	**58.5**	**(7.8)**	**320.5**	**8.7**	**329.2**
Dividends	-	-	-	-	(71.2)	-	-	-	-	(71.2)	(1.4)	(72.6)
Shares repurchased [1]	-	(95.5)	-	-	-	-	-	-	-	(95.5)	-	(95.5)
Reclassification of puttable non-controlling interests without change of control[2]	-	-	-	-	(1.6)	-	-	1.4	-	(0.2)	9.0	8.8
Change in non-controlling interests due to addition to consolidated companies	-	-	-	-	-	-	-	-	-	-	3.4	3.4
Reclassification of puttable non-controlling interests without a change of control	-	-	-	-	(20.0)	-	-	-	-	(20.0)	(3.4)	(23.4)
Share-based payment expenses	-	-	-	-	6.2	-	-	-	-	6.2	-	6.2
Transactions with shareholders	**-**	**(95.5)**	**-**	**-**	**(86.6)**	**-**	**-**	**1.4**	**-**	**(180.7)**	**7.6**	**(173.1)**
31.12.2021	**49.5**	**(117.0)**	**361.3**	**288.7**	**532.8**	**(7.1)**	**(125.1)**	**(197.2)**	**0.0**	**785.9**	**36.3**	**822.2**

1) The share buyback programme initiated in December 2020 has been completed in April 2021. The share buyback program was subsequently extended in May 2021 and completed in August 2021.
2) Further information is provided under Note (5) and Note (53).

			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	Accumulated other comprehensive income/expenses relating to disposal groups	Equity attributable to shareholders of RHI Magnesita N.V.	Non-controlling interests	Total equity
Note	(22)	(23)	(23)	(23)	(23)	(23)	(23)	(23)			(24)	
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**
Profit after income tax	**-**	**-**	**-**	**-**	**24.8**	**-**	**-**	**-**	**-**	**24.8**	**2.8**	**27.6**
Currency translation differences	-	-	-	-	-	-	-	(177.3)	7.9	(169.4)	(2.5)	(171.9)
Market valuation of cash flow hedges	-	-	-	-	-	(2.7)	-	-	-	(2.7)	-	(2.7)
Remeasurement of defined benefit plans	-	-	-	-	-	-	(0.1)	-	(0.1)	(0.2)	-	(0.2)
Other comprehensive income after income tax	**-**	**-**	**-**	**-**	**-**	**(2.7)**	**(0.1)**	**(177.3)**	**7.8**	**(172.3)**	**(2.5)**	**(174.8)**
Total comprehensive income	**-**	**-**	**-**	**-**	**24.8**	**(2.7)**	**(0.1)**	**(177.3)**	**7.8**	**(147.5)**	**0.3**	**(147.2)**
Dividends	-	-	-	-	(24.5)	-	-	-	-	(24.5)	(1.1)	(25.6)
Shares repurchased	-	(2.7)	-	-	-	-	-	-	-	(2.7)	-	(2.7)
Share-based payment expenses	-	-	-	-	(3.1)	-	-	-	-	(3.1)	-	(3.1)
Transactions with shareholders	**-**	**(2.7)**	**-**	**-**	**(27.6)**	**-**	**-**	**-**	**-**	**(30.3)**	**(1.1)**	**(31.4)**
31.12.2020	**49.5**	**(21.5)**	**361.3**	**288.7**	**376.8**	**(13.7)**	**(145.7)**	**(257.1)**	**7.8**	**646.1**	**20.0**	**666.1**

Notes
to the Consolidated Financial Statements 2021

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") are 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, with a secondary listing on the Vienna Stock Exchange.

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.

For the following German entities the exemption clause pursuant to section 264 paragraph 3 HGB (German commercial Code) was applied: RHI Urmitz AG & Co. KG (Koblenz), Magnesita Refractories GmbH (Wiesbaden), RHI Dinaris GmbH (Wiesbaden), RHI GLAS GmbH (Wiesbaden), RHI Magnesita Services Europe GmbH (Cologne), RHI Refractories Site Services GmbH (Wiesbaden), RHI Sales Europe West GmbH (Coblenz), RHI Magnesita Deutschland AG (Wiesbaden).

The Consolidated Financial Statements for the period from 1 January 2021 to 31 December 2021 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.

Basis for preparation
The preparation of the Consolidated Financial Statements in accordance 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 management based on experience from comparable transactions, the actual values recognised at a later date may differ from these estimates. The financial statements are prepared on a going concern basis.

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 27 February 2022 and will be submitted for adoption to the Annual General Meeting of shareholders on 25 May 2022.

2. Initial application of new financial reporting standards

The following amendments of standards have become effective during the reporting period. None of these amendments will have an effect on the Group's accounting and measurement principles.

Standard	Title	Publication (Effective date)[1]	Effects on RHI Magnesita Consolidated Financial Statements
Amendments of standards			
IFRS 16	Amendment to IFRS 16 Leases Covid 19-Related Rent Concessions beyond 30 June 2021	31.03.2021 (01.04.2021)	No effect
IFRS 4	Amendments to IFRS 4 Insurance Contracts – deferral of IFRS 9	25.06.2020 (01.01.2021)	Not relevant
IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16	Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16: Interest Rate Benchmark Reform – Phase 2	27.08.2020 (01.01.2021)	No effect

1) According to EU Endorsement Status Report of 01.02.2022.

IFRS 7, IFRS 9, IAS 39, IFRS 16, IFRS 4 "Interest Rate Benchmark Reform"

In 2019 RHI Magnesita elected to early adopt the Phase 1 amendments to IAS 39 and IFRS 7 Interest Rate Benchmark Reform (IBOR) issued in September 2019 and is still applying the Phase 1 amendments in the Consolidated Financial Statements of 2020. 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 Phase 1 amendments provided temporary relief from applying specific hedge accounting requirements to hedging relationships directly affected by the IBOR reform by assuming that the interest rate benchmark is not altered as a result of the IBOR reform. The reliefs stipulated in the IBOR reform should not cause hedge accounting to terminate in general. However, any hedge ineffectiveness was continued and continues to be recorded in the Consolidated Statement of Profit or Loss. 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.

In August 2020 the Phase 2 amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 were issued, which focus on the treatment of accounting impacts arising from the actual transition from the currently used to an alternative benchmark interest. The Phase 2 amendments are effective for annual periods beginning on or after 1 January 2021 and are to be applied retrospectively. 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 mid-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). The applicable 3-month USD LIBOR is continued to being published until 30 June 2023 – which is after the last interest fixing date of the USD 200 million debt and interest rate swap. Therefore, the potential risk of any hedge ineffectiveness can be considered immaterial. Even in the unlikely scenario of discontinuation of USD LIBOR before 2023, management considers that the hedged debt would move to the same alternative benchmark rate as the swap, without any material effect on the Group.

One of the main uncertainties regarding LIBOR, even if not directly impacting the Group's structural debt, is the use of its replacement rates after 31 December 2021. As USD LIBOR cannot be applied to new contracts starting 1 January 2022, the Group is being exposed to LIBOR replacement rates for its working capital and short-term financings in USD. Currently, the market predominantly uses a combination of the Secured Overnight Financing Rate (SOFR), plus a fixed credit spread adjustment that is based on a lookback period comparing credit spreads between SOFR and USD LIBOR, ranging from two to five years. As for the SOFR rate, either the simple overnight rate or specific Term-SOFR is used depending on the bank and product. There are still uncertainties in the market whether a true benchmark rate will prevail, that is as easily comparable and widely used as the USD LIBOR, however management is in close contact with banking counterparts to understand how the pricing of each underlying transaction is formed.

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€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 continuing to closely monitor the developments of the IBOR reform and is in regular communication with the banks to minimise any mismatches going forward.

IFRS 16 "Amendment to IFRS 16 Leases Covid-19-Related Rent Concessions"

The amendment permits lessees, as a practical expedient, not to assess whether particular rent concessions occurring as a direct consequence of the COVID-19 pandemic are lease modifications and instead to account for those rent concessions as if they are not lease modifications.

The practical expedient only applies to rent concessions occurring as a direct consequence of the COVID-19 pandemic and only if the following conditions are met cumulatively:

- The change in lease payments results in revised consideration for the lease that is substantially the same as, or less than, the consideration for the lease immediately preceding the change;
- Any reduction in lease payments affects only payments due on or before 30 June 2022; and
- There is no substantive change to other terms and conditions of the lease.

RHI Magnesita has evaluated the effect of applying the amendment to IFRS 16 Leases "COVID-19-Related Rent Concessions" with the conclusion that the Company will not make use of the practical expedient and that there is no effect to be expected to the Group.

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 2021. The following financial reporting standards have not yet been adopted by the EU and were not applied early on a voluntary basis. They are not expected to have a significant impact on RHI Magnesita.

Standard	Title	Publication[1]	Mandatory application for RHI Magnesita	Expected effects on RHI Magnesita Consolidated Financial Statements
New standards and interpretations				
IFRS 14	Regulatory Deferral Accounts	30.01.2014	No EU endorsement	Not relevant
IFRS 17	Insurance Contracts; including amendments to IFRS 17	18.05.2017 (09.12.2021)	01.01.2023	Not relevant
Amendments of standards				
IAS 1	Classification of Liabilities as Current or Non-current	23.01.2020	01.01.2023	No material effects expected
IAS 1	Amendments to IAS 1 Presentation of Financial Statements and IFRS Practice Statement 2: Disclosure of Accounting policies	12.02.2021	01.01.2023	No material effects expected
IAS 8	Amendments to IAS 8 Accounting policies, Changes in Accounting Estimates and Errors: Definition of Accounting Estimates	12.02.2021	01.01.2023	No material effects expected
IAS 12	Amendments to IAS 12 Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single transaction	07.05.2021	01.01.2023	No material effects expected

1)According to EU Endorsement Status Report of 01.02.2022.

The following financial reporting standards have been adopted by the EU and were not applied early on a voluntary basis. They are not expected to have a significant impact on RHI Magnesita.

Standard	Title	Publication (EU endorsement)[1]	Mandatory application for RHI Magnesita	Expected effects on RHI Magnesita Consolidated Financial Statements
New standards				
Amendments of standards				
IFRS 17	**IFRS 17 Insurance Contracts (issued on 18 May 2017); including Amendments to IFRS 17**	**25.06.2020**	**01.01.2023**	**not relevant**
IFRS 3, IAS 16, IAS 37	Amendments to IFRS 3 Business Combinations; IAS 16 Property Plant and Equipment; IAS 37 Provisions, Contingent Liabilities and Contingent Assets as well as Annual Improvements 2018-2020	14.05.2020	01.01.2022	No material effects expected

1)According to EU Endorsement Status Report of 01.02.2022.

4. Other changes in comparative information

Segment reporting

As foundry is a very fragmented small customer industry and Segment Industrial is used to serve many more customers than only Segment Steel, given the multitude of different customer industries RHI Magnesita delivers to, the responsibility of the foundry business has been moved from the Segment Steel to Segment Industrial in 2021. The information for the previous year was adjusted accordingly, impacting segment revenue by €12.9 million, segment gross profit by €3.6 million and segment assets by €11.3 million.

5. 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
RHI Magnesita Deutschland AG, 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
RHI Magnesita India 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 individually 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 in 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 in 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 result in 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 ceases.

Foundation of RHI Magnesita (Chongqing) Co., Ltd., Chongqing, China

On 2 November 2021 RHI Magnesita Group has founded RHI Magnesita (Chongqing) Co., Ltd., Chongqing, China (RHIMNGG). The Group holds a stake of 51% in the share capital of the company.

RHI Magnesita Group exercises control over RHIMNGG, as through voting rights and management representation, it has the power to steer the relevant activities of the business and can use this power to affect the variable returns from the company that it is exposed to. Therefore, RHIMNGG is a fully consolidated entity.

The non-controlling interests have the option to put the remaining equity stake to RHI Magnesita in 2031. RHI Magnesita opts to account for the non-controlling interests in accordance with IFRS 10. Thus, the non-controlling interests are initially recognised in accordance with IFRS 3 within equity while the put option liability is initially recognised against the non-controlling interest, reducing it to zero. The put option liability is recognised as a financial liability in accordance with IFRS 9. Further information on the fair value of the put option is provided under Note (53).

Disposal of RHI NORMAG AS and Premier Periclase Limited

In line with the Group's raw material strategy, the Group completed the disposal of RHI Normag AS, Porsgrunn, Norway and Premier Periclase Limited, Drogheda, Ireland on 1 February 2021, being classified as held for sale as at 31 December 2020. The fair value less cost of disposal of the disposal group was determined with reference to the compensation payable to the purchaser. The total gain on loss of control of €6.0 million recognised in the Consolidated Statement of Profit or Loss predominantly relates to the recycling of certain components of Other Comprehensive Income of the entities within the disposal group.

The gain on loss of control is presented as follows:

in € million	01.02.2021
Loss on derecognition of net assets	(1.2)
Recycling of OCI components to P&L	8.0
Result from deconsolidation	**6.8**
Cash consideration payable to the purchaser	(0.8)
Gain from loss of control	**6.0**

As of 31 December 2021, further provisions for restructuring costs amounting to €4.2 million have been recognised for the exposure to an environmental guarantee and unfavourable contracts, see Note (33).

The following assets and liabilities were disposed of as at 1 February 2021:

in € million	01.02.2021
Non-current assets	5.3
Inventories	7.2
Trade receivables and other current assets	2.0
Cash and cash equivalents	4.0
Assets	**18.5**
Non-current liabilities	1.4
Current liabilities	15.9
Liabilities	**17.3**

Merger of Indian entities

In June 2021 the two Indian subsidiaries RHI CLASIL Private Limited and RHI India Private Limited were merged into RHI Orient Refractories Limited (ORL), now renamed to RHI Magnesita India Limited, leaving RHI Magnesita with a share of 70.19% in ORL. As a result of this transaction, put options held by the minority shareholders were waived and consequently the current financial liability of €8.8 million was reclassified to non-controlling interest within equity. Further information is provided under Note (24) and (53).

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 possibilities (e.g. through seats in the supervisory board) to influence the company's financial and operating policy decisions it has significant influence over the investee.

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 carrying amount of investments accounted for using the equity method is adjusted each year to reflect the change in 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 upon 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, an impairment loss is determined as the difference between the recoverable amount and the carrying amount of the joint ventures and associates and is 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.

Acquisition of Chongqing Boliang Refractory Materials Co., Ltd, Chongqing, China

On 30 December 2021 RHI Magnesita Group has acquired a 51% ownership stake over Chongqing Boliang Refractory Materials Co., Ltd, Chongqing, China (RHIMNU), for a cash consideration of €5.2 million.

RHI Magnesita Group has determined that it does not control Chongqing Boliang Refractory Materials Co., Ltd even though the Group owns 51% of the issued capital of this entity. The Group is not represented in the management board of the entity and does not have the power to direct the relevant activities of the entity, but participates in central financial policy-making choices, including decisions about dividends. RHI Magnesita Group has significant influence over RHIMNU. RHI Magnesita Group has the option to purchase the remaining equity stake from the JV partner in 2031 therefore.

Disposal of Magnifin

As MAGNIFIN Magnesiaprodukte GmbH & Co KG ("MAGNIFIN"), is not core to RHI Magnesita's growth strategy, the 50% stake in Magnifin was sold as of 30 December 2021 for a cash consideration of €100.0 million to the joint venture partner J.M. Huber Corporation. The book value as of 31 December 2021 of the interest in the joint venture amounts to €0.0 million (31.12.2020: €15.8 million). Most of its profits are distributed and RHI Magnesita is entitled to receive the share of the dividend accordingly until closing. Further information is provided under Note (13).

6. 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 denominated in foreign currency are carried at historical rates.

If foreign companies are deconsolidated, the currency translation differences are recycled to 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 € =	31.12.2021	31.12.2020	2021	2020
Argentine Peso	ARS	116.25	103.47	111.99	79.35
Brazilian Real	BRL	6.30	6.38	6.38	5.83
Canadian Dollar	CAD	1.44	1.57	1.49	1.53
Chinese Renminbi Yuan	CNY	7.20	8.03	7.68	7.89
Indian Rupee	INR	83.89	89.83	87.76	84.13
Mexican Peso	MXN	23.12	24.45	24.20	24.48
Norwegian Krone	NOK	9.98	10.50	10.21	10.76
Pound Sterling	GBP	0.84	0.90	0.86	0.89
Swiss Franc	CHF	1.03	1.08	1.08	1.07
South African Rand	ZAR	17.97	17.97	17.60	18.72
Turkish Lira	TRY	15.01	9.07	10.29	7.96
US Dollar	USD	1.13	1.23	1.19	1.14

1) Arithmetic mean of the monthly closing rates.

7. 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.

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. Given that globally there are currently few or no viable alternatives for the construction and automotive segments to use other than Steel and Industrial products such as Cement and Glass and given the production process for Steel and Industrial products is moving towards green production, which will still require very high temperatures, our refractory products, also in the green economy, will remain to be required. The raw materials to our refractory products, that are extracted from our mines, will therefore continue to be used in line with previously assessed economic useful life terms, based on our current assessment. However, there remains a level of uncertainty and our views may change over time. Therefore the number of years of depreciation and cash generation to offset the carrying value of these assets, have remained unchanged in our assessment.

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

Research costs are expensed in the year incurred and included in 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. Amortisation is 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 overhead costs. 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 useful lives of the Group's main classes of intangible assets:

Customer relationships	6 to 15 years
Internally generated intangible assets	4 to 18 years
Other intangible assets	4 to 65 years

Property, plant and equipment

Property, plant and equipment is measured at acquisition or construction cost, less accumulated depreciation and accumulated impairment losses. 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.

Construction costs of assets comprise of direct costs as well as a proportionate share of capitalisable overhead costs and borrowing costs. If borrowed funds are directly attributable to an investment, borrowing costs are capitalised as production costs. If no direct connection between an investment and borrowed funds can be demonstrated, 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 recognition criteria are a legal or constructive obligation towards a third party and the ability to reliably estimate future cost.

Stripping costs incurred in the development phase to gain access to mines are recognised as a separate other non-current asset. These capitalised prepaid expenses are subsequently depreciated by reference to the actual depletion of the mineral resources of the mine during the production phase.

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:

Real estate, land and buildings	8 to 50 years
Technical equipment, machinery	8 to 50 years
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 nine years for land and buildings, five years for technical equipment and three years for other equipment, furniture and fixtures. Impacts resulting from extension and termination options, as well as residual value guarantees are immaterial.

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

- 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.

Since 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 principal payments on the liability and finance cost. The finance cost is charged to profit or loss over the lease term 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 payments 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 3.62%.

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.

Payments associated with short-term leases of equipment and vehicles and all leases of low-value assets are recognised 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. Expenses for short-term, low-value and variable lease payments in 2021 amount to €2.2 million (31.12.2020: €4.5 million). The total cash outflow for leases in 2021 amounts to €19.6 million (31.12.2020: €21.7 million).

The residual values and economic useful lives of property, plant and equipment, intangible assets and Right-of-use assets 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, are tested for impairment if there is any indication that the value of these items may be impaired. Intangible assets with an indefinite useful live and goodwill are tested for impairment at least annually.

An asset is considered to be impaired if its recoverable amount is less than its 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 in profit or loss.

In the case of impairment losses related to cash-generating units (CGUs) to which goodwill is allocated, the goodwill is reduced first. If the impairment loss exceeds the carrying amount of goodwill, the difference is apportioned proportionately to the remaining non-current tangible and intangible assets of the CGU on the basis of their carrying amounts. Reversals of impairment losses recognised on goodwill are not permitted and are therefore not considered.

If there is an indication for an impairment of a specific asset or a group of assets, only this specific asset will be tested for impairment. The recoverable amount is determined as the asset's fair value. If the fair value is lower than the carrying amount, an impairment loss is recorded in EBIT. If impairment losses arise due to restructuring, they are recorded 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. CGUs 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 business unit, each industry line of business (Glass, Cement/Lime, Non-Ferrous Metals and Environment, Energy, Chemicals) forms a separate CGU. All raw material producing facilities are combined in one CGU.

Major assumptions

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 assumptions were updated considering the latest developments of the COVID-19 pandemic, energy and raw material prices. The detailed planning period was shortened by one year compared with the previous period and is now based on the Budget and Long-Term Plan for the next four years. This is a change in estimate compared to prior period.

The detailed planning of the first four 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.

RHI Magnesita is subject to environmental and other laws and regulations in various countries in which it operates and has established environmental policies and procedures aimed at compliance with these laws. RHI Magnesita has incorporated considerations for increased energy and raw material prices in its Budget and Long-Term Plan 2023-2025 and estimates the total increase in investments in research and development costs (related to both capitalisable assets and expenditure) until 2025 at approximately €50 million. Current technology used by the industries requiring advanced heat-resistant materials for their production depend on refractory materials and in our view will remain in use in the observable future. The impact of climate related risks on major assumption incorporated in forecasts and disclosures to relevant assets and obligations remains uncertain and therefore our estimations were not adjusted accordingly. This will remain an area of increased focus in the upcoming reporting period.

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 7.7% and 9.8% in the year 2021. In the previous year, the discount rates ranged between 7.4% and 9.5%.

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 in the estimated future cash flows for impairment testing 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. Cash flows for other expansion investments are excluded from the DCF model; this applies in particular to expansion investments that have been decided on but that have 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 2022 Budget and Long-Term Plan 2023 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.

			2021			2020
	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	8.4%	0.9%	83.5	8.2%	0.9%	84.2
Steel Division - Flow Control	8.7%	0.9%	29.6	8.1%	0.9%	25.0

The remaining immaterial portion of goodwill amounting to €1.3 million (31.12.2020: €1.6 million) is allocated to the remaining CGUs, all of them having sufficient headroom.

Given that globally there are currently few or no viable alternatives for the construction and automotive segments to use other than Steel and Industrial products such as Cement and Glass and given the production process for Steel and Industrial products is moving towards green production, which will still require very high temperatures, our refractory products, also in the green economy, will remain to be required. As a result, the goodwill that produces our refractory products will therefore continue to be used in line with previously assessed economic useful life terms, based on our current assessment. However, there remains a level of uncertainty and our views may change over time. Therefore the number of years of depreciation and cash generation to offset the carrying value of these assets, have remained unchanged in our assessment.

Result of impairment test
Based on the impairment test conducted at 31 December 2021, the recoverability of the assets was demonstrated for all CGUs.

As in the previous year, no reversals of impairments were made in the financial year 2021.

Financial instruments
A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. In general, financial instruments can be classified to be measured subsequently as at amortised cost, at fair value through profit or loss or at fair value through other comprehensive income. Classification of financial assets depends on the contractual terms of the cash flows as well as on the entity's business model for managing the financial assets. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both.

Further information on the Group's financial assets and liabilities, as well as on the fair value measurement is provided under Note (53).

Other financial assets and liabilities
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 and in the previous reporting period a financial liability relating to the termination of an energy supply contract.

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 Group's investment in debt securities is subsequently measured at fair value through profit and loss, as the contractual terms of cash flows do not solely include payments of principal and interest.

The Group's investments in equity securities are of minor importance and are subsequently measured at fair value through profit or loss, since the irrevocable option for subsequent measurement at fair value through OCI was not exercised.

Shares in non-consolidated subsidiaries (RHI Magnesita exercises control but the subsidiary is not-fully consolidated due to materiality reasons), shares 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 designated in an effective hedging relationship in accordance with IFRS 9, must be carried 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 of either contracting party as well as interest rate swaps.

The measurement of forward exchange contracts and embedded derivatives in open orders denominated in a currency other than the functional currency of either contracting party 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, including forward premiums and discounts. Unrealised valuation gains or losses and results from the realisation are recognised in the Statement of Profit or Loss in net expense of foreign exchange effects and related derivatives.

For derivative financial instruments, which are designated in an effective hedging relationship in accordance with IFRS 9, the provisions regarding hedge accounting are applied. RHI Magnesita has concluded 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 recycled to the Statement of Profit or Loss. Ineffective parts of the cash flow hedges are recognised immediately in the Statement of Profit or Loss. If the hedged 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 entered into purchase obligations with non-controlling shareholders of a subsidiary. Based on these agreements, the shareholders received 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 for puttable non-controlling interests was measured at amortised cost and changes were recorded in net finance costs. In 2021 the puttable non-controlling interests within equity were reclassified to equity upon completion of the merger of the Indian entities. Further information is provided under Note (24) and (53).

Impairment of financial assets
Impairment of certain financial assets 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 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 of 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 at 34.0%. Tax rates from 13.0% to 35.0% (31.12.2020: 12.5% to 34.0%) 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 progress 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 associated with the financial assets.

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

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 in accordance with 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. 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 by way of external funds, the pension obligation according to the projected unit credit method is netted against the fair value of the plan assets. If the plan assets are not sufficient to cover the obligation, the net obligation is recognised as a provision 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 presented as an other non-current asset on the face of the statement of financial positions.

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 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.

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 continuous contributions are treated as defined contribution pension plans and included in the 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 years of uninterrupted 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.

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 shareholders approved the Rules Of The RHI Magnesita Long-Term Incentive Plan (the Rules). Share-options are granted to members of senior management of the Group in accordance with these Rules. 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 goods 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 asset retirements 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. 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, income and expenses

Revenue from contracts with customers

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 applies 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 turnover 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 to provide services are capable of being distinct and separately identifiable in the context of the contract. Accordingly, the allocation of the transaction price 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 (9). 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 comes first). 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.

Further income and expenses
Expenses are recognised in 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.

Current 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.

Since 2020 RHI Magnesita N.V., tax resident of Austria, acts as the head of a corporate tax group in Austria. Until 31 December 2019 RHI Magnesita GmbH, Vienna, Austria, acted as the head of a corporate tax group in Austria. 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, RHI Magnesita Deutschland AG, Wiesbaden, acts as the head of a tax group for corporate and trade tax purposes. The five tax group members are obliged to transfer their profit or loss to RHI Magnesita Deutschland AG based on a profit or loss transfer agreement. Additionally, RHI Magnesita Deutschland AG, Wiesbaden, acts as the head of a tax group for VAT purposes with eight 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.

8. 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 strategic business 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.

9. Critical accounting judgements 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 judgements

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.

Own use exemption on physical delivery CO2-certificate forwards

Due to the reduction of free CO2 emission certificates and the expectation of increased CO2 market prices, the Group is hedging the price risk by use of physical delivery forward purchases (for "own use"). The "Own use exemption" is important to prevent fair value accounting and thus avoid P&L volatility. The "Own use exemption" requires that all purchases via forward contracts will be utilised. Any surpluses from forwards must be settled and kept for future use. If the own use exemption is not met, the forwards will be recognised on Balance Sheet at fair value, with fair value remeasurement through P&L for the entire CO2 forward portfolio. The Group settles the forwards through physical delivery and does not intend to sell any (unexpected) surplus of CO2 emission certificates for speculative purposes. Therefore, in accordance with IFRS 9, the forward contracts are assessed to be off-balance executory contracts.

There are no other critical accounting judgements 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 €1,370.5 million at 31 December 2021 (31.12.2020: €1,222.5 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 2021 or by minus 10% in the contribution margin would not result in an impairment of goodwill recognised (carrying amount 31.12.2021: €114.4 million, 31.12.2020: €110.8 million) nor in an impairment charge to intangible assets with indefinite useful lives (carrying amount at 31.12.2021: €1.8 million and 31.12.2020: €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).

		31.12.2021		31.12.2020	
in € million	Change of assumption in percentage points or years	Pension plans	Termination benefits	Pension plans	Termination benefits
Present value of the obligations		495.0	44.1	523.3	46.4
Interest rate	+0.25	(14.8)	(1.4)	(16.2)	(1.3)
	(0.25)	15.6	1.5	16.9	1.4
Salary increase	+0.25	0.7	1.4	1.6	1.3
	(0.25)	(0.7)	(1.4)	(1.5)	(1.3)
Pension increase	+0.25	11.3	–	12.5	–
	(0.25)	(10.9)	–	(11.0)	–
Life expectancy	+1 year	19.8	–	21.3	–
	(1) year	(20.6)	–	(20.7)	–

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. Further information on pensions is provided under Note (27).

Other provisions

The recognition and measurement of other provisions totalling €118.6 million (31.12.2020: €149.0 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 €154.0 million (31.12.2020: €154.2 million) would have to be increased by €0.1 million (31.12.2020: €0.3 million) or reduced by €0.2 million (31.12.2020: €0.3 million).

Additional sources of estimation uncertainty with regard to climate change

Net realisable value of inventories

As stricter climate-related laws and regulations are expected to increase the demand for higher quality refractory products in customer industries, RHI Magnesita assesses that, overall, these events will not have an adverse effect on the net realisable value of the Group's inventories.

Useful lives and residual values

Given that globally there are currently few or no viable alternatives for the construction and automotive segments to use other than Steel and Industrial products such as Cement and Glass and given the production process for Steel and Industrial products is moving towards green production, which will still require very high temperatures, our refractory products, also in the green economy, will remain to be required. As a result, the PPE that produces our refractory products will therefore continue to be used in line with previously assessed economic useful life terms, based on our current assessment. However, there remains a level of uncertainty and our views may change over time. Therefore the number of years of depreciation and cash generation to offset the carrying value of these assets, have remained unchanged in our assessment.

Due to the high degree of estimation uncertainty around the impact of climate change and consequential changes in legislature, this conclusion may change in the future.

NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

10. Goodwill

Goodwill developed as follows:

in € million	2021	2020
Carrying amount at beginning of the year	110.8	117.5
Additions initial consolidation	0.0	3.8
Currency translation	3.6	(10.5)
Carrying amount at year-end	**114.4**	**110.8**

11. Other intangible assets

Other intangible assets changed as follows in the financial year 2021:

in € million	Mining rights	Customer relationship	Internally generated intangible assets	Other intangible assets	Total
Cost at 31.12.2020	133.1	95.1	62.0	121.3	411.5
Currency translation	6.2	4.2	0.2	4.9	15.5
Additions	0.0	0.0	8.8	9.9	18.7
Retirements and disposals	0.0	(0.1)	(0.1)	(4.1)	(4.3)
Reclassifications	0.0	0.0	0.0	13.4	13.4
Cost at 31.12.2021	**139.3**	**99.2**	**70.9**	**145.4**	**454.8**
Accumulated amortisation 31.12.2020	8.5	27.9	40.7	68.7	145.8
Currency translation	0.5	1.6	0.2	2.3	4.6
Amortisation charges	2.1	5.8	4.0	10.5	22.4
Impairment charges	0.0	0.0	0.0	3.7	3.7
Retirements and disposals	0.0	0.0	(0.1)	(3.8)	(3.9)
Reclassifications	0.0	0.0	0.0	(0.4)	(0.4)
Accumulated amortisation 31.12.2021	**11.1**	**35.3**	**44.8**	**81.0**	**172.2**
Carrying amounts at 31.12.2021	**128.2**	**63.9**	**26.1**	**64.4**	**282.6**

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 31.12.2019	169.1	109.3	52.4	134.1	464.9
Currency translation	(36.0)	(14.2)	(0.3)	(8.9)	(59.4)
Additions	0.0	0.0	9.9	3.1	13.0
Retirements and disposals	0.0	0.0	0.0	(11.0)	(11.0)
Disposal group IFRS 5	0.0	0.0	0.0	(0.2)	(0.2)
Reclassifications	0.0	0.0	0.0	4.2	4.2
Cost at 31.12.2020	**133.1**	**95.1**	**62.0**	**121.3**	**411.5**
Accumulated amortisation 31.12.2019	8.0	25.2	37.1	75.6	145.9
Currency translation	(1.7)	(3.4)	(0.1)	(3.6)	(8.8)
Amortisation charges	2.2	6.1	3.7	7.4	19.4
Impairment charges	0.0	0.0	0.0	0.3	0.3
Retirements and disposals	0.0	0.0	0.0	(10.8)	(10.8)
Disposal group IFRS 5	0.0	0.0	0.0	(0.2)	(0.2)
Accumulated amortisation 31.12.2020	**8.5**	**27.9**	**40.7**	**68.7**	**145.8**
Carrying amounts at 31.12.2020	**124.6**	**67.2**	**21.3**	**52.6**	**265.7**

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

The customer relations of Magnesita have a carrying amount of €63.6 million (31.12.2020: €66.9 million) and a remaining useful life of 7 to 11 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 €20.0 million (31.12.2020: €21.1 million) and a remaining useful life of 16 to 56 years.

There are no restrictions on the sale of intangible assets.

12. Property, plant and equipment

Property, plant and equipment developed as follows in the year 2021 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[1]	Right-of-use assets	Total
Cost at 31.12.2020	561.7	36.9	1,039.4	330.9	164.9	76.8	2,210.6
Currency translation	17.8	0.7	32.7	8.3	4.0	2.5	66.0
Additions	24.8	0.5	47.5	17.9	156.8	13.3	260.8
Reassessment / Modification of leases (IFRS 16)	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Retirements and disposals	(4.1)	0.0	(18.5)	(5.4)	0.0	(5.6)	(33.6)
Reclassifications	31.6	0.4	42.5	27.7	(116.0)	0.0	(13.8)
Cost at 31.12.2021	**631.8**	**38.5**	**1,143.6**	**379.4**	**209.7**	**87.1**	**2,490.1**
Accumulated depreciation 31.12.2020	253.3	23.8	720.5	230.9	1.1	22.4	1,252.0
Currency translation	4.6	0.2	19.2	5.8	0.0	0.7	30.5
Depreciation charges	11.9	0.9	56.3	23.4	0.0	16.0	108.5
Impairment charges	18.3	0.0	14.6	4.3	0.4	0.0	37.6
Retirements and disposals	(1.2)	0.0	(16.7)	(4.9)	0.0	(5.4)	(28.2)
Reclassifications	(0.3)	0.0	(0.5)	0.8	0.0	0.0	0.0
Accumulated depreciation 31.12.2021	**286.6**	**24.9**	**793.4**	**260.3**	**1.5**	**33.7**	**1,400.4**
Carrying amounts at 31.12.2021	**345.2**	**13.6**	**350.2**	**119.1**	**208.2**	**53.4**	**1,089.7**

1) Prepayments made and plant under construction include €6.0 million relating to intangible assets.

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 31.12.2019	641.3	36.6	1,210.4	321.6	173.5	76.1	2,459.5
Currency translation	(50.8)	(2.1)	(92.3)	(9.2)	(17.1)	(7.6)	(179.1)
Additions	6.3	2.9	13.8	6.7	105.2	24.5	159.4
Additions initial consolidation	2.0	0.0	0.3	0.1	0.0	0.0	2.4
Reassessment / Modification of leases (IFRS 16)	0.0	0.0	0.0	0.0	0.0	2.5	2.5
Retirements and disposals	(5.4)	(0.3)	(61.2)	(10.1)	0.0	(8.6)	(85.6)
Disposal group IFRS 5	(47.8)	0.0	(57.6)	(25.0)	(1.9)	(10.1)	(142.4)
Reclassifications	16.1	(0.2)	26.0	46.8	(94.8)	0.0	(6.1)
Cost at 31.12.2020	**561.7**	**36.9**	**1,039.4**	**330.9**	**164.9**	**76.8**	**2,210.6**
Accumulated depreciation 31.12.2019	283.3	23.6	777.1	237.8	6.0	24.9	1,352.7
Currency translation	(6.6)	(0.6)	(37.8)	(4.9)	(0.3)	(2.8)	(53.0)
Depreciation charges	12.3	1.1	70.6	20.3	0.0	16.0	120.3
Impairment charges	11.2	0.0	26.0	5.1	2.7	1.5	46.5
Retirements and disposals	(2.8)	(0.3)	(57.2)	(7.5)	0.0	(7.1)	(74.9)
Disposal group IFRS 5	(46.3)	0.0	(54.0)	(24.9)	(1.5)	(10.1)	(136.8)
Reclassifications	2.2	0.0	(4.2)	5.0	(5.8)	0.0	(2.8)
Accumulated depreciation 31.12.2020	**253.3**	**23.8**	**720.5**	**230.9**	**1.1**	**22.4**	**1,252.0**
Carrying amounts at 31.12.2020	**308.4**	**13.1**	**318.9**	**100.0**	**163.8**	**54.4**	**958.6**

The item prepayments made and plant under construction includes plant under construction with a carrying amount of €179.2 million (31.12.2020: €147.6 million), with the expansion of a dolomite plant in Austria, representing the largest investment project under construction in 2020 and the expansion of a magnesite plant in Brazil representing the largest investment project under construction in 2021.

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

The Right-of-use assets per category developed as follows as of 31 December 2021:

in € million	Right-of-use assets land and buildings	Right-of-use assets technical equipment and machinery	Right-of-use assets other equipment, furniture and fixtures	Total
Cost at 31.12.2020	40.4	30.7	5.7	76.8
Currency translation	1.0	1.3	0.2	2.5
Additions	8.5	1.7	3.1	13.3
Reassessment / Modification of leases (IFRS 16)	0.2	(0.1)	0.0	0.1
Retirements and disposals	(2.3)	(1.7)	(1.6)	(5.6)
Cost at 31.12.2021	**47.8**	**31.9**	**7.4**	**87.1**
Accumulated depreciation 31.12.2020	9.3	9.8	3.3	22.4
Currency translation	0.2	0.4	0.1	0.7
Depreciation charges	8.2	5.8	2.0	16.0
Retirements and disposals	(2.3)	(1.6)	(1.5)	(5.4)
Accumulated depreciation 31.12.2021	**15.4**	**14.4**	**3.9**	**33.7**
Carrying amounts at 31.12.2021	**32.4**	**17.5**	**3.5**	**53.4**

The Right-of-use assets per category developed as follows as of 31 December 2020:

in € million	Right-of-use assets land and buildings	Right-of-use assets technical equipment and machinery	Right-of-use assets other equipment, furniture and fixtures	Total
Cost at 31.12.2019	39.5	30.0	6.6	76.1
Currency translation	(2.0)	(5.2)	(0.4)	(7.6)
Additions	13.3	10.2	1.0	24.5
Reassessment / Modification of leases (IFRS 16)	2.8	0.0	(0.3)	2.5
Retirements and disposals	(3.4)	(4.1)	(1.1)	(8.6)
Disposal group IFRS 5	(9.8)	(0.2)	(0.1)	(10.1)
Cost at 31.12.2020	**40.4**	**30.7**	**5.7**	**76.8**
Accumulated depreciation 31.12.2019	15.5	7.0	2.4	24.9
Currency translation	(1.1)	(1.4)	(0.3)	(2.8)
Depreciation charges	7.2	6.7	2.1	16.0
Impairment charges	0.0	1.3	0.2	1.5
Retirements and disposals	(2.5)	(3.6)	(1.0)	(7.1)
Disposal group IFRS 5	(9.8)	(0.2)	(0.1)	(10.1)
Accumulated depreciation 31.12.2020	**9.3**	**9.8**	**3.3**	**22.4**
Carrying amounts at 31.12.2020	**31.1**	**20.9**	**2.4**	**54.4**

Further detail on IFRS 16 related information is provided under Note (7) and (26).

13. 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	31.12.2021	31.12.2020
Investments in joint ventures and associates	5.7	16.3
Carrying amount at year-end	**5.7**	**16.3**

Joint ventures

The RHI Magnesita Group held a share of 50% (2020: 50%) in MAGNIFIN Magnesiaprodukte GmbH & Co KG ("MAGNIFIN"), a private company based in St. Jakob, Austria. until 30 December 2021. The company's core business activity is the production and sale of halogen-free flame retardants for plastics. The investment in MAGNIFIN was treated as a financial investment. MAGNIFIN was set up as an independent vehicle. RHI Magnesita had 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. Further information on the sale of the equity stake in Magnifin is provided under Note (5).

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

in € million	31.12.2021	31.12.2020
Proportional share of net assets at beginning of year	**10.9**	**14.1**
Share of profit	9.3	7.7
Share of other comprehensive income (remeasurement gains/(losses))	0.1	(0.1)
Dividends	(16.2)	(10.9)
Other changes in value	0.0	0.1
Proportional share of net assets	**4.1**	**10.9**
Goodwill	4.9	4.9
Disposal	(9.0)	0.0
Carrying amount of investment	**0.0**	**15.8**

In addition, the Group holds interests in an immaterial joint venture with a carrying amount of €0.5 million as of 31 December 2021 (31.12.2020: €0.5 million). The Group's share of the profit after income tax, other comprehensive income and total comprehensive income in 2021 amounts to €0.0 million (2020: less than €0.1 million).

Associates

On 30 December 2021 RHI Magnesita Group has acquired a 51% ownership stake over Chongqing Boliang Refractory Materials Co., Ltd, Chongqing, China (RHIMNU), for a cash consideration of €5.2 million. Further information on this acquisition is provided under Note (5).

In 2019 the Group decided to restructure its Sinterdolime sourcing options in Europe and increase its vertical integration. As a result, operations will be suspended in the first quarter of 2022 and the equity accounted investment in Sinterco will be liquidated in 2023. 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.

14. Other non-current financial assets

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

in € million	31.12.2021	31.12.2020
Interests in subsidiaries not consolidated	0.6	0.6
Marketable securities and shares	13.7	13.5
Other non-current financial receivables	0.3	0.4
Other non-current financial assets	**14.6**	**14.5**

Accumulated impairments on investments, securities and shares amount to €3.6 million (31.12.2020: €3.7 million).

15. Other non-current assets

Other non-current assets include the following items:

in € million	31.12.2021	31.12.2020
Tax receivables	27.1	14.5
Prepaid stripping costs	9.3	8.4
Judicial deposits	3.5	2.9
Plan assets from overfunded pension plans	0.9	0.2
Prepaid expenses	0.4	0.6
Other non-current assets	**41.2**	**26.6**

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.

16. Deferred taxes

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

	31.12.2021		2021	31.12.2020		2020
in € million	Deferred tax assets	Deferred tax liabilities	(Expense)/Income	Deferred tax assets	Deferred tax liabilities	(Expense)/Income
Property, plant and equipment, intangible assets	41.3	109.6	17.0	36.5	117.4	11.2
Inventories	16.3	11.0	(12.5)	20.7	3.9	(5.5)
Trade receivables, other assets	25.0	5.2	(0.8)	25.1	4.1	20.8
Pensions and other personnel provisions	61.7	0.2	(3.2)	70.5	0.8	(5.3)
Other provisions	25.5	0.3	(1.4)	26.3	0.4	11.8
Trade payables, other liabilities	20.4	12.2	(11.3)	24.8	11.7	(36.6)
Tax loss carried forward	102.3	0.0	16.0	88.6	0.0	16.8
Offsetting	(90.1)	(90.1)	0.0	(93.3)	(93.3)	0.0
Deferred taxes	**202.4**	**48.4**	**3.8**	**199.2**	**45.0**	**13.2**

As of 31 December 2021, subsidiaries that generated tax losses in the past year or the previous year recognised net deferred tax assets on temporary differences and tax loss carryforwards of €160.8 million (31.12.2020: €116.3 million). Deferred tax assets have been recognised because the companies concerned are expected to generate taxable income in the future.

Regarding the recognition of tax expenses, deferred tax assets, and deferred tax liabilities, RHI Magnesita has evaluated the economic scenario's impacts arising, mainly, out of COVID-19's implications to a global downturn. In this context, the relevant uncertainties and potential negative effects of the downturn for the Group's financial results were considered when evaluating the recoverability of the tax assets. Particular focus was given to working with the most reliable forecasts and assumptions to minimise the effects of economic uncertainty to reach an assessment that reflects the best analysis possible, considering the circumstances and information available. Based on this analysis it was concluded that there is no need for a material impairment of deferred tax assets.

Tax loss carryforwards totalled €477.0 million in the RHI Magnesita Group as of 31 December 2021 (31.12.2020: €413.8 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 to 30% in Brazil's respective taxable profits. Deferred taxes were not recognised on tax losses of €118.7 million (31.12.2020: €115.3 million). Of these losses, €0.4 million will expire in 2022,€9.3 million in 2023, €7.6 million in 2024, €1.9 million in 2025, €2.4 million in 2026, €0.2million in 2027, €0.3 million in 2028 (31.12.2020: €0.4 million in 2022, €5.2 million in 2023, €6.9 million in 2024, €1.2 million in 2025, €0.2 million in 2027 and €0.3 million in 2028), while the remainder will be carried forward indefinitely.

Besides, no deferred tax assets were recognised for temporary differences totalling €216.0 million (31.12.2020: €89.7 million), which reverse until 2034.

Taxable temporary differences of €814.4 million (31.12.2020: €721.0 million) and temporary deductible differences of €116.8 million (31.12.2020: €456.0 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:

	31.12.2021			31.12.2020		
in € million	Current	Non-current	Total	Current	Non-current	Total
Deferred tax assets	53.2	149.2	202.4	69.1	130.1	199.2
Deferred tax liabilities	(10.4)	(38.0)	(48.4)	(3.1)	(41.9)	(45.0)

17. Inventories

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

in € million	31.12.2021	31.12.2020
Raw materials and supplies	300.2	92.7
Work in progress	151.5	102.5
Finished products and goods	512.4	272.2
Prepayments made	12.4	10.0
Inventories	**976.5**	**477.4**

Inventories include €6.9million (31.12.2020: €1.4 million) carried at net realisable value. Net write-down expenses amount to €3.4 million (2020: € 1.4 million).

The Group has increased its stock of raw materials and finished goods to mitigate supply chain disruptions and to meet expected demand in 2022.

There are no restrictions on the disposal of inventories.

18. Trade and other current receivables

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

in € million	31.12.2021	31.12.2020
Trade receivables	403.7	254.3
Contract assets	3.6	1.8
Other taxes receivable	113.7	58.4
Receivables from dividends	8.7	0.0
Receivables from employees	5.4	8.9
Prepaid expenses	3.9	4.2
Prepaid transaction costs related to financial liabilities	2.6	2.3
Receivables from joint ventures and associates	0.8	1.1
Receivables from property transactions	1.3	1.6
Receivables from non-consolidated subsidiaries	0.3	0.2
Emission rights	0.0	2.0
Other current receivables	24.2	17.0
Trade and other current receivables	**568.2**	**351.8**
thereof financial assets	414.4	255.6
thereof non-financial assets	153.8	96.2

RHI Magnesita entered into factoring agreements and sold trade receivables to financial institutions. The balance sold totalled €178.1 million as of 31 December 2021 (31.12.2020: €177.6 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. The increase compared to the prior year mainly results from the previous financial year's low balance as well as import transactions and acquisitions of fixed assets at year-end. Further, this position contains a receivable of €12.1m (31.12.2020 €0.0m) that was recognised as a result of a successful judicial proceeding against tax authorities in Brazil relating to revenue based taxes.

Other current receivables mainly consist of advances to suppliers not related to inventories. The increase compared to prior financial year mainly results from advances for IT services as well as custom and import related services and costs.

19. Income tax receivables

Income tax receivables amounting to €35.1 million (31.12.2020: €27.7 million) are mainly related to income tax receivables relating to prior periods, tax prepayments and deductible withholding taxes.

20. Other current financial assets

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

in € million	31.12.2021	31.12.2020
Derivatives in open orders	2.4	0.0
Forward exchange contracts	0.1	0.3
Current portion of non-current loans	0.4	0.0
Other current financial assets	**2.9**	**0.3**

Accumulated impairments on other current financial receivables amount to €0.0 million (31.12.2020: €0.6 million).

21. Cash and cash equivalents

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

in € million	31.12.2021	31.12.2020
Cash at banks	564.0	571.2
Money market funds	15.4	14.8
Cheques	1.3	1.0
Cash on hand	0.1	0.2
Cash and cash equivalents	**580.8**	**587.2**

Cash and cash equivalents include restricted cash totalling €19.7 million at 31 December 2021 (31.12.2020: €21.6 million). Restricted cash is mainly related to cash and cash equivalents at subsidiaries (mainly in China, India and Colombia) to which the Company only has limited access due to foreign exchange and capital transfer controls. In addition, €2.0 million (31.12.2020: 0.0 million) are held in escrow in Austria and are therefore not available for use by the Group. €17.3 million cash and cash equivalents (31.12.2020: €12.2 million) are accounted for by subsidiaries with non-controlling interests.

22. Share capital

As at 31 December 2021 the authorised share capital of RHI Magnesita N.V. amounts to €100,000,000 divided into 100,000,000 ordinary shares, of which 46,999,019 (31.12.2020: 49,008,955) fully paid-in ordinary shares are issued and outstanding, taking into consideration the treasury shares amounting to 2,478,686 (31.12.2020: 468,750). 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.

23. Group reserves

Treasury shares

In the course of the share buyback program which was initiated on 16 December 2020, completed on 13 April 2021, extended on 5 May 2021 and completed on 4 August 2021 the Company acquired additional 2,078,686 shares in treasury. Thereof 2,009,936 shares in treasury equalling €95.5 million in 2021 and 68,750 shares in treasury equalling €2.7 million in 2020.

Additional paid-in capital

At 31 December 2021 as well as at 31 December 2020, 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 hedge reserves 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.

Reserves for 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.

24. Non-controlling interests

Non-controlling interests in Orient Refractories Ltd.

In June 2021 the two Indian subsidiaries RHI CLASIL Private Limited and RHI India Private Limited were merged into RHI Orient Refractories Limited (ORL), now renamed to RHI Magnesita India Limited, leaving RHI Magnesita with a share of 70.19% in ORL. As a result, non-controlling interests hold a share of 29.81% (31.12.2020: 33.5%) in the listed company RHI Magnesita India Ltd. (in the following "ORL"), based in New Delhi, India. ORL is allocated to the Steel segment. The current reporting period and the previous reporting period need to be read in conjuction but are non- comparable as a consequence of the merger.

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

in € million	31.12.2021	31.12.2020
Non-current assets	51.1	29.1
Current assets	153.9	56.1
Non-current liabilities	(2.8)	(3.5)
Current liabilities	(80.9)	(23.0)
Net assets before intragroup eliminations	**121.3**	**58.7**
Intragroup eliminations	(0.5)	(0.1)
Net assets	**120.8**	**58.6**
Percentage of non-controlling interests	29.8%	33.5%
Carrying amount of non-controlling interests	**36.0**	**19.6**

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

in € million	2021	2020
Revenue	167.4	77.0
Operating expenses, net finance costs and income tax	(146.9)	(68.6)
Profit after income tax before intragroup eliminations	**20.5**	**8.4**
Intragroup eliminations	1.2	0.1
Profit after income tax	**21.7**	**8.5**
thereof attributable to non-controlling interests of ORL	6.6	2.8

in € million	2021	2020
Profit after income tax	21.7	8.5
Other comprehensive income/(loss)	8.0	(7.5)
Total comprehensive income	**29.7**	**1.0**
thereof attributable to non-controlling interests of ORL	8.7	0.3

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

in € million	2021	2020
Net cash flow from operating activities	(1.4)	8.1
Net cash flow from investing activities	(5.2)	(3.5)
Net cash flow from financing activities	(3.6)	(3.2)
Total cash flow	**(10.2)**	**1.4**

Net cash flow from financing activities includes dividend payments to non-controlling interests amounting to €1.4 million (2020: €1.1 million).

In addition, non-controlling interests hold a share of 29,81% (31.12.2020: 33,5%) in one immaterial subsidiary with a carrying amount of the non-controlling interests amounts to €0.3 million as of 31 December 2021 (31.12.2020: €0.4 million) and a share of 49.0% in RHIMNGG founded on 2 November 2021 with a carrying amount of the non-controlling interests of €0.0 million as of 31 December 2021. Further information is provided under Note (5).

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	Currency translation
Accumulated other comprehensive income 31.12.2020	**(4.3)**
Unrealised results from currency translation	2.1
Accumulated other comprehensive income 31.12.2021	**(2.2)**

25. 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	31.12.2021	up to 1 year	2 to 5 years	over 5 years
Syndicated & Term Loan	791.5	58.3	733.2	0.0
Bonded loans ("Schuldscheindarlehen")	650.0	65.0	282.5	302.5
Other credit lines and other loans	88.2	88.2	0.0	0.0
Accrued interest	4.4	4.4	0.0	0.0
Total liabilities to financial institutions	**1,534.1**	**215.9**	**1,015.7**	**302.5**
Other financial liabilities	7.4	3.2	4.2	0.0
Capitalised transaction costs	(2.4)	(1.0)	(1.3)	(0.1)
Borrowings	**1,539.1**	**218.1**	**1,018.6**	**302.4**

	Total	Remaining term		
in € million	31.12.2020	up to 1 year	2 to 5 years	over 5 years
Syndicated & Term Loan	613.0	40.6	572.4	0.0
Bonded loans ("Schuldscheindarlehen")	400.0	0.0	100.0	300.0
Other credit lines and other loans	88.2	83.4	4.8	0.0
Accrued interest	4.4	4.4	0.0	0.0
Total liabilities to financial institutions	**1,105.6**	**128.4**	**677.2**	**300.0**
Other financial liabilities	11.9	4.3	7.6	0.0
Capitalised transaction costs	(3.0)	(1.2)	(1.7)	(0.1)
Borrowings	**1,114.5**	**131.5**	**683.1**	**299.9**

In March 2021 RHI Magnesita took out a €65.0 million credit facility, maturing in March 2022. In October 2021, this facility was increased by €50.0 million to a total amount of €115.0 million and maturity has been extended until April 2023. A part of the proceeds of the loan were used to repay a €60.0 million 2-year revolving credit facility guaranteed by the Austrian export credit agency (OeKB), which remains committed and can be utilised until its maturity in March 2022.

In August 2021 the CNY 100.0 million term loan in China, from which CNY 47.5m have been outstanding as of 31 December 2020 has been fully repaid.

In November 2021 the Group exercised its second extension option and thereby extended the maturity of the revolving credit facility (€600.0 million) by one year to 2027. The third and last extension option could be requested in November 2022 and would further extend the maturity of the revolving credit facility to 2028.

In December 2021 RHI Magnesita issued a Schuldscheindarlehen ("SSD") bonded loan in the amount of €250.0 million with tenors ranging from 5.5 years to 10 years as well as a new term loan in the amount of €150.0 million and a maturity of 3.5 years. The proceeds of the new instruments will be used for general corporate purposes, including for example refinancing and potential acquisitions.

The introduction of ESG-related pricing mechanics into the Group's financing facilities highlights RHI Magnesita's commitment to sustainability. The margin under the USD term loan (USD 200.0 million) and revolving credit facility (€600.0 million) as well as the newly issued SSD bonded loan (€250.0 million) and EUR term loan (€150.0 million) will be adjusted based on the Group's EcoVadis rating performance. RHI Magnesita is currently rated 'Gold' by EcoVadis and will seek to further improve its ESG performance and ratings through the execution of its sustainability strategy.

Net debt excluding lease liabilities/adjusted EBITDA is the main financial covenant of the loan agreements and is shown under Note (56). Compliance with the covenants is measured on a semi-annual basis. Covenant ratio is limited at 3.5x as at 31 December 2021. Breach of covenants leads to an anticipated maturity of loans. During 2021 and 2020, the Group met all covenant requirements.

Considering interest swaps, 70% (31.12.2020: 53%) of the liabilities to financial institutions carry fixed interest and 30% (31.12.2020: 47%) 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	31.12.2021 Carrying amount in € million	Interest terms fixed until	Effective annual interest rate	Currency	31.12.2020 Carrying amount in € million
2022	EURIBOR + margin	EUR	403.3	2021	EURIBOR + margin	EUR	380.7
	1.87%	EUR	65.0		LIBOR + margin	USD	15.3
					Interbank Deposit Certificate (CDI) + Margin	CNY	19.9
	Variable rate + margin	EUR	34.0		Various - Variable rate	Var.	3.3
	Various - Variable rate	Var.	12.5		Variable rate + margin	EUR	94.0
2023	0.79%	EUR	374.7	2022	1.87%	EUR	65.0
	4.09%	USD	176.8	2023	0.83%	EUR	290.3
2024	3.10%	EUR	35.0		3.94%	USD	162.6
2025	1.00%	EUR	177.0	2024	3.10%	EUR	35.0
2027	1.00%	EUR	152.0	2026	1.10%	EUR	27.0
2028	0.92%	EUR	86.5	2029	1.52%	EUR	8.0
2029	1.52%	EUR	8.0				
2031	1.28%	EUR	5.0				
			1,529.8				**1,101.1**

The table above shows how long the interest rates are fixed, rather than the maturity of the underlying instruments. In some cases, the terms to maturity of the contracts are substantially longer than the period during which interest terms are fixed.

26. Other financial liabilities

Other financial liabilities include the negative fair value of derivative financial instruments as well as lease liabilities, fixed-term and puttable non-controlling interests in Group companies. The puttable non-controlling interests have been reclassified to non-controlling interests within equity upon completion of the merger of the Indian entities. Additional explanation on derivative financial instruments is provided under Note (54).

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

			31.12.2021			31.12.2020
in € million	Current	Non-current	Total	Current	Non-current	Total
Derivatives from supply contracts	0.0	0.0	0.0	1.6	0.0	1.6
Interest rate swaps	0.0	9.6	9.6	0.0	18.3	18.3
Derivatives in open orders	0.1	0.0	0.1	1.8	0.0	1.8
Derivative financial liabilities	**0.1**	**9.6**	**9.7**	**3.4**	**18.3**	**21.7**
Lease liabilities	16.1	39.4	55.5	12.2	44.6	56.8
Power supply contract Norway	0.0	0.0	0.0	15.5	0.0	15.5
Fixed-term or puttable non-controlling interests	3.0	57.0	60.0	12.9	25.9	38.8
Other financial liabilities	**19.2**	**106.0**	**125.2**	**44.0**	**88.8**	**132.8**

Further information on IFRS16 related information is provided under Note (7) and (43).

27. Provisions for pensions

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

in € million	31.12.2021	31.12.2020
Present value of pension obligations	495.0	523.3
Fair value of plan assets	(255.5)	(240.2)
Deficit of funded plans	**239.5**	**283.1**
Asset ceiling	28.6	20.5
Net liability from pension obligations	**268.1**	**303.6**
thereof assets from overfunded pension plans	0.9	0.0
thereof pensions	269.0	303.6

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

in € million	31.12.2021	31.12.2020
Active beneficiaries	88.4	101.0
Vested terminated beneficiaries	68.4	72.9
Retirees	338.2	349.4
Present value of pension obligations	**495.0**	**523.3**

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

in %	31.12.2021	31.12.2020
Interest rate	2.3%	1.7%
Future salary increase	2.5%	2.4%
Future pension increase	2.1%	1.7%

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 €100.5 million (31.12.2020: €111.8 million) of the present value of pension obligations and for €20.6 million (31.12.2020: €23.0 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 €146.3 million (31.12.2020: €155.2 million) of the present value of pension obligations and for €0.7 million (31.12.2020: €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 €86.8 million (31.12.2020: €86.0 million) of the present value of pension obligations and for €79.0 million (31.12.2020: €70.2 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 made 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 2021 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 €67.1 million (31.12.2020: €63.7 million) of the present value of pension obligations and holds €95.7 million (31.12.2020: €84.2 million) of assets, although only €67.1 million (31.12.2020: €63.7 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.

The pension liabilities of the Brazilian group company Magnesita Refratários S.A. account for €44.1 million (31.12.2020: €52.3 million) of the present value of pension obligations and for €24.6 million (31.12.2020: €26.9 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	2021	2020
Net liability from pension obligations at beginning of year	**303.6**	**328.1**
Currency translation	2.5	(13.2)
Pension cost	8.5	10.3
Remeasurement (gains)/losses	(26.0)	0.6
Benefits paid	(17.6)	(18.6)
Employers' contributions to external funds	(2.9)	(3.6)
Net liability from pension obligations at year-end	**268.1**	**303.6**

The present value of pension obligations developed as follows:

in € million	2021	2020
Present value of pension obligations at beginning of year	**523.3**	**557.9**
Currency translation	15.4	(34.7)
Current service cost	4.2	4.6
Interest cost	8.9	10.9
Remeasurement (gains)/losses		
from changes in demographic assumptions	(3.7)	(1.0)
from changes in financial assumptions	(24.1)	24.3
due to experience adjustments	6.0	(8.6)
Benefits paid	(34.4)	(30.6)
Employee contributions to external funds	0.5	0.5
Disposal due to settlement	(1.1)	0.0
Present value of pension obligations at year-end	**495.0**	**523.3**

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

in € million	2021	2020
Fair value of plan assets at beginning of year	**240.2**	**248.0**
Currency translation	14.5	(22.9)
Interest income	5.1	6.0
Administrative costs (paid from plan assets)	(0.2)	(0.4)
Income on plan assets less interest income	10.4	17.4
Benefits paid	(16.8)	(12.0)
Employers' contributions to external funds	2.9	3.6
Employee contributions to external funds	0.5	0.5
Disposal due to settlement	(1.1)	0.0
Fair value of plan assets at year-end	**255.5**	**240.2**

The changes in the asset ceiling are shown below:

in € million	2021	2020
Asset ceiling at beginning of year	**20.4**	**18.0**
Currency translation	1.6	(1.0)
Interest expense	0.4	0.4
Losses/(gains) from changes in asset ceiling less interest expense	6.2	3.0
Asset ceiling at year-end	**28.6**	**20.4**

At 31 December 2021 the weighted average duration of pension obligations amounts to 12 years (31.12.2020: 13 years).

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

in € million	2021	2020
Current service cost	4.2	4.6
Interest cost	8.9	10.9
Interest income	(5.1)	(6.0)
Interest expense from asset ceiling	0.4	0.4
Administrative costs (paid from plan assets)	0.2	0.4
Pension expense recognised in profit or loss	**8.6**	**10.3**

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

in € million	2021	2020
Accumulated remeasurement losses at beginning of year	**170.0**	**169.7**
Remeasurement losses on present value of pension obligations	(21.8)	14.7
Income on plan assets less interest income	(10.4)	(17.4)
Losses/(gains) from changes in asset ceiling less interest expense	6.2	3.0
Reclassification to other reserves	(0.4)	0.0
Accumulated remeasurement losses at year-end	**143.6**	**170.0**

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

			31.12.2021			31.12.2020
in € million	Active market	No active market	Total	Active market	No active market	Total
Insurances	0.0	43.8	43.8	0.0	41.0	41.0
Equity instruments	48.8	0.0	48.8	5.5	35.4	40.9
Debt instruments	97.0	3.3	100.3	60.5	38.0	98.5
Cash and cash equivalents	11.2	0.1	11.3	2.1	6.5	8.6
Other assets	49.9	1.4	51.3	48.7	2.5	51.2
Fair value of plan assets	**206.9**	**48.6**	**255.5**	**116.8**	**123.4**	**240.2**

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 2022, RHI Magnesita expects employer contributions to external plan assets to amount to €3.0 million and direct payments to entitled beneficiaries to €19.2 million. In the previous year, employer contributions of €3.1 million and direct pension payments of €22.5 million had been expected for the financial year 2021.

28. Other personnel provisions

Other personnel provisions consist of the following items:

in € million	31.12.2021	31.12.2020
Termination benefits	44.1	46.4
Service anniversary bonuses	21.4	19.4
Legacy share-based payment program	0.0	0.1
Semi-retirements	3.2	4.6
Other personnel provisions	**68.7**	**70.5**

Provisions for termination benefits

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

in %	31.12.2021	31.12.2020
Interest rate	1.3%	0.9%
Future salary increase	3.5%	3.5%

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	2021	2020
Provisions for termination benefits at beginning of year	**46.4**	**52.0**
Currency translation	0.0	(0.1)
Current service cost	1.2	1.3
Interest cost	0.4	0.6
Remeasurement losses/(gains)		
from changes in financial assumptions	(1.8)	2.1
from changes in demographic assumptions	1.9	0.0
due to experience adjustments	0.5	(1.9)
Benefits paid	(4.8)	(7.5)
Loss / (Gain) on settlement	0.3	(0.1)
Provisions for termination benefits at year-end	**44.1**	**46.4**

Payments for termination benefits are expected to amount to €2.3 million in the year 2022. In the previous year, the payments for termination benefits expected for the year 2021 amounted to €2.9 million.

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

in € million	2021	2020
Accumulated remeasurement losses at beginning of year	**27.6**	**27.5**
Remeasurement losses/(gains)	0.6	0.1
Reclassification to other reserves	(0.5)	0.0
Accumulated remeasurement losses at year-end	**27.7**	**27.6**

At 31 December 2021 the weighted average duration of termination benefit obligations amounts to 14 years (31.12.2020: 12 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% (31.12.2020: 0.5%) and considers salary increases of 4.1% (31.12.2020: 3.5%).

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	31.12.2021	31.12.2020
Present value of semi-retirement obligations	7.6	7.8
Fair value of plan assets	(4.4)	(3.2)
Provisions for semi-retirement obligations	**3.2**	**4.6**

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

29. 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	Total
31.12.2020	**45.2**	**6.7**	**10.7**	**62.6**
Currency translation	0.5	0.0	0.9	1.4
Reversals	0.0	(1.5)	0.0	(1.5)
Additions	0.0	1.9	0.4	2.3
Additions interest	5.2	0.0	0.3	5.5
Reclassifications	(7.8)	0.0	1.1	(6.7)
31.12.2021	**43.1**	**7.1**	**13.4**	**63.6**

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 €43.1 million as of 31.12.2021 (31.12.2020: €45.2 million).

The provision for labour and civil contingencies primarily comprises labour litigation provisions against RHI Magnesita totalling 258 cases amounting to €4.9 million (31.12.2020: €5.2 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 €2.9 million (31.12.2020: €2.3 million) and various sites in the United States amounting to €6.0 million (31.12.2020: €5.3 million).

30. Other non-current liabilities

Other non-current liabilities consist of the following items:

in € million	31.12.2021	31.12.2020
Deferred income for subsidies received	4.7	3.1
Liabilities to employees	0.5	0.8
Miscellaneous non-current liabilities	0.7	0.9
Other non-current liabilities	**5.9**	**4.8**
thereof financial liabilities	0.0	0.0
thereof non-financial liabilities	5.9	4.8

31. 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	31.12.2021	31.12.2020
Trade payables	649.2	318.6
Contract liabilities	57.9	46.2
Liabilities to employees	80.9	88.8
Taxes other than income tax	29.3	27.0
Payables from property transactions	24.3	9.9
Payables from commissions	7.3	5.6
Liabilities to joint ventures and associates	1.3	1.2
Liabilities to non-consolidated subsidiaries	0.7	0.7
Dividend liabilities	0.4	0.4
Other current liabilities	27.5	24.3
Trade payables and other current liabilities	**878.8**	**522.7**
thereof financial liabilities	688.5	337.6
thereof non-financial liabilities	190.3	185.1

Trade payables increased in line with the Group's replenishment of raw material and finished goods stock, see Note (17).

Trade payables include an amount of €142.0 million (31.12.2020: €43.5 million) for raw material purchases subject to supply chain finance arrangements. The increase in forfaiting considers to match the inventory ramp up of the company in order to avoid supply chain disruptions.

Contract liabilities mainly consist of prepayments received on orders. In 2021 €46.2 million revenue was recognised related to contract liabilities recognised as at 31 December 2020.

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

As a result of the increase in prepayments made and plant under construction for property, plant and equipment payables from property transactions increased accordingly in 2021.

Other current liabilities include €1.0 million (31.12.2020: €0.6 million) investment reimbursement obligation to the former subsidiary Dolomite Franchi S.p.A., and other accrued expenses.

32. Income tax liabilities

Income tax liabilities amounting to €38.2 million (31.12.2020: €25.8 million) primarily include income taxes for the current year and previous years, which domestic and foreign tax authorities have not definitively assessed. Considering many factors, including the interpretation and jurisprudence on the respective tax laws and previous experiences, adequate liabilities were recognised.

33. 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	Other	Total
31.12.2020	**53.4**	**7.8**	**9.9**	**12.9**	**2.4**	**86.4**
Currency translation	(0.1)	0.0	0.1	0.2	0.0	0.2
Disposal of subsidiaries	0.0	0.0	0.0	(3.3)	0.0	(3.3)
Utilised	(23.7)	(0.7)	(4.3)	(9.2)	(1.1)	(39.0)
Reversals	(5.5)	(0.4)	(3.4)	0.0	(0.2)	(9.5)
Additions	9.4	0.5	1.8	2.4	0.1	14.2
Reclassifications	0.0	(1.1)	0.0	7.8	(0.7)	6.0
31.12.2021	**33.5**	**6.1**	**4.1**	**10.8**	**0.5**	**55.0**

Provisions for restructuring costs amounting to €33.5 million as of 31 December 2021 (31.12.2020: €53.4 million) primarily consist of estimated benefit obligations to employees due to termination of employment and dismantling costs. Thereof, €14.9 million (31.12.2020: €22.5 million) relate to the plant closure in Mainzlar, Germany, €4.6 million (31.12.2020: €9.2 million) to the plant closure in Kruft, Germany, € 4.5 million (31.12.2020: €1.2 million) to the plant closure in Trieben, Austria and €1.0 million (31.12.2020: €0.5 million) to the plant closure in Evergem, Belgium. Further, € 3.1 million (31.12.2020: € 15.4 million) relate to other cost saving initiatives. In addition, provisions for restructuring costs amounting to €4.2 million relate to the sale of the plants in Porsgrunn, Norway and Drogheda, Ireland. Thereof, 3.9 million have been recognised for the exposure from an environmental guarantee. In 2021 €5.5 million (2020: €1.1 million) of provisions for restructuring costs were reversed mainly as a consequence of a revision of the estimate of redundancy costs payable.

The item demolition and disposal costs, environmental damages includes an amount of €2.3 million (31.12.2020: €2.5 million) which refers to the former site in Aachen, 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 supply contract obligation amounting to €8.0 million (31.12.2020: €7.6 million). The amortisation of this provision led to an income of €7.5 million in 2021 (31.12.2020: €13.1 million). In addition, provisions for other unfavourable contracts amount to €2.9 million (31.12.2020: €2.0 million).

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

34. 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 (50).

35. 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.

36. 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.

37. 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 €36.7 million (2020: €37.8 million), of which development costs amounting to €8.7 million (2020: €7.2 million) were capitalised. Income from research grants amounted to €4.0 million (2020: €3.9 million) in 2021. Amortisation and impairment of development costs amounting to €3.5 million (2020: €3.6 million) are recognised under cost of sales.

38. Restructuring
Production Optimisation Plan
The Group continued the Production Optimisation Plan initiated in 2019 throughout 2021, which led to restructuring expenses amounting to €2.8 million (2020: €46.5 million) and non-current asset write-downs amounting to €41.3 million (2020: €28.1 million). Thereof €17.4 million (2020: €19.1 million) are allocated to Segment Steel and €23.9 million (2020: €9.0 million) are allocated to Segment Industrial.

In September 2021, the plant in Dashiqiao, China, was shut down and production suspended. At the same time, the Group entered negotiations with the joint venture partner to exit the Liaoning RHI Jinding Magnesia Co., Ltd. undertaking, to give up the entity's net assets in exchange for a waiver of the dividend payable amounting to €23.5 million as per 31 December 2021. These negotiations are still ongoing. The recoverable amount of Dashiqiao's assets is deemed to be equal to the fair value less costs of disposal and was estimated with reference to the difference between net assets to be given up and the amount of the expected waiver of the dividend liability as per 31 December 2021. As a result, write-down expenses of €29.0 million have been recognised, of which €8.7 million are attributable to Segment Steel and €20.3 million are attributable to Segment Industrial. Further €2.4 million of idle costs were incurred until 31 December 2021 and recorded as restructuring expenses.

For the final closure of plant Trieben, Austria, restructuring expenses amounting to €16.3 million have been recognised in 2021. These expenses mainly relate to dismantling and site clean-up costs amounting to €3.1 million and write-down expenses recognised on non-current assets amounting to €12.2 million, of which €8.6 million are attributable to Segment Steel and €3.6 million to Segment Industrial. The recoverable amount of these assets was estimated with reference to their expected scrap value, which is deemed negligible.

In the course of the plant closure in Hagen, Germany, restructuring expenses totalling to €0.6 million have been recognised and land has been sold resulting in a gain from disposal amounting to €4.1 million in 2021.

Organisational restructuring
In 2020 management conducted a detailed and far-reaching review of the Group's cost base on a long-term basis, to make sure the business is right-sized and prepared for the challenges and opportunities ahead, including reduction of management and implementation of a new structure. As this project is still ongoing, further restructuring expenses related to termination of employment costs amounting to €4.7 million (2020: €22.2 million) have been recognised in 2021.

Divestment Norway and Ireland
Following the sale of plants in Drogheda, Ireland, and Porsgrunn, Norway, in February 2021 expenses amounting to €9.9 million have been recognised. Thereof, expenses amounting to €6.6 million were incurred for the exposure to environmental risks. In 2020, write-down expenses on non-current assets amounted to €18.7 million.

Summary of restructuring and write-down expenses recognised:

in € million	2021	2020
Production Optimisation Plan	(44.1)	(74.6)
Organisational restructuring	(4.7)	(22.2)
Divestment Norway and Ireland	(9.9)	(19.5)
Other	(0.1)	2.5
Restructuring and write-down expenses	**(58.8)**	**(113.8)**

39. Other income

The individual components of other income are:

in € million	2021	2020
Amortisation of Oberhausen provision	7.5	13.1
Result from deconsolidation incl. recycling of OCI components to P&L	6.8	0.0
Income from the disposal of non-current assets	6.2	1.8
Result from derivatives from supply contracts	1.6	0.0
Reversal of provisions	0.5	0.5
Miscellaneous income	6.5	4.3
Other income	**29.1**	**19.7**

The result from deconsolidation amounting to €6.8 million relates to the disposal of RHI Normag AS, Porsgrunn, Norway and Premier Periclase Limited, Drogheda, Ireland.

40. Other expenses

Other expenses include:

in € million	2021	2020
Expenses for strategic projects	(4.7)	(6.9)
Losses from the disposal of non-current assets	(2.6)	(6.4)
Result from deconsolidation incl. recycling currency translation differences	(1.6)	(0.3)
Result from derivatives from supply contracts	0.0	(9.6)
Miscellaneous expenses	(5.6)	(3.0)
Other expenses	**(14.5)**	**(26.2)**

Expenses for strategic projects amounting to €4.7 million (2020: €6.9 million) mainly include legal and consulting fees related to organisational streamlining and M&A. Miscellaneous expenses mainly consist of expenses related to prior years.

41. Interest income

This item includes interest income on securities and shares amounting to €0.6 million (2020: €0.7 million) as well as on cash at banks and similar income amounting to €13.6 million (2020: €5.2 million) of which €10.9 million are related to the successful judicial proceeding against tax authorities in Brazil. Additional information is provided under Note (18).

42. Foreign exchange effects and related derivatives

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

in € million	2021	2020
Foreign exchange gains	119.7	147.1
Gains from related derivative financial instruments	9.2	1.9
Foreign exchange losses	(121.7)	(190.4)
Losses from related derivative financial instruments	(4.4)	(1.4)
Net gain (expense) on foreign exchange effects and related derivatives	**2.8**	**(42.8)**

The net gain on foreign exchange effects in the current reporting period resulted mainly from the revaluation of the US Dollar against the Euro.

43. Other net financial expenses

Other net financial expenses consist of the following items:

in € million	2021	2020
Interest income on plan assets	4.7	5.9
Interest expense on provisions for pensions	(8.9)	(11.2)
Interest expense on provisions for termination benefits	(0.4)	(0.6)
Interest expense on other personnel provisions	0.0	(0.2)
Net interest expense personnel provisions	**(4.6)**	**(6.1)**
Unwinding of discount of provisions and payables	(6.8)	(9.6)
Interest expense on non-controlling interests	(5.2)	(3.7)
Interest expense on lease liabilities	(1.1)	(1.3)
Reversal of impairment losses on securities	0.2	0.0
Impairment losses on securities	0.0	(0.2)
Income/Expenses from the valuation of NCI put options	1.1	(1.6)
Other interest and similar expenses	(4.8)	(7.2)
Other net financial expenses	**(21.2)**	**(29.7)**

44. Income tax

Income tax consists of the following items:

in € million	2021	2020
Current tax expense	(43.2)	(27.1)
Deferred tax (expense)/income relating to		
temporary differences	(12.2)	(3.7)
tax loss carryforwards	16.0	16.9
	3.8	13.2
Income tax	**(39.4)**	**(13.9)**

The current tax expense of the year 2021 includes tax expenses for previous periods of €3.8 million (2020: €2.5 million) and income from income tax relating to prior periods of €12.2 million (2020: €8.3 million).

In 2021 the income tax for prior periods mainly includes an income resulting from tax audits of RHI Magnesita Group amounting to €9.2 million. In 2020 the income tax for prior periods mainly included income from revised tax returns in the Netherlands amounting to €3.8 million and income from a change in estimate of prior-year tax provisions in Germany amounting to €1.4 million.

Regarding the recognition of tax expenses, deferred tax assets, and deferred tax liabilities, RHI Magnesita has evaluated the impacts of the economic scenario arising, mainly, out of COVID-19's potentially delayed global recovery. In this context, the relevant uncertainties and potential negative effects of the downturn for the Group's financial results were taken into consideration when evaluating the recoverability of the tax assets. Special focus was given to working with the latest forecasts and assumptions to minimise the effects of economic uncertainty to reach an assessment that reflects the best analysis possible, considering the circumstances and information available. Based on this analysis it was concluded that there is no need for an impairment of deferred tax assets. Information on tax contingencies is provided under Note (57).

In addition to the income taxes recognised in the Statement of Profit or Loss, a tax expense totalling €3.1 million (2020: income totalling €41.1 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	2021	2020
Profit before income tax	**289.1**	**41.5**
Income tax expense calculated at 25% (2020: 25%)	**72.3**	**10.4**
Different foreign tax rates	5.1	0.3
Expenses not deductible for tax purposes, non-creditable taxes	17.6	14.6
Non-taxable income and tax benefits	(17.2)	(5.0)
Tax losses and temporary differences of the financial year not recognised	0.0	6.4
Utilisation of previously unrecognised loss carryforwards and temporary differences	(4.0)	(3.4)
Recognition of previously unrecognised loss carryforwards and temporary differences	(37.9)	(14.2)
Change in write down on deferred tax assets	1.0	0.3
Deferred taxes not usable due to plant sale or closure	8.2	16.0
Deferred tax expense due to tax rate changes	(0.2)	(6.6)
Deferred income tax relating to prior periods	2.6	0.4
Current income tax relating to prior periods	(8.4)	(5.9)
Other	0.3	0.6
Recognised tax expense	**39.4**	**13.9**
Effective tax rate (in %)	**13.6%**	**33.5%**

In 2021 expenses not deductible for tax purposes included non-deductible personnel related expenses in Austria of €1.4 million, non-creditable withholding taxes of €1.8 million, non-deductible expenses for a debt waiver of€ 1.6 million, IT costs recharged from subsidiaries being non-deductible of €1.8 million, €2.6 million in Brazil relating to Transfer Price adjustments and non-deductible expenses due to thin capitalisation of €1.2 million in Argentina. In 2020 expenses not deductible for tax purposes included non-deductible voluntary leave payments in Austria of €1.7 million, nondeductible expenses for a share sale of €0.2 million, €4.9 million in Brazil, mainly due to taxation on foreign income of Brazilian controlled subsidiaries and non-deductible expenses due to thin capitalisation of €1.1 million in Argentina.

Non-taxable income and tax benefits include non-taxable income from restructuring of €1.3 million in Austria, income of foreign permanent establishments non-taxable in Austria of €1.8 million, tax incentives from the SUDENE tax regime in Brazil of € 1.6 million and a tax depreciation of €7.5 million. In 2020 non-taxable income and tax benefits included non-taxable portions of a capital gain of €0.8 million or statutory adjustments of €0.7 million.

Previously unrecognised temporary differences of €3.4 million could be utilised in Norway due to an asset sale. Furthermore, a deferred tax asset of €37.7 million was recognised resulting from a tax depreciation for future periods. On tax losses and temporary differences €9.1 million of potential deferred tax assets have not been recognised in China, thereof relating €8.2 million to a plant closure creating deferred tax assets not usable anymore due to limited planned taxable income in future years or leading to the write down of existing deferred tax assets. In 2020 the major effects include €9.4 million of deferred tax assets being recognised due to increased planned taxable income due to a restructuring and €16.0 million impairment of deferred tax assets in Norway due to the sale of the company holding those tax assets.

Due to tax rate changes in Argentina from 30% to 35% an amount of €0.3 million increased the income from deferred income taxes in 2021. In 2020 due to tax rate changes in Brazil from 15.25% to 34% in relation to the SUDENE tax regime an amount of €6.5 million increased the income from deferred income taxes.

45. Expense categories

The presentation of the Consolidated Statement of Profit or Loss is based on the function of expenses. The following table shows a classification by expense category for 2021 and the previous year:

in € million	2021	2020
Changes in inventories, own work capitalised	(259.0)	19.3
Cost of materials	1,414.9	1,013.1
Personnel costs	547.6	575.6
Depreciation and amortisation charges	131.1	139.7
Write-down expenses	41.3	52.1
Other income	(41.2)	(32.4)
Other expenses	502.9	371.0
Total cost of sales, selling and marketing, administrative and restructuring expenses	**2,337.6**	**2,138.4**

Cost of materials includes expenses for raw materials and supplies and purchased goods of €1,189.4 million (2020: €827.9 million) as well as expenses for services received, especially energy, amounting to €225.5 million (2020: €185.2 million).

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.

46. Personnel costs

Personnel costs consist of the following components:

in € million	2021	2020
Wages and salaries	415.2	443.3
Pensions		
Defined benefit plans	4.4	5.1
Defined contribution plans	4.8	6.2
Termination benefits		
Defined benefit plans	1.2	1.7
Defined contribution plans	1.4	1.4
Other expenses	7.8	19.1
Social security costs	86.6	73.7
Fringe benefits	26.2	25.1
Personnel expenses (without interest expenses)	**547.6**	**575.6**

Personnel costs do not include amounts resulting from the interest accrued on personnel provisions. They amount to €4.6 million (2020: €6.0 million) and are recorded in other net financial expenses.

The expenses for wages and salaries include €6.2 million (2020: €-3.0 million) for share based payments.

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.

47. Cash generated from operations

in € million	2021	2020
Profit after income tax	249.7	27.6
Adjustments for		
income tax	39.4	14.0
depreciation	108.7	120.3
amortisation	22.4	19.4
write-down of property, plant and equipment and intangible assets	41.3	46.8
income from the reversal of investment subsidies	(0.9)	(0.6)
write-ups / impairment losses on securities	(0.2)	0.2
gains / losses from the disposal of property, plant and equipment	(6.3)	0.1
gains / losses from the disposal of subsidiaries	(5.2)	0.3
net interest expense and derivatives	24.4	36.0
result from joint ventures and associates	(100.2)	(7.6)
other non-cash changes	(12.7)	23.2
Changes in working capital		
inventories	(474.3)	64.2
trade receivables	(132.6)	35.9
contract assets	(1.6)	(0.1)
trade payables	314.8	(5.8)
contract liabilities	10.7	3.1
Changes in other assets and liabilities		
other receivables and assets	(56.9)	13.1
provisions	(49.0)	(4.1)
other liabilities	(24.8)	(19.4)
Cash (used in) / generated from operations	**(53.3)**	**366.6**

In 2021 cash generated from operations was negative due to the supply chain disruptions impacting the business, which resulted in increased working capital, especially in increased level of inventory of raw materials and finished goods. This is a non-recurring effect, as supply chains are expected to stabilise im 2022.

Other non-cash expenses and income include mainly the net interest expenses for defined benefit pension plans amounting to €4.6 million (2020: €6.1 million), net remeasurement gains of monetary foreign currency positions and derivative financial instruments of €6.4 million (2020: €-4.3 million), foreign exchange effects and the amortisation of Oberhausen provision (see Note 39).

Notes continued

48. 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	31.12.2020		Changes in foreign exchange rates	Reclass	Interest expense and other changes	Additions and modifications of leases (IFRS 16)	31.12.2021
Liabilities to financial institutions	1,105.6	390.1	15.0	0.0	23.4	0.0	1,534.1
Lease liabilities	56.8	(17.4)	1.6	0.0	1.1	13.4	55.5
Liabilities to fixed-term or puttable non-controlling interests	38.8	(1.3)	3.7	(8.8)	27.6	0.0	60.0
Other financial liabilities and capitalised transaction costs	8.9	(5.4)	0.3	0.0	1.2	0.0	5.0
Changes of financial liabilities and assets arising from financing activities	**1,210.1**	**366.0**	**20.6**	**(8.8)**	**53.3**	**13.4**	**1,654.6**

		Cash changes	Non-cash changes				
in € million	31.12.2019		Changes in foreign exchange rates	Disposal group IFRS 5	Interest expense and other changes	Additions and modifications of leases (IFRS 16)	31.12.2020
Liabilities to financial institutions	1,043.1	51.1	(15.1)	0.0	26.5	0.0	1,105.6
Lease liabilities	61.9	(17.1)	(6.7)	(9.6)	1.3	27.0	56.8
Liabilities to fixed-term or puttable non-controlling interests	35.8	(1.6)	(0.8)	0.0	5.4	0.0	38.8
Other financial liabilities and capitalised transaction costs	11.9	(2.6)	(1.7)	0.0	1.3	0.0	8.9
Changes of financial liabilities and assets arising from financing activities	**1,152.7**	**29.8**	**(24.3)**	**(9.6)**	**34.5**	**27.0**	**1,210.1**

The reconciliation of the cash impact of net financing in 2021 and 2020 is shown in the tables below:

2021		Reconciliation to cash net finance cost		
in € million	Profit or loss	financing cash movements	other cash and non-cash movements	Cash impact of net financing costs
Interest income	14.2	0.0	11.5	2.7
Interest expenses on borrowings	(20.7)	(4.4)	(4.4)	(20.7)
Net expense on foreign exchange effects and related derivatives	2.8	0.0	1.9	0.9
Other net financial expenses	(21.2)	(1.3)	(16.6)	(5.9)
Net finance costs	**(24.9)**			**(23.0)**

2020		Reconciliation to cash net finance cost		
in € million	Profit or loss	financing cash movements	other cash and non-cash movements	Cash impact of net financing costs
Interest income	5.9	0.0	(0.1)	6.0
Interest expenses on borrowings	(20.1)	(4.2)	(4.4)	(19.9)
Net expense on foreign exchange effects and related derivatives	(42.8)	0.0	(44.3)	1.5
Other net financial expenses	(29.7)	(3.1)	(22.2)	(10.6)
Net finance costs	**(86.7)**			**(23.0)**

Non cash-movements in interest income mainly consist of accrued interest on a tax benefit that was recognised as a result of a successful judicial proceeding against tax authorities in Brazil relating to revenue based taxes. Non-cash movements in other net financial expenses are mainly related to net interest expenses on personnel provisions and non-controlling interests as well as to expenses from the discount on provisions.

49. Total interest paid and interest received

Total interest paid amounts to €29.8 million in the reporting period (2020: €31.7 million), of which €0.0 million (2020: €1.0 million) is included in cash flow from operating activities, €3.2 million (2020: €0.2 million) in cash flow from investing activities and €26.6 million (2020: €30.5 million) in cash flow from financing activities.

Total interest received amounts to €2.7 million for the financial year 2021 (2020: €6.1 million), of which €0.0 million (2020: €0.2 million) are included in cash flow from operating activities and €2.7 million (2020: €5.9 million) in cash flow from investing activities.

OTHER DISCLOSURES

50. Segment reporting

Segment reporting by operating company division

The following tables show the financial information for the operating segments for the year 2021 and the previous year:

2021 in € million	Steel	Industrial	Group 2021
Revenue	**1,822.9**	**728.5**	**2,551.4**
Gross profit	**393.7**	**189.8**	**583.5**
EBIT			**213.8**
Net finance costs			(24.9)
Result from joint ventures and associates			100.2
Profit before income tax			**289.1**
Depreciation and amortisation charges	(93.1)	(38.0)	(131.1)
Segment assets 31.12.2021	2,146.3	724.2	2,870.5
Investments in joint ventures and associates 31.12.2021			5.7
Reconciliation to total assets			1,037.9
			3,914.1
Investments in property, plant and equipment and intangible assets (according to non-current assets statement)	196.0	83.5	279.5

2020 in € million	Steel[1]	Industrial[1]	Group 2020
Revenue	**1,569.9**	**689.1**	**2,259.0**
Gross profit	**367.8**	**182.3**	**550.1**
EBIT			**120.6**
Net finance costs			(86.7)
Result from joint ventures and associates			7.6
Profit before income tax			**41.5**
Depreciation and amortisation charges	(98.5)	(41.2)	(139.7)
Segment assets 31.12.2020	1,514.7	553.9	2,068.6
Investments in joint ventures and associates 31.12.2020			16.3
Reconciliation to total assets			967.8
			3,052.7
Investments in property, plant and equipment and intangible assets (according to non-current assets statement)	127.1	47.7	174.8

1) Adjusted to reflect the changes in presentation.

No single customer contributed 10% or more to consolidated revenue in 2021 and in 2020. Companies which are known to be part of a group are treated as one customer.

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 (e.g. full line service, contract business, cost per performance) 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 2021
Shaped products	842.7	518.9	1,361.6
Unshaped products	338.2	146.0	484.2
Management refractory services	575.0	0.0	575.0
Other	67.0	63.6	130.6
Revenue	**1,822.9**	**728.5**	**2,551.4**

In 2020, revenue was classified by product group as follows:

in € million	Steel[1]	Industrial[1]	Group 2020
Shaped products	738.5	484.3	1,222.8
Unshaped products	279.1	143.9	423.0
Management refractory services	481.2	0.0	481.2
Other	71.1	60.9	132.0
Revenue	**1,569.9**	**689.1**	**2,259.0**

1) Adjusted to reflect the changes in presentation.

Total revenue includes revenue from Solution Business amounting to €749.2 million (2020: €618.3 million). Thereof, €659.9 million (2020: €537.5 million) are attributable to Segment Steel and €89.3 million (2020: €80.8 million) are attributable to Segment Industrial. Solution Business is a customer classification, where RHI Magnesita sums up all customer relations in which we enable our customers to focus on their core competences. It is typically characterised by sales of end-to-end solutions covering large parts of the customer process chain. Examples of this would be CPP/FLS, but also customers where we focus on technological development of bespoke products or where we are a strategic partner.

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 €48.0 million (2020: €55.2 million) is transferred over time and an amount of €82.6 million (2020: €76.8 million) is transferred at a point of time.

Segment reporting by country

Revenue in 2021 is classified by customer sites as follows:

in € million	Steel	Industrial	Group
Netherlands	6.0	2.2	8.2
All other countries			
USA	364.1	52.7	416.8
India	221.3	34.1	255.4
Brazil	191.5	60.5	252.0
PR China	73.8	127.4	201.2
Mexico	89.1	40.7	129.8
Germany	78.9	45.6	124.5
Italy	73.8	23.6	97.4
Canada	45.8	41.5	87.3
Russia	52.7	21.6	74.3
Other countries, each below €44.3 million	625.9	278.6	904.5
Revenue	**1,822.9**	**728.5**	**2,551.4**

Revenue in 2020 is classified by customer sites as follows:

in € million	Steel[1]	Industrial[1]	Group
Netherlands	6.3	6.0	12.3
All other countries			
USA	323.8	60.5	384.3
Brazil	173.8	56.3	230.1
India	161.7	25.9	187.6
PR China	67.2	99.9	167.1
Mexico	82.6	31.4	114.0
Germany	68.4	45.2	113.6
Italy	61.5	24.5	86.0
Russia	59.5	17.9	77.4
Canada	39.5	35.5	75.0
Other countries, each below €55.6 million	525.6	286.0	811.6
Revenue	**1,569.9**	**689.1**	**2,259.0**

1) Adjusted to reflect the changes in presentation.

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	31.12.2021	31.12.2020
Brazil	396.5	338.2
Austria	331.4	259.4
USA	229.3	220.5
PR China	161.8	177.4
Germany	149.9	139.6
India	71.0	61.6
Mexico	35.7	34.9
France	32.9	27.5
Turkey	27.8	28.5
Other countries, each below €16.8 million (31.12.2020: €15.9 million)	50.4	47.5
Goodwill, intangible assets and property, plant and equipment	**1,486.7**	**1,335.1**

51. 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.

	2021	2020
Profit after income tax attributable to the owners of the parent (in € million)	243.1	24.8
Weighted average number of shares for basic EPS	47,629,647	49,075,426
Effects of dilution from share options	519,546	363,519
Weighted average number of shares for dilutive EPS	48,149,193	49,438,945
Earnings per share basic (in €)	**5.10**	**0.51**
Earnings per share diluted (in €)	**5.05**	**0.50**

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 2021, there are 554,238 diluting options (31.12.2020: 363,519).

52. Dividend payments and proposed dividend

The proposed dividend is subject to the approval of the Annual General Meeting on 25 May 2022 and was not recognised as a liability in the Consolidated Financial Statements 2021. Together with the already paid interim dividend of €0.50 per share in September, the final proposed dividend for 2021 will amount to €1.00 per share (2020:€1.50 per share).

In line with the Group's dividend policy the Board paid out an interim dividend in September 2021 of €0.50 per share for the first half of 2021 amounting to €24 million.

Based on a resolution adopted by the Annual General Meeting of RHI Magnesita N.V. on 10 June 2021 the final dividend amounted to €1.00 per share for the shareholders of RHI Magnesita N.V for 2020. Together with the already paid interim dividend of €0.50 per share in December, the total dividend for 2020 amounted to €1.50 per share.

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

53. 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.

			31.12.2021		31.12.2020	
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	0.6	0.6	0.6	0.6
Marketable securities	FVPL	1	13.2	13.2	13.0	13.0
Shares	FVPL	3	0.5	0.5	0.5	0.5
Other non-current financial receivables	AC	-	0.3	-	0.4	-
Trade and other current receivables	AC	-	414.4	-	255.6	-
Other current financial assets						
Derivatives	FVPL	2	2.5	2.5	0.3	0.3
Other current financial receivables	AC	-	0.4	-	0.0	0.0
Cash and cash equivalents	AC	-	580.8	-	587.2	-
Financial assets			**1,012.7**		**857.6**	
Non-current and current borrowings						
Liabilities to financial institutions	AC	2	1,534.1	1,551.6	1,105.6	1,118.3
Other financial liabilities and capitalised transaction costs	AC	2	5.0	-	8.9	-
Non-current and current other financial liabilities						
Lease liabilities	AC	2	55.5	-	56.8	-
Derivatives	FVPL	2	0.1	0.1	3.4	3.4
Interest derivatives designated as cash flow hedges	-	2	9.6	9.6	18.3	18.3
Liabilities to fixed-term or puttable non-controlling interests[2)4)]	AC	2/3	60.0	60.0	38.8	38.8
Power supply contract Norway[3)]	AC	2	0.0	0.0	15.5	15.5
Trade payables and other current liabilities	AC	-	688.5	-	337.6	-
Financial liabilities			**2,352.8**		**1,584.9**	
Aggregated according to measurement category						
Financial assets measured at FVPL			16.8		14.4	
Financial assets measured at amortised cost			995.5		843.2	
Financial liabilities measured at amortised cost			2,343.1		1,563.2	
Financial liabilities measured at FVPL			0.1		3.4	

1) FVPL: Financial assets/financial liabilities measured at fair value through profit or loss.
AC: Financial assets/financial liabilities measured at amortised cost.
2) Reclassification of puttable non-controlling interests amounting to €8.8m to non-controlling interest within equity upon completion of the merger of the Indian entities, see Note (5).
3) Relating to the termination of the power supply contract in the course of the sale of NORMAG; termination fee paid in January 2021.
4) Including the put option of the newly founded RHIMNGG amounting to €23.4 million, see Note (5).

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 if 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 short-term power supply contract. These derivatives are measured using quoted forward rates that are currently observable (Level 2).

RHI Magnesita takes into account reclassifications in the measurement hierarchy at the end of the reporting period in which the changes occur. Other than those 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 disclosed 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 carrying amount of other financial liabilities approximate their fair value at the reporting date. Puttable non-controlling interests in the amount of €8.8 million have been reclassified to non-controlling interest within equity upon completion of the merger of the Indian entities. Further information is provided under Note (5). In December 2021, RHI Magnesita recognised a put option liability related to the newly founded group company RHIMNGG in China (see Note 5), amounting to €23.4 million. The fair value is based on the present value of performance-related contractual cashflows with a maturity in 2031. The principal valuation parameters are deemed to be non-observable (Level 3). Other liabilities to fixed-term or puttable non-controlling interests are valued at Level 2 of the fair value hierarchy.

The carrying amounts of financial receivables approximately correspond to their 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.

Trade and other current receivables and liabilities as well as cash and cash equivalents are predominantly short-term. Therefore, the carrying amounts of these items approximate fair value at the reporting date.

No contractual netting agreement of financial assets and liabilities were in place as at 31 December 2021 and 31 December 2020.

Net results by measurement category in accordance with IFRS 9

The effect of financial instruments on the income and expenses recognised in 2021 and 2020 is shown in the following table, classified according to the measurement categories defined in IFRS 9:

in € million	2021	2020
Net loss from financial assets and liabilities measured at fair value through profit or loss	7.2	(4.9)
Net loss from financial assets and liabilities measured at amortised cost	(20.9)	(73.9)

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 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 €14.2 million (2020: €5.9 million) and interest expenses of €33.0 million (2020: €32.6 million), which result from financial assets and liabilities which are not carried at fair value through profit or loss.

54. Derivative financial instruments

Commodity forward

RHI Magnesita Group terminated its energy supply contract following the closure of the fused magnesia plant in Porsgrunn, Norway. The original contract term was December 2023 and the settlement payment amounts to €24.0 million. The first payment installment was made in July 2020 (€8.5 million), the second in January 2021 (€15.5 million). Since 2015 this energy supply contract had been accounted for as a derivative financial instrument in accordance with IFRS 9, as the "own-use-exemption" was no longer applicable as the majority of the contracted electricity was sold on the market. From 30 June 2020 onward until final settlement, measurement of this financial instrument was based on the settlement payment and recognised as other financial liability.

In addition, Magnesita Refratários S.A., Contagem, Brazil signed a commodity forward contract for electricity in January 2012 which is accounted for as a financial instrument in accordance with IFRS 9 since 1 January 2020 as the "own-use exemption" no longer applied. The term of the contract expired in the fourth quarter of 2021 and the corresponding financial liability has been reduced to €0.0 million (31.12.2020: €1.6 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 Group has established a hedge ratio of 1:1 and the cash flow changes of the underlying 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. Potential hedge ineffectiveness could arise out of the credit value/debit value adjustment on the interest rate swaps which is not matched by the loan or out of differences in critical terms between the interest rate swaps and the loans. Credit risk may affect hedge effectiveness, however this risk is assessed to be very low at RHI Magnesita as only first class international banks are involved.

In the year 2018, RHI Magnesita concluded an amortising interest rate swap with a nominal volume of €305.6 million maturing in 2023. As of December 2021, the outstanding amount of the interest rate swap was €259.7 million (31.12.2020: €290.3 million). The interest and compensation payments are due on a quarterly basis. Fixed interest rate amounts to 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 3.1%, the variable interest rate is based on the USD LIBOR. In December 2021, RHI Magnesita hedged two of the floating tranches from the issued €250.0 million bonded loans ("Schuldscheindarlehen"). One interest rate swap amounting to €97.5 million maturing in 2027 was fixed at 0.38%, the other interest rate swap amounting to €12.0 million maturing in 2028 was fixed at 0.48%. The interest and compensation payments for both swaps are due on a half-year basis.

The fair values of the interest rate swaps totalled €-9.6 million at the reporting date (31.12.2020: €-18.3 million) and are shown in other non-current financial liabilities in the Consolidated Statement of Financial Position. For the reporting period 2021, €8.7 million (2020: €-3.6 million) have been recognised in other comprehensive income and an income amounting to €0.0 million (2020: €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 or loss.

The financial effect of the hedged item and the hedging instrument for the period 2021 and 2020 is shown as follows:

in € million	Carrying amount	Statement of Financial Position	Change in fair value used for measuring ineffectiveness	Nominal amount
2021	(9.6)	Other non-current financial liabilities	8.7	USD 200 million EUR 369.2 million
2020	(18.3)	Other non-current financial liabilities	(3.6)	USD 200 million EUR 290.3 million

in € million	Change in fair value used for measuring ineffectiveness	Change in fair value used to measure ineffetiveness net of deferred tax
2021	8.7	6.6
2020	(3.6)	(2.7)

Forward exchange contracts

A forward exchange contract was put into place as of 31 December 2020, selling USD 100.0 million against EUR. As of 31 December 2021 there is no USD/EUR forward exchange contract outstanding.

In addition, a forward exchange contract was put into place as of 30 June 2021 selling BRL 100.0 million against USD. The instrument has been rolled on a monthly basis, with a forward exchange contract in place as of 31 December 2021, in the amount of BRL 80.0 million, selling BRL against USD. Forward exchange contracts are renewed and rolled on a monthly basis depending on the current next exposure to the currency pairs.

The nominal value and fair value of forward exchange contracts as of 31 December 2021 are shown in the table below:

				31.12.2021
Purchase	Sale		Nominal value in million	Fair value in € million
USD	BRL	BRL	80.0	0.1
EUR	USD	USD	0.0	0.0
Forward exchange contracts				**0.1**

The nominal value and fair value of forward exchange contracts as of 31 December 2020 are shown in the table below:

				31.12.2020
Purchase	Sale		Nominal value in million	Fair value in € million
EUR	USD	USD	100.0	0.3
Forward exchange contracts				**0.3**

55. 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 €1,012.7 million (31.12.2020: €842.2 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	31.12.2021	31.12.2020
Segment Steel	300.4	183.3
Segment Industrial	103.3	71.0
Trade receivables	**403.7**	**254.3**
Credit insurance and bank guarantees	(206.2)	(83.2)
Net credit exposure	**197.5**	**171.1**

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	31.12.2021	31.12.2020
US Dollar	59.9	39.8
Euro	6.1	7.2
Pound Sterling	2.7	6.8
Other currencies	2.3	3.7
Other functional currencies	332.7	196.8
Trade receivables	**403.7**	**254.3**

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.:

in € million	2021		2020	
	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	**30.0**	**0.6**	**32.3**	**1.3**
Currency translation	0.3	–	(1.6)	–
Addition	3.5	–	7.7	–
Use	(5.2)	–	(6.3)	–
Reversal	(5.4)	–	(2.1)	–
Net remeasurement of loss allowance	0.0	–	0.0	(0.7)
Accumulated valuation allowance at year-end	**23.2**	**0.6**	**30.0**	**0.6**

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. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due.

in € million	Trade receivables – days past due						
31.12.2021	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 %	0.03-0.37%	0.06-0.86%	0.25-8.09%	0.52-17.84%	0.91-27.98%	3.01-50.55%	
Gross carrying amount	351.9	26.3	4.6	2.2	1.7	(1.3)	385.4
Life time expected credit loss	(0.4)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(1.0)

in € million	Trade receivables – days past due						
31.12.2020	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 %	0.02-0.53%	0.03-1.23%	0.08-9.46%	0.15-18.77%	0.26-26.25%	0.91-55.39%	
Gross carrying amount	222.8	13.3	2.80	1.30	2.00	0.2	242.4
Life time expected credit loss	0.30	0.04	0.02	0.03	0.05	0.20	0.6

Climate-related events or adverse changes in climate-related legislature could potentially affect the creditworthiness of customers, e.g. due to business interruption or lower profitability. RHI Magnesita has incorporated these considerations when incorporating forward-looking information into the expected credit loss estimation, and assessed that such events would have an immaterial impact on the estimated loss rates.

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 2021, RHI Magnesita has a committed Revolving Credit Facility (RCF) of €600.0 million, which was fully unutilised (31.12.2020: committed RCF was €600.0 million and was also unutilised). The €600.0 million committed RCF is a syndicated facility with multiple international banks and matures in 2027. The liquidity of the subsidiaries of the RHI Magnesita Group is managed regionally, continued access to liquidity and optimised cash levels is ensured by Corporate Treasury, which supports business needs and lowers borrowing costs.

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:

in € million	Carrying amount 31.12.2021	Cash outflows	Remaining term up to 1 year	Remaining term 2 to 5 years	Remaining term over 5 years
Liabilities to financial institutions					
fixed interest	534.0	551.4	69.9	337.3	144.2
variable interest	1,000.1	1,022.9	154.3	706.7	161.9
Other financial liabilities and capitalised transaction costs	5.0	5.4	2.3	3.0	0.1
Lease liabilities	55.5	59.9	16.9	29.7	13.3
Liabilities to fixed-term or puttable non-controlling interests	60.0	197.9	3.0	20.0	174.9
Trade payables and other current liabilities	688.5	688.5	688.5	0.0	0.0
Non-derivative financial liabilities	**2,343.1**	**2,526.0**	**934.9**	**1096.7**	**494.4**

in € million	Carrying amount 31.12.2020	Cash outflows	Remaining term up to 1 year	Remaining term 2 to 5 years	Remaining term over 5 years
Liabilities to financial institutions					
fixed interest	135.0	144.7	2.7	106.2	35.8
variable interest	970.6	994.2	131.2	594.3	268.7
Other financial liabilities and capitalised transaction costs	8.9	11.3	4.4	6.9	0.0
Lease liabilities	56.8	61.8	14.2	32.3	15.3
Liabilities to fixed-term or puttable non-controlling interests	38.8	170.2	12.9	11.9	145.4
Power supply contract Norway	15.5	15.5	15.5	0.0	0.0
Trade payables and other current liabilities	337.6	337.6	337.6	0.0	0.0
Non-derivative financial liabilities	**1,563.2**	**1,735.3**	**518.5**	**751.6**	**465.2**

Derivative financial instruments

The remaining terms of derivative financial instruments based on expected undiscounted cash flow as of 31 December 2021 and 31 December 2020 are shown in the table below:

in € million	Carrying amount 31.12.2021	Cash flows	Remaining term up to 1 year	Remaining term 2 to 5 years	Remaining term over 5 years
Receivables from derivatives with net settlement					
Forward exchange contracts	0.1	0.1	0.1	0.0	0.0
Derivatives in open orders	2.4	2.4	2.4	0.0	0.0
Liabilities from derivatives with net settlement					
Interest rate swaps	9.6	12.5	7.5	4.9	0.1
Derivatives in open orders	0.1	0.1	0.1	0.0	0.0

in € million	Carrying amount 31.12.2020	Cash flows	Remaining term up to 1 year	Remaining term 2 to 5 years	Remaining term over 5 years
Receivables from derivatives with net settlement					
Forward exchange contracts	0.3	0.3	0.3	0.0	0.0
Liabilities from derivatives with net settlement					
Derivatives from supply contracts	1.6	1.6	1.6	0.0	0.0
Interest rate swaps	18.3	9.6	4.7	4.9	0.0
Derivatives in open orders	1.8	1.8	1.8	0.0	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 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 2021:

in € million	USD	EUR	GBP	INR	Other	Total
Financial assets	654.7	56.0	14.5	30.3	68.4	823.9
Financial liabilities, provisions	(622.9)	(72.8)	(14.2)	(0.4)	(17.6)	(727.9)
Net foreign currency position	**31.8**	**(16.8)**	**0.3**	**29.9**	**50.8**	**96.0**

The foreign currency positions as of 31 December 2020 are structured as follows:

in € million	USD	EUR	GBP	INR	Other	Total
Financial assets	663.6	72.6	21.8	9.4	40.6	808.0
Financial liabilities, provisions	(358.1)	(98.2)	3.5	0.0	(32.9)	(485.7)
Net foreign currency position	**305.5**	**(25.6)**	**25.3**	**9.4**	**7.7**	**322.3**

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 2021 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	(19.1)	(8.6)	23.3	10.6
Euro	1.8	6.3	(2.1)	(7.7)
Indian Rupee	(2.7)	(2.7)	3.3	3.3
Other currencies	(4.0)	(4.0)	4.8	4.8

The hypothetical effect on profit or loss at 31 December 2020 can be summarised as follows:

	Appreciation of 10%		Devaluation of 10%	
in € million	Gain/(loss)	Equity	Gain/(loss)	Equity
US Dollar	(42.9)	(33.3)	52.4	40.7
Euro	2.0	12.0	(2.5)	(14.7)
British Pound Sterling	(2.0)	(2.0)	2.4	2.4
Indian Rupee	(0.9)	(0.9)	1.0	1.0
Other currencies	(0.7)	(0.7)	0.9	0.9

Net investment hedge
Non-current borrowings as of 31 December 2021 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 2021 and 2020 is shown as follows:

in € million	Carrying amount	Statement of Financial Position	Change in fair value used for measuring ineffectiveness	Nominal amount
2021	176.8	Non-current borrowings	(14.1)	USD 200 million
2020	162.6	Non-current borrowings	15.8	USD 200 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 2021 and 2020 is shown as follows:

in € million	Change in fair value used for measuring ineffectiveness	Change in fair value used to measure ineffetiveness net of deferred tax
2021	14.1	(10.6)
2020	(15.8)	(11.9)

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 2021, interest rate hedges amounting to a nominal value of €369.2 million (31.12.2020: €290.3 million) and a nominal value of USD 200.0 million (31.12.2020: USD 200.0 million) existed. In all cases, a variable interest rate was converted into a fixed interest rate through interest rate swaps. Further information is provided under Note (54).

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 cash flow hedges to protect against interest rate-related payment fluctuations are considered with hedge accounting have an effect on equity and are therefore included in the equity-related sensitivity analysis. If the market interest rate as of 31 December 2021 had been 25 basis points higher or lower, equity would have been €1.1 million (31.12.2020: €1.9 million) higher or lower considering 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 2021 had been 25 basis points higher or lower, the interest result would have been €0.3 million (31.12.2020: €0.1 million) lower or higher.

Other market price risk
RHI Magnesita holds certificates in an investment fund amounting to €13.2 million (31.12.2020: €13.0 million) to provide the legally required coverage 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.

56. 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:

	31.12.2021	31.12.2020
Net debt (in € million)	1,013.8	582.1
Net gearing ratio (in %)	123.3%	87.4%
Net debt to adjusted EBITDA	2.61x	1.53x

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	31.12.2021	31.12.2020
EBIT	213.8	120.6
Amortisation	22.4	19.4
Restructuring and write-down expenses	58.8	113.8
Other operating income and expenses	(14.6)	6.5
Adjusted EBITA	**280.4**	**260.3**
Depreciation	108.7	120.3
Adjusted EBITDA	**389.1**	**380.6**
Total debt	1,539.1	1,114.5
Lease liabilities	55.5	56.8
Cash and cash equivalents [1]	580.8	589.2
Net debt	**1,013.8**	**582.1**
Net debt excluding IFRS 16 lease liabilities	**958.3**	**525.3**
Net debt to adjusted EBITDA	**2.61x**	**1.53x**
Net debt to adjusted EBITDA excluding IFRS 16 lease liabilities	**2.46x**	**1.38x**

1) thereof shown under assets held for sale € 2.0 million in 2020.

In both 2021 and 2020, 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.

57. Contingent liabilities

At 31 December 2021, warranties, performance guarantees and other guarantees amount to €52.5 million (31.12.2020: €48.0 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 €0.2 million (31.12.2020: €0.3 million) were recorded, of which €0.2 million (31.12.2020: €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 2021 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 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 judgements are based on a likely outcome approach based on in-house tax experts, professional firms, and previous experiences when assessing the risks.

The Group is party to several tax proceedings in Brazil which involve estimated contingent liabilities amounting to €200.8 million (31.12.2020: €169.1 million). These tax proceedings are as follows:

There are three proceedings in which Brazilian Federal Tax Authorities issued tax assessments rejecting the amortization of goodwill generated in two corporate operations executed between 2007 and 2008, which can be deducted for purposes of Corporate Income Taxes according to Brazilian laws and regulations. The first group of operations analysed involved the acquisition of shares of Magnesita S.A. by the GP Investment Group. The second group of operations analysed was the acquisition of companies outside of Brazil by the Group, whose control was then held by the Rhône Group. The Tax Authorities considered that the Group did not observe the formal and material requirements for the goodwill tax deductions, while the Group presented defenses in all proceedings claiming all requirements were met. The three proceedings are divided as follows:

- Proceeding 1 (31.12.2021: €61.2 million; 31.12.2020: €59.3 million) comprises the deductions executed in 2008 and 2009 and is currently under trial in the Federal Administrative Council of Tax Appeals ("CARF"). The latest decision issued cancelled more than 90% of the tax assessment but is still subject to appeals filed by both the Group and the General Counsel to the National Treasury ("PGFN"). The final ruling for this proceeding is expected within one to two years. After the administrative trial ends, the Group may still challenge any residual charges before Judicial courts according to its convenience.

- Proceeding 2 (31.12.2021: €40.6 million; 31.12.2020: €38.8 million) comprises the deductions executed in 2013, 2014, 2015, 2016, 2017 and 2018 and is currently under trial in CARF. The first CARF decision is expected within one to two years. After the administrative trial ends, the Group may still challenge any residual charges before Judicial courts according to its convenience.

- Proceeding 3 (31.12.2021: €28.8 million; 31.12.2020: €27.7 million) comprises the deductions executed in 2011 and 2012 and is currently under trial in CARF. The latest decision issued cancelled 100% of the tax assessment but is still subject to appeals filed by both the Group and PGFN. The final ruling for this proceeding is expected within two to three years. After the administrative trial ends, the Group may still challenge any residual charges before Judicial courts according to its convenience.

The Group is party to 42 proceedings where the Brazilian Mining Authorities ("ANM") challenge the criteria used for calculating and paying the Financial Compensation for Exploration of Mineral Resources ("CFEM"), which are mining royalties paid to the Brazilian Federal Government by every mining company. In essence, the Authorities claim that CFEM should be paid based on production costs incurred in a later stage of the mineral processing flow, while the Group defends that CFEM should be paid based on production costs incurred in a prior stage of the mineral processing flow. Based on the opinion of its technical and legal advisors, the Group has presented defenses against all assessments sent by ANM, and most of the procedures are still ongoing within ANM administrative courts. Final decisions of the first cases are expected within four to five years. As of 31 December 2021, the potential risk amounts to €23.6 million, including interest and penalties (31.12.2020: €10.6 million).

Furthermore, Brazilian Tax Authorities issued tax assessments against former Brazilian companies that were merged into Magnesita Refratários S.A., named Partimag and Edelweis. The assessments relate to the offsetting of federal tax credits and debts performed by such companies up to and including 2008, which have not been approved by Tax Authorities. Legal opinions demonstrate that the offsets executed are solidly based on supporting documentation and therefore the Group presented administrative and judicial defenses against the assessments in 17 procedures. The first final decisions are expected within three to four years. As of 31 December 2021, the potential risk amounts to €5.1 million, including interests and penalties (31.12.2020: €9.5 million).

In 2020, the Group received a tax assessment in which Brazilian Federal Tax Authorities claim that Social Security Taxes ("PIS/COFINS") were not correctly calculated in years 2017 and 2018. Authorities have stated that some financial revenues were not taxed and that some tax credits which were offset were not allowed. The Group presented its defense and currently the proceeding awaits trial in the first instance court of the Federal Revenue Service ("RFB"). A final decision is expected within four to five years. As of 31 December 2021, the potential risk amounts to €3.9 million, including interest and penalties (31.12.2020: €3.8 million).

In 2020, Brazilian Federal Tax Authorities sent a tax assessment to the Group stating that some financial revenues were not taxed in year 2016 when an entity of the Group altered its tax regime for financial revenues from a cash to an accrual-based regime. Based on opinion of its legal advisor, the Group presented defenses claiming the assessment was void and that the calculations of the authorities were wrong and currently the proceeding awaits trial in the first instance court of the Federal Revenue Service ("RFB"). A final decision is expected within four to five years. As of 31 December 2021, the potential risk amounts to €3.8 million, including interest and penalties.

In 2013, Brazilian Federal Tax Authorities raised a tax assessment affirming that the Group allegedly failed to pay Social Security Contributions ("INSS") in the period from January to December 2009. Such contributions are calculated based on certain amounts that are included in the payroll of companies in Brazil and the authorities claimed that some values paid to employees were unduly not taxed. Legal opinions demonstrate that the Group has grounds for reversing the assessment. In 2021 the administrative proceeding ended, and a minor part of the assessment cancelled, therefore the Group has decided to continue challenging the assessment before Judicial courts. The final decision is expected within five to six years. As of 31 December 2021, the potential risk amounts to €3.7 million, including interest and penalties (31.12.2020: €3.1 million).

In 2019, Brazilian Federal Tax Authorities rejected the offsetting of some federal tax debts with Corporate Income Tax credits the Group was entitled to in year 2015. Authorities claimed the credits were non-existent or did not comply with the formal requirements set for in Brazilian laws and regulations which allowed their utilisation. Legal opinions demonstrate that the Group and the tax credits are based on solid legal and material grounds. Therefore, the Company presented its defense and currently the proceeding awaits trial in the first instance court of the Federal Revenue Service ("RFB"). As of 31 December 2021, the potential risk amounts to €2.6 million, including interest and penalties (31.12.2020: €2.5 million).

Group entities in Brazil are also involved in other minor lawsuits totaling €27.5 million (31.12.2020: €23.3 million) which relate to several assessments concerning various taxes and related obligations.

Furthermore, Magnesita Refratários S.A., Contagem, Brazil, is party to a public civil action for damages allegedly 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. In 2021, a judgement was rendered by the Federal Regional Court, in favor of Magnesita, maintaining the understanding that the requests of the Federal Public Attorney's Office are devoid of legal merit. The final decision is expected in 5 years. The potential loss from this proceeding amounts to €11.6 million as of 31 December 2021 (31.12.2020: €10.6 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.

58. Other financial commitments

Capital commitments amount to €35.5 million as at 31 December 2021 (31.12.2020: €49.5 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 €410.8 million at the reporting date (31.12.2020: €219.2 million). The increase in other financial commitments in the current financial year compared to the previous year mainly results from energy supply contracts concluded or prolonged in 2021 as well as from increases in raw material and energy prices. The remaining terms of the contracts amount to up to four 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.

59. Expenses for the Group independent auditor

The expensed fees for the activities of the Group independent auditor 'PricewaterhouseCoopers Accountants N.V.' that are included in the Consolidated Statement of Profit or Loss are shown in the following table:

in € million	2021	2020
Audit of the Financial Statements	2.8	2.6
thereof invoiced by PwC Accountants N.V.	1.2	1.2
thereof invoiced by PwC network firms	1.6	1.4
Tax compliance services	0.0	0.0
Other non-audit services	0.0	0.1
Total fees	**2.8**	**2.7**

In 2021, other audit related services, tax compliance services and other non-audit services amounting to €0.0 million (2020: €0.1 million) were performed and invoiced by PwC network firms outside of the Netherlands.

The expensed fees for the audited financial statements in 2021 and 2020 include the half year review procedures.

60. Annual average number of employees

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

	2021	2020
Salaried employees	5,720	4,733
Waged workers	6,564	7,831
Number of employees on annual average	**12,284**	**12,564**

108 full time equivalents of salaried employees work in the Netherlands. In 2020 98 full time equivalents of salaried employees worked in the Netherlands.

61. 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 24.9, the personnel welfare foundation of Stopinc AG, Hünenberg, Switzerland, and Chestnut Beteiligungs GmbH, Germany also have to be considered related companies.

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.

Related companies

In 2021 and 2020, the Group conducted the following transaction with its related companies:

	Joint ventures		Associates		Non-consolidated subsidiaries	
in € million	2021	2020	2021	2020	2021	2020
Revenue from the sale of goods and services	1.0	2.7	0.0	0.0	0.0	0.0
Purchase of raw materials	5.0	2.7	14.4	14.6	0.0	0.1
Interest income	0.1	0.1	0.2	0.8	0.0	0.0
Trade and other receivables	0.0	0.2	0.0	0.0	0.3	0.2
Loans granted	0.0	0.0	0.8	0.8	0.0	0.0
Trade liabilities	0.0	0.3	1.3	0.9	0.7	0.7
Dividends received	6.8	10.9	0.0	0.0	0.0	0.0

In 2021 and 2020, 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 2021 and 2020, 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 (31.12.2020: €0.8 million) from a loan agreement with Sinterco. The balances at the end of 2021 are unsecured and will be paid in cash.

In 2021 and 2020, no transactions were carried out between the RHI Magnesita Group and MSP Foundation and Chestnut Beteiligungs GmbH, 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 (27). At 31 December 2021, no current accounts receivable existed (31.12.2020: €0.0 million). In the past reporting period, employer contributions amounting to €0.6 million (2020: €0.6 million) were made to the personnel welfare foundation. At 31 December 2021 a net defined benefit liability of €0.8 million (31.12.2020: €0.9 million) is recognised.

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 2021, 2020, 2019 and in 2018 as well as the former Management Board and Supervisory Board of RHI AG until October 2017.

For the financial year 2021, expenses for the remuneration of the Executive Directors and EMT members, active in 2021, recognised in the Consolidated Statement of Profit or Loss total €10.4 million (2020: €9.8 million). The expenses, not including non-wage labour costs, amount to €9.4 million (2020: €9.1 million), of which €5.5 million (2020: €7.7 million) were related to current benefits (fixed, variable and other earnings) and €3.9 million (2020: €1.4 million) to share-based remuneration. At 31 December 2021, liabilities for performance-linked variable earnings and share-based payments for active members of the former Management Board of €1.1 million (2020: €2.5 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 program was terminated after RHI AG merged with and into RHI Magnesita N.V and the provisioned amount was paid in 2021 (€1.0 million paid in 2020).

For Non-Executive Directors, remuneration totalling €1.2 million (2020: €1.1 million) was recognised through profit or loss in the year 2021. The compensation paid to the Non-Executive Directors 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 expenses of €0.4 million (2020: €0.2 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.

Share Dealing reports of persons discharging managerial responsibilities are published on the websites of RHI Magnesita N.V. and via regulatory news services. 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 121 of the Annual Report of the RHI Magnesita Group.

Earnings of former members of the former Management Board amounted to €0.6 million (2020: €0.7 million), of which €0.3 million (2020: €0.2 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 parties are conducted on an arm's-length basis and in accordance with normal business terms.

Until December 2020, Karl Sevelda held a 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 € 2.6 million in 2021 (2020: € 1.9 million). 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 currently operates three different share option awards, one applicable for the financial year 2021, 2020 and 2019 each. The plan for the financial year 2018 expired on 7 June 2021. None of the performance targets have been met and the awards have therefore lapsed. The amounts recognised in equity relating to market-related performance condition were not subsequently reversed.

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, except for members of the Executive Management Team who have a holding period of two years.

The number of options granted is approved by the Board in accordance with the Remuneration Policy, approved by the shareholders at the Annual General Meeting.

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 generally forfeited if the employee leaves the Group before the options vest.

	2021	2020
LTIP 2021	Number of options	Number of options
As at 1 January	0	0
Granted during the year	172,623	0
Exercised during the year	0	0
Forfeited during the year	(6,300)	0
As at 31 December	**166,323**	**0**
Vested and exercisable at 31 December	0	0

	2021	2020
LTIP 2020	Number of options	Number of options
As at 1 January	363,519	0
Granted during the year	12,158	370,014
Exercised during the year	0	0
Forfeited during the year	(5,139)	(6,495)
As at 31 December	**370,538**	**363,519**
Vested and exercisable at 31 December	0	0

Notes continued

LTIP 2019	2021 Number of options	2020 Number of options
As at 1 January	169,517	179,775
Granted during the year	6,445	4,797
Exercised during the year	0	0
Forfeited during the year	(1,688)	(15,055)
As at 31 December	**174,274**	**169,517**
Vested and exercisable at 31 December	0	0

The options outstanding at 31 December 2021 have a weighted-average contractual life of 1.9 years.

The outstanding share options for the LTIP 2019, which were granted on 19 August 2019, will expire on 20 August 2022. The fair value at grant date for the 188,856 options was €46.32. The outstanding share options for the LTIP 2020, which were granted on 8 April 2020, will expire on 9 April 2023. The fair value at grant date for the 370,014 options was €18.31. The outstanding share options for the LTIP 2021, which were granted on 15 March 2021, will expire on 16 March 2024. The fair value at grant date for the 167,037 options was €42.55.

The assessed fair value at grant date of options of the LTIP 2019 granted during the year ended 31 December 2021 was €47.18 per option. The assessed fair value at grant date of options of the LTIP 2020 granted during the year ended 31 December 2021 was €19.70 per option. The assessed fair value at grant date of options of the LTIP 2021 granted during the year ended 31 December 2021 was €44.31 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 inputs used in the measurement of the fair values at grant date of the equity-settled share-based payment plans for 2021, for 2020 and 2019 were as follows:

LTIP 2021 in € million	2021
Fair value at grant date	7.4
Expected volatility (weighted-average)	46.73%
Dividend yield	3.68%
Risk-free interest rate	0.41%

LTIP 2020 in € million	2021	2020
Fair value at grant date	7.3	6.6
Expected volatility (weighted-average)	41.75%	41.75%
Dividend yield	4.97%	4.97%
Risk-free interest rate	0.51%	0.51%

LTIP 2019 in € million	2021	2020
Fair value at grant date	8.2	8.3
Expected volatility (weighted-average)	30.36%	30.36%
Dividend yield	4.28%	4.28%
Risk-free interest rate	0.47%	0.47%

For LTIP 2019 none of the performance targets have been met and the awards are therefore expected to lapse. Amounts recognised in equity relating to market-related performance condition will not be subsequently reversed.

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.

Expenses for share based payments are disclosed in Note (46).

62. 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

John Ramsay

Janet Ashdown

David Schlaff

Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg

Fiona Paulus

Janice Brown

Karl Sevelda

Marie-Hélène Ametsreiter

Sigalia Heifetz

Wolfgang Ruttenstorfer

Employee Representative Directors

Karin Garcia

Martin Kowatsch

Michael Schwarz

63. Material events after the reporting date

RHI Magnesita has 63 staff based but no refractory production sites in Russia or Ukraine. Approximately 3.4% of Group revenues are from the CIS region in 2021. This business will be impacted by sanctions. Sanction escalation will be kept under close review to remain in full compliance. The main financial impact is estimated to come from higher energy costs.

After the reporting date on 31 December 2021, there were no events of special significance which may have a material effect on the financial position and performance of the RHI Magnesita Group.

Company Financial Statements of RHI Magnesita N.V.

Company Balance Sheet as at 31 December 2021

(before appropriation of result)

in € million	Note	31.12.2021	31.12.2020
ASSETS			
Non-current assets			
Property, plant and equipment		0.5	0.3
Non-current financial assets	(A)	644.8	480.6
Securities		0.5	0.5
Deferred tax assets		32.5	10.6
Total non-current assets		**678.3**	**492.0**
Current assets			
Receivables from group companies		138.1	165.8
Other current receivables		0.4	0.6
Cash and cash equivalents	(B)	0.6	3.5
Total current assets		**139.1**	**169.9**
Total assets		**817.4**	**661.9**
EQUITY AND LIABILITIES			
Equity			
Share capital	(C)	49.5	49.5
Additional paid-in capital	(D)	361.3	361.3
Legal and mandatory reserves	(E)	84.3	25.7
Other reserves		164.7	206.3
Treasury shares	(F)	(117.0)	(21.5)
Result for the period	(I)	243.1	24.8
Shareholders' Equity		**785.9**	**646.1**
Non-current liabilities			
Non-current liabilities	(G)	2.0	0.0
Current liabilities			
Other current liabilities	(H)	29.5	15.8
Total liabilities		**31.5**	**15.8**
Total equity and liabilities		**817.4**	**661.9**

Company Statement of Profit or Loss for the period 1 January 2021 to 31 December 2021

in € million	Note	2021	2020
General and administrative expenses	(J)	(25.5)	(18.6)
Result before taxation		**(25.5)**	**(18.6)**
Net financial result	(K)	0.1	0.4
Profit before income tax		**(25.4)**	**(18.2)**
Income tax		29.3	2.3
Net result from investments	(L)	239.2	40.7
Net result for the period	**(M)**	**243.1**	**24.8**

Notes

to the Company Financial Statements 2021

Movements in Shareholders' Equity

in € million	Share capital	Treasury shares	Additional paid-in capital	Legal and mandatory reserves: Cash flow hedges	Currency translation	Mandatory reserve	Other reserves: Retained earnings	Net result	Equity attributable to shareholders
31.12.2020	**49.5**	**(21.5)**	**361.3**	**(13.7)**	**(249.3)**	**288.7**	**206.3**	**24.8**	**646.1**
Appropriation of prior year result							24.8	(24.8)	–
Net result								243.1	243.1
Shares repurchased		(95.5)							(95.5)
Share-based expenses							6.2		6.2
Dividends							(71.2)		(71.2)
Net income / (expense) recognised directly in equity				6.6	52.0		(1.4)		57.2
31.12.2021	**49.5**	**(117.0)**	**361.3**	**(7.1)**	**(197.3)**	**288.7**	**164.7**	**243.1**	**785.9**

in € million	Share capital	Treasury shares	Additional paid-in capital	Legal and mandatory reserves: Cash flow hedges	Currency translation	Mandatory reserve	Other reserves: Retained earnings	Net result	Equity attributable to shareholders
31.12.2019	**49.5**	**(18.8)**	**361.3**	**(11.0)**	**(79.8)**	**288.7**	**95.0**	**139.0**	**823.9**
Appropriation of prior year result	–	–	–	–	–	–	139.0	(139.0)	–
Net result	–	–	–	–	–	–	–	24.8	24.8
Shares repurchased	–	(2.7)	–	–	–	–	–	–	(2.7)
Share-based expenses	–	–	–	–	–	–	(3.1)	–	(3.1)
Dividends	–	–	–	–	–	–	(24.6)	–	(24.6)
Net income / (expense) recognised directly in equity	–	–	–	(2.7)	(169.5)	–	–	–	(172.2)
31.12.2020	**49.5**	**(21.5)**	**361.3**	**(13.7)**	**(249.3)**	**288.7**	**206.3**	**24.8**	**646.1**

Notes
to the Company Financial Statements 2021

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.

Fiscal Unity
For corporate income tax and sales tax purposes, RHI Magnesita NV, Vienna Branch, acts as the head of a corporate tax group in Austria with the following companies:

- RHI Magnesita GmbH
- Veitscher Vertriebsgesellschaft GmbH
- "Veitsch-Radex" Vertriebgesellschaft GmbH
- Refractory Intellectual Property GmbH
- Veitsch-Radex GmbH
- Radex Vertriebsgesellschaft GmbH
- RHI Refractories Raw Material GmbH
- Lokalbahn Mixnitz-St. Erhard Aktien-Gesellschaft

Pursuant to the Collection of State Taxes Act, the Company and its subsidiaries are both severally and jointly liable for the tax payable of the combination.

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, see Note (7).

All income and expenses are settled through their intercompany (current) accounts.

Significant accounting policies
Non-current financial assets
Investments in Group companies in the Company Financial Statements are accounted for using the equity method.

Receivables from Group companies
Accounts receivable are measured at fair value and are subsequently measured at amortized cost, less allowance for credit losses. The carrying amount of the accounts receivable approximates the fair value.

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:

		31.12.2021	31.12.2020
Name and registered office of the company	Country of core activity	Share in %	Share in %
RHI Magnesita Deutschland AG, 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	0.0	100.0

As a result of the contribution of shares of RHI Magnesita Trading B.V. from RHI Magnesita N.V. to RHI Magnesita GmbH, the share in RHI Magnesita Trading B.V. was reduced to 0.0%.

The investments have developed as follows:

in € million	2021	2020
At beginning of year	480.6	815.3
Transactions with non-controlling interests without change of control	(21.7)	0.0
Capital contributions	70.0	0.0
Changes from currency translation and cash flow hedges	58.6	(172.1)
Changes from defined benefit plans	20.2	(0.2)
Equity settled transaction	(2.1)	(3.1)
Dividend distribution	(200.0)	(200.0)
Net result from investments	239.2	40.7
Balance at year-end	**644.8**	**480.6**

Notes

to the Company Financial Statements 2021

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):

		31.12.2021		31.12.2020	
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	52.	100.0	52.	100.0
3.	Baker Refractories Holding Company, Delaware, USA	39.	100.0	39.	100.0
4.	Baker Refractories I.C., Inc., Delaware, USA	3.	100.0	3.	100.0
5.	Baker Refractories, Las Vegas, USA	–	0.0	39.	100.0
6.	Betriebs- und Baugesellschaft mit beschränkter Haftung - Bebau, Wiesbaden, Germany	–	0.0	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	67.,103.	100.0	67.,101.	100.0
9.	Didier Vertriebsgesellschaft mbH, Wiesbaden, Germany	–	0.0	10.	100.0
10.	RHI Magnesita Deutschland AG, Wiesbaden, Germany	1.,52.	100.0	1.,52.	100.0
11.	Dutch Brasil Holding B.V., Arnhem, Netherlands	109.	100.0	107.	100.0
12.	Dutch MAS B.V., Arnhem, Netherlands	10.	100.0	10.	100.0
13.	Dutch US Holding B.V., Arnhem, Netherlands	109.	100.0	107.	100.0
14.	FE "VERA", Dnepropetrovsk, Ukraine	52.	100.0	52.	100.0
15.	Feuerfestwerk Bad Hönningen GmbH, Wiesbaden, Germany	114.	100.0	112.	100.0
16.	GIX International Limited, Dinnington, United Kingdom	115.	100.0	113.	100.0
17.	INDRESCO U.K. Ltd., Dinnington, United Kingdom	16.	100.0	16.	100.0
18.	Intermetal Engineers Private Limited, Mumbai, India	49.	99.9	49.	99.9
19.	INTERSTOP (Shanghai) Co., Ltd., Shanghai, PR China	–	0.0	106.	100.0
20.	Liaoning RHI Jinding Magnesia Co., Ltd., Dashiqiao City, PR China 1)	52.	83.3	52.	83.3
21.	LLC "RHI Wostok Service", Moscow, Russia	52.,70.	100.0	52.,70.	100.0
22.	LLC "RHI Wostok", Moscow, Russia	52.,70.	100.0	52.,70.	100.0
23.	Lokalbahn Mixnitz-St. Erhard Aktien-Gesellschaft, Vienna, Austria	94.	100.0	92.	100.0
24.	LWB Holding Company, Delaware, USA	53.	100.0	53.	100.0
25.	LWB Refractories Belgium S.A., Liège, Belgium	41.,114.	100.0	41.,112.	100.0
26.	LWB Refractories Beteiligungs GmbH & Co. KG, Wiesbaden, Germany	53.	100.0	32.,53.	100.0
27.	LWB Refractories Hagen GmbH, Wiesbaden, Germany	114.	100.0	112.	100.0
28.	LWB Refractories Holding France S.A.S., Valenciennes, France	114.	100.0	112.	100.0
29.	Magnesit Anonim Sirketi, Eskisehir, Turkey 2)	52.	100.0	52.	100.0
30.	Magnesita Asia Refractory Holding Ltd, Hong Kong, PR China	28.	100.0	28.	100.0
31.	Magnesita Finance S.A., Luxembourg, Luxembourg	11.	100.0	46.	100.0
32.	Magnesita Grundstücks-Beteiligungs GmbH, Wiesbaden, Germany	–	0.0	46.	100.0
33.	Magnesita International Limited, London, United Kingdom	46.	100.0	46.	100.0
34.	Magnesita Malta Finance Ltd., St. Julians, Malta	35.,114.	100.0	35.,112.	100.0
35.	Magnesita Malta Holding Ltd., St. Julians, Malta	41.,114.	100.0	41.,112.	100.0
36.	Magnesita Mineração S.A., Brumado, Brazil	46.	100.0	31.,46.	100.0
37.	Magnesita Refractories (Canada) Inc., Montreal, Canada	3.	100.0	3.	100.0
38.	Magnesita Refractories (Dalian) Co. Ltd., Dalian, PR China	31.	100.0	31.	100.0
39.	Magnesita Refractories Company, York, USA	24.	100.0	24.	100.0
40.	Magnesita Refractories Mexico S.A. de C.V., Monterrey, Mexico	3.,4.	100.0	3.,4.	100.0
41.	Magnesita Refractories GmbH, Wiesbaden, Germany	114.	100.0	112.	100.0
42.	Magnesita Refractories Ltd., Dinnington, United Kingdom	3.	100.0	3.	100.0
43.	Magnesita Refractories Middle East FZE, Dubai, United Arab Emirates	31.	100.0	31.	100.0
44.	Magnesita Refractories S.C.S., Valenciennes, France	28.,114.	100.0	28.,112.	100.0

		31.12.2021		31.12.2020	
Ser. no.	Name and registered office of the company	Share-holder	Share in %	Share-holder	Share in %
45.	Magnesita Refractories S.R.L., Milano, Italy	114.	100.0	112.	100.0
46.	Magnesita Refratários S.A., Contagem, Brazil	11.	100.0	11.	100.0
47.	Magnesita Resource (Anhui) Company. Ltd., Chizhou, PR China	71.	100.0	30.	100.0
48.	Mezubag AG, Freienbach, Switzerland	–	0.0	106.	100.0
49.	RHI Magnesita India Limited	11.,13.,115.	66.5	13.	66.5
50.	Premier Periclase Limited, Drogheda, Ireland	–	0.0	13.	100.0
51.	Producción RHI México, S. de R.L. de C.V., Ramos Arizpe, Mexico	87.,115.	100.0	85.,113.	100.0
52.	Radex Vertriebsgesellschaft m.b.H., Leoben, Austria	111.	100.0	109.	100.0
53.	Rearden G Holdings Eins GmbH, Wiesbaden, Germany	31.	100.0	31.	100.0
54.	Refractarios Argentinos S.A.I.C.M., San Nicolás, Argentina	11.,56.	100.0	46.,56.	100.0
55.	Refractarios Magnesita Chile S/A, Santiago, Chile	46.,54.	100.0	46.,54.	100.0
56.	Refractarios Magnesita Colombia S/A, Sogamoso, Colombia	11.	100.0	46.	100.0
57.	Refractarios Magnesita del Perú S.A.C., Lima, Peru	11.,56.	100.0	46.,56.	100.0
58.	Refractory Intellectual Property GmbH & Co KG, Vienna, Austria	59.,70.	100.0	59.,70.	100.0
59.	Refractory Intellectual Property GmbH, Vienna, Austria	70.	100.0	70.	100.0
60.	Reframec Manutenção e Montagens de Refratários S.A., Contagem, Brazil	46.	100.0	46.	100.0
61.	RHI Argentina S.R.L., Buenos Aires, Argentina	13.,115.	100.0	13.,113.	100.0
62.	RHI Canada Inc., Burlington, Canada	115.	100.0	113.	100.0
63.	RHI Chile S.A., Santiago, Chile	16.,115.	100.0	16.,113.	100.0
64.	RHI Clasil Private Limited, Mumbai India	–	0.0	113.	53.7
65.	RHI Dinaris GmbH, Wiesbaden, Germany	103.	100.0	101.	100.0
66.	RHI Finance A/S, Hellerup, Denmark	70.	100.0	70.	100.0
67.	RHI GLAS GmbH, Wiesbaden, Germany	103.	100.0	101.	100.0
68.	RHI India Private Limited, Navi Mumbai, India	–	0.0	11.,113.	100.0
69.	RHI ITALIA S.R.L., Brescia, Italy	70.	100.0	70.	100.0
70.	RHI Magnesita GmbH, Vienna, Austria	1.	100.0	1.	100.0
71.	RHI Magnesita China Ltd., Shanghai, China	52.	100.0	–	0.0
72.	RHI Magnesita (Chongqing) Refractory Materials Co., Ltd.	71.	51.0	–	0.0
73.	RHI Magnesita Distribution B.V., Rotterdam, Netherlands	74.	100.0	72.	100.0
74.	RHI Magnesita Trading B.V., Rotterdam, Netherlands	70.	100.0	1.	100.0
75.	RHI Magnesita Vietnam Company Limited, Ho Chi Minh City, Vietnam	85.	100.0	83.	100.0
76.	RHI Magnesita Services Europe Gerbstedt GmbH, Gerbstedt/Hübitz, Germany	77.	100.0	75.	100.0
77.	RHI Magnesita Services Europe GmbH, Kerpen, Germany	10.	100.0	10.	100.0
78.	RHI MARVO S.R.L., Ploiesti, Romania	52.,109.	100.0	52.,107.	100.0
79.	RHI Magnesita Properties MO, LLC, Missouri, USA	110.	100.0	108.	100.0
80.	RHI Normag AS, Porsgrunn, Norway	–	0.0	52.	100.0
81.	RHI Refractories (Dalian) Co., Ltd., Dalian, PR China	52.	100.0	52.	100.0
82.	RHI Refractories (Site Services) Ltd., Dinnington, United Kingdom	17.	100.0	17.	100.0
83.	RHI Refractories Africa (Pty) Ltd., Sandton, South Africa	52.,106.	100.0	52.,104.	100.0
84.	RHI Refractories Andino C.A., Puerto Ordaz, Venezuela	115.	100.0	113.	100.0
85.	RHI Refractories Asia Pacific Pte. Ltd., Singapore	70.	100.0	70.	100.0
86.	RHI Refractories Egypt LLC., Cairo, Egypt, i.l.	52.,109.	100.0	52.,107.	100.0
87.	RHI Refractories España, S.L., Oviedo, Spain	–	0.0	10.,12.	100.0
88.	RHI Refractories France SA, Valenciennes, France 3)	107.	100.0	105.	100.0

Ser. no.	Name and registered office of the company	31.12.2021 Share-holder	31.12.2021 Share in %	31.12.2020 Share-holder	31.12.2020 Share in %
89.	RHI Refractories Ibérica, S.L., Oviedo, Spain	107.	100.0	105.	100.0
90.	RHI Refractories Italiana s.r.l., Brescia, Italy	–	0.0	105.	100.0
91.	RHI Refractories Liaoning Co., Ltd., Bayuquan, PR China 1)	52.	66.0	52.	66.0
92.	RHI Refractories Mercosul Ltda., Sao Paulo, Brazil	109.,115.	100.0	107.,113.	100.0
93.	RHI Refractories Nord AB, Stockholm, Sweden	107.	100.0	105.	100.0
94.	RHI Refractories Raw Material GmbH, Vienna, Austria	1.,52.,70.	100.0	1.,52.,70.	100.0
95.	RHI Refractories Site Services GmbH, Wiesbaden, Germany	10.	100.0	10.	100.0
96.	RHI Refractories UK Limited, Bonnybridge, United Kingdom	10.	100.0	10.	100.0
97.	RHI Refratários Brasil Ltda, Contagem, Brazil; i.l.	13.,46.	100.0	13.,36.	100.0
98.	RHI Sales Europe West GmbH, Urmitz, Germany	10.,107.	100.0	10.,105.	100.0
99.	RHI Trading (Dalian) Co., Ltd., Dalian, PR China	52.	100.0	52.	100.0
100.	RHI Ukraina LLC, Dnepropetrovsk, Ukraine	52.,109.	100.0	52.,107.	100.0
101.	RHI United Offices America, S.A. de C.V., Monterrey, Mexico	74.,87.	100.0	85.,100.	100.0
102.	RHI Refractories España, S.L., Lugones, Spain	10.,12.	100.0	85.	100.0
103.	RHI Urmitz AG & Co. KG, Mülheim-Kärlich, Germany	10.,95.	100.0	9.,10.	100.0
104.	RHI US Ltd., Delaware, USA	13.	100.0	13.	100.0
105.	RHI-Refmex, S.A. de C.V., Ramos Arizpe, Mexico	87.,115.	100.0	85.,113.	100.0
106.	RHISA Employee Trust, Sandton, South Africa 4)	–	0.0	–	0.0
107.	SAPREF AG für feuerfestes Material, Basel, Switzerland	115.	100.0	113.	100.0
108.	RHI Magnesita Interstop AG, Hünenberg, Switzerland	10.,52.	100.0	10.,52.	100.0
109.	Veitscher Vertriebsgesellschaft m.b.H., Vienna, Austria	70.	100.0	70.	100.0
110.	Veitsch-Radex America LLC., Delaware, USA	104.	100.0	102.	100.0
111.	Veitsch-Radex GmbH & Co OG, Vienna, Austria	70.,112.	100.0	70.,110.	100.0
112.	Veitsch-Radex GmbH, Vienna, Austria	70.	100.0	70.	100.0
113.	Veitsch-Radex Vertriebsgesellschaft m.b.H., Vienna, Austria	70.	100.0	70.	100.0
114.	Vierte LWB Refractories Holding GmbH, Wiesbaden, Germany	26.,53.	100.0	26.,53.	100.0
115.	VRD Americas B.V., Arnhem, Netherlands	52.,70.	100.0	52.,70.	100.0
116.	Zimmermann & Jansen GmbH, Wiesbaden, Germany	10.	100.0	10.	100.0
	Subsidiaries not consolidated due to minor significance	.		.	
117.	Dr.-Ing. Petri & Co. Unterstützungsgesellschaft m.b.H., Wiesbaden, Germany	10.	100.0	10.	100.0
118.	Guapare S.A, Montevideo, Uruguay	–	0.0	46.	100.0
119.	Magnesita Refractories A.B., Stocksund, Sweden	114.	100.0	112.	100.0
120.	Magnesita Refractories PVT Ltd, Mumbai, India	53.,114.	100.0	53.,112.	100.0
121.	Magnesita Refractories S.A. (Pty) Ltd., Sandton, South Africa	41.	100.0	41.	100.0
122.	MAG-Tec Participações Ltda. Ltda., Contagem, Brazil; i.l.	46.	98.7	46.	98.7
123.	MMD Araçuaí Holding Ltda., São Paulo, Brazil	–	0.0	46.	100.0
124.	Refractarios Especiales Y Moliendas S.A., Buenos Aires, Argentina; i.l.	54.	100.0	54.	100.0
125.	Refractarios Magnesita Uruguay S/A, Montevideo, Uruguay	46.	100.0	46.	100.0
126.	RHI Réfractaires Algérie E.U.R.L., Sidi Amar, Algeria	86.	100.0	86.	100.0
	Equity-accounted joint ventures and associated companies	.		.	
127.	Chongqing Boliang Refractory Materials Co. Ltd, Chongqing, China	71.	51.0	–	0.0
128.	Magnesita Envoy Asia Ltd., Kaohsiung, Taiwan	3.	50.0	3.	50.0
129.	MAGNIFIN Magnesiaprodukte GmbH & Co KG, St. Jakob, Austria	–	0.0	52.,128.	50.0
130.	Sinterco S.A., Nameche, Belgium	53.	70.0	53.	70.0
	Other immaterial investments, measured at cost	.		.	
131.	MAGNIFIN Magnesiaprodukte GmbH, St. Jakob, Austria	–	0.0	52.	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 RHI Magnesita Deutschland 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. As at 31 December 2021, RHI Magnesita N.V.'s issued and fully paid-in share capital consists of 46,999,019 ordinary shares (31.12.2020: 49,008,955 ordinary shares). For additional information on treasury shares see (F).

(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 (55) 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 the course of the share buyback program which was initiated on 16 December 2020, completed on 13 April 2021, extended on 5 May 2021 and completed on 4 August 2021 the Company acquired additional 2,078,686 shares in treasury, Thereof 2,009,936 shares in treasury equalling €95.5 million in 2021 and 68,750 shares in treasury equalling €2.7 million in 2020.

Non-current liabilities
(G) Other non-current liabilities

in € million	31.12.2021	31.12.2020
Personnel provisions	1.7	0.0
Other non-current financial liabilities	0.3	0.0
Total non-current liabilities	**2.0**	**0.0**

Current liabilities
(H) Other current liabilities

in € million	31.12.2021	31.12.2020
Trade payables	1.6	1.0
Payables to group companies	21.5	9.4
Accrued liabilities	6.4	5.4
Total current liabilities	**29.5**	**15.8**

The 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.

Employee benefits

in € million	31.12.2021	31.12.2020
Wages and salaries	19.7	9.5
Social security charges	2.0	1.0
Pension contributions	0.5	0.4
Other employee costs	0.7	0.3
Total wages and salaries	**22.9**	**11.2**

(J) General and administrative expenses

in € million	31.12.2021	31.12.2020
External services/consulting expenses	2.6	3.7
Cost for principal services Austria	(3.0)	2.2
Personnel expenses	22.9	11.2
Other expenses	3.0	1.5
Total general and administrative expenses	**25.5**	**18.6**

(K) Net financial result
The 2021 net financial result mainly consists of €0.1 million dividends received on shares held (2020: €0.3 million).

(L) Net results from investments
In year 2021 the full year results of the investments amount to a profit of €239.2 million (2020: €40.7 million) and are recognised in the Company Statement of Profit or Loss.

(M) Net result for the period
In 2021, 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	2021
Profit attributable to shareholders	243.1
In accordance with Article 27 clause 1 to be transferred to reserves	0.0
At the disposal of the General Meeting of Shareholders	**243.1**

For 2021, the Board of Directors will propose a dividend of €1.00 per share for the shareholders of RHI Magnesita N.V. The proposed dividend is subject to the approval by the Annual General Meeting on 25 May 2022.

Other notes

Number of employees
The average number of employees of RHI Magnesita N.V. during 2021 amounts to 67 (2020: 48).

Off balance sheet commitments
RHI Magnesita N.V. as an ultimate parent company provided a corporate guarantee of €1.530,3 million (31.12.2020: €1,086.5 million) for the borrowings of the Group. The Borrowings are as disclosed in Note (25). Additionally €79.2 million (31.12.2020: €36.0 million) of corporate guarantees are issued in favor of customers and suppliers of the Group. The increase results from the inventory ramp-up and the increase in demand following energy price highs.

Other information
Information regarding independent auditor's fees, number of employees of RHI Magnesita Group and the remuneration of the Board of Directors is included in Note (59), (60) to (62) of the Consolidated Financial Statements.

The Company opened a branch in Vienna, Austria and started as of February 2020 to employ staff in the branch office and undertake services.

Material events after the reporting date

There were no material events after the reporting date other than those disclosed in note (63) of the Consolidated Financial Statements.

Vienna, 27 February 2022

Board of Directors

Executive Directors

Stefan Borgas

Ian Botha

Non-Executive Directors

Herbert Cordt

Janet Ashdown

Stanislaus Prinz zu Sayn-Wittgenstein-Berleburg

Janice Brown

Marie-Hélène Ametsreiter

Wolfgang Ruttenstorfer

John Ramsay

David Schlaff

Fiona Paulus

Karl Sevelda

Sigalia Heifetz

Employee Representative Directors

Karin Garcia

Michael Schwarz

Martin Kowatsch

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 of RHI Magnesita N.V.

Report on the financial statements 2021

Our opinion

In our opinion:

- the consolidated financial statements of RHI Magnesita N.V. together with its subsidiaries ('the Group') give a true and fair view of the financial position of the Group as at 31 December 2021 and of its result and 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;
- the company financial statements of RHI Magnesita N.V. ('the Company') give a true and fair view of the financial position of the Company as at 31 December 2021 and of its result for the year then ended in accordance with Part 9 of Book 2 of the Dutch Civil Code.

What we have audited

We have audited the accompanying financial statements 2021 of RHI Magnesita N.V., Arnhem. 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 2021;
- the following consolidated statements for the year 2021: profit or loss, comprehensive income, cash flows and changes in equity; and
- the notes to the consolidated financial statements, comprising the significant accounting policies and other explanatory information.

The company financial statements comprise:

- the company balance sheet as at 31 December 2021;
- the company statement of profit or loss for the period 1 January to 31 December 2021;
- the notes, comprising the 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 for the consolidated financial statements and Part 9 of Book 2 of the Dutch Civil Code for the company financial statements.

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 regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

Our audit approach

We designed our audit procedures in the context of our audit of the financial statements as a whole and forming our opinion thereon. The information in support of our opinion, e.g. comments and observations regarding individual key audit matters, our audit approach regarding fraud risks and our audit approach regarding going concern was set up in this context and we do not provide a separate opinion or conclusion on these matters.

Overview and context

RHI Magnesita N.V. is a global producer of refractory products. The Group comprises 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, and factors listed below.

The adverse effects of the COVID-19 pandemic on the global economy diminished during 2021 with a steep increase in demand across multiple sectors, including the steel and industrial businesses. This created global supply chain challenges, resulting in higher logistics costs, raw materials scarcity, and the need to pass on those costs to customers through price increases in the latter half of the year. In addition, the second half of the year showed significant unforeseen increases in energy costs. Management considered these developments when preparing its financial statements.

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. We paid attention to, amongst others, the assumptions underlying the physical and transitional climate change related risks.

In Note 9 of the 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 (due to higher complexity and subjectivity of assumptions) and related higher inherent risks of material misstatement in the impairment assessment of goodwill and other intangible assets, and the recognition and recoverability of deferred tax assets, we considered these matters as key audit matters as set out in the section 'Key audit matters' of this report.

Other areas of focus, that were not considered as key audit matters, were the accounting of factoring agreements, accounting for the production optimisation program, application of the own use exemption on physical delivery of CO2 certificates, valuation of a put option liability and valuation of uncertain tax positions. In addition, we performed audit procedures on the items marked 'audited' in the remuneration report such as reconciling the disclosed remunerations to underlying supporting documents.

In executing our audit, we ensured that the audit teams at both group and component levels included the appropriate skills and competences which are needed for the audit of an international industrial products company. We therefore included experts in the areas of valuations, and employee benefits, as well as built our team with specialists in IT and corporate income taxes.

The outline of our audit approach was as follows:

Materiality

- Overall materiality: €12.6 million.

Audit scope

- We conducted audit work in 14 locations.
- Site visits were conducted to Austria and Brazil. We have also performed remote file reviews for India, Austria, Brazil China and the USA and held periodic video conferences with teams in Turkey, Switzerland, Italy, Germany and Spain.
- Audit coverage: 85% of consolidated revenue, 85% of consolidated total assets and 72% of consolidated profit before tax.

Key audit matters

- Recognition and recoverability of deferred tax assets
- Valuation of goodwill and other intangible assets

Materiality

The scope of our audit was 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	€12.6 million (2020: €9.7 million)
Basis for determining materiality	We used our professional judgement to determine overall materiality. As a basis for our judgement we used 5% of profit before tax adjusted for exceptional items.
Rationale for benchmark applied	We used profit before tax adjusted for exceptional items (i.e. restructuring expenses, certain impact of purchase price allocation from acquisitions, disposal of assets held for sale) as the primary benchmark, 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 exceptional items is an important metric for the financial performance of the Company.
Component materiality	Based on our judgement, we allocate materiality to each component in our audit scope that is less than our overall group materiality. The range of materiality allocated across components was between €1.0 million and €12.5 million.

We also take misstatements and/or possible misstatements into account that, in our judgement, are material for qualitative reasons.

We agreed with the board of directors that we would report to them misstatements, identified during our audit, above €0.7 million (2020: €0.6 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.

The group audit included 12 components which were subject to audits of their complete financial information, selected on the relative size of their operations. Out of twelve, three components are individually financially significant to the Group and on which primarily focused:

- RHI Magnesita GmbH, Austria
- RHI US Ltd, USA; and,
- Magnesita Refratários S.A., Brazil.

Additionally, we selected nine components for full scope audit procedures to achieve appropriate coverage on financial line items in the consolidated financial statements.

In total, in performing these procedures, we achieved the following coverage on the financial line items:

Revenue	85%
Total assets	85%
Profit before tax	72%

None of the remaining components represented more than 5% 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.

Where component auditors performed the work, we determined the level of involvement we needed to have in their 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 calls with each of the in-scope component audit teams during the year and upon conclusion of their work. During these calls, we discussed the significant accounting and audit issues identified by the component auditors, their reports, the findings from their audit 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 on a rotational basis, to the extent permitted by COVID-19 or other travel restrictions. In the current year the group audit team visited RHI Magnesita GmbH (Austria) and Magnesita Refratários S.A. (Brazil) given the judgements involved in valuation of deferred tax assets (refer to key audit matter recognition and recoverability of deferred tax assets) as well as visited Austrian operating locations. During our visits we met with local management as well as component auditors, discussed significant business developments, accounting matters and the areas of significant risks. Furthermore, we reviewed selected working papers of four component auditors in India, Austria, Brazil, China and the USA. We also conducted a series of video conference meetings with local management along with our component teams. During these meetings, we discussed the strategy and financial performance of the local businesses, as well as the audit plan and execution, significant risks and other relevant audit topics.

The group engagement team performed the audit work for the parent company RHI Magnesita N.V. as well as the Integrated Business Services (IBS) office activities in Spain on areas such as fixed assets, cash and cash equivalents and aspects of accounts payable and accounts receivable. In addition, the group engagement team performed the audit work over the headquarter related activities in Vienna. This includes group consolidation, inventory valuation, financial statement disclosures, remuneration disclosures and several complex items, such as goodwill impairment testing, share based compensation and compliance of accounting positions taken by the Group in accordance with EU-IFRS.

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.

The impact of climate change on our audit

In 2021 management of RHI Magnesita N.V. further expanded the climate change related risk assessment. We refer to section 'Principal Risks' on page 47, 'Progress against sustainability targets' on page 59 and 'Climate and environment' on pages 60 - 63 of the Group's Strategic Report where management defined potential physical as well as transitional risks, risk mitigating activities, risk governance, strategy and metrics. Management acknowledged that the inherent likelihood of the climate change related risk has risen since prior year due to the increasing regulatory complexity and stakeholders' expectations. Therefore, the potential reputational and financial impact of this risk further crystalized and increased in the reporting period. Climate change initiatives and commitments impact the preparation of the Group's financial statements in a variety of ways, all with inherent uncertainties. In note 9, 'Critical accounting judgments and key sources of estimation uncertainty', management highlighted that it expects additional sources of estimation uncertainty regarding climate change to have impact on the net realizable value of inventories through the stricter regulatory sustainability requirements to the quality; and on the useful lives and residual values of assets that could become physically unavailable or commercially obsolete earlier than initially expected. Management considers those effects of climate risks on the financial statements 2021 to be immaterial, however concluded that due to the high degree of estimation uncertainty this may change in the future.

As we have not been engaged in expressing assurance over the sustainability reporting, our procedures in this context consisted primarily of making inquiries with officers of the entity and determining the plausibility of the information reported. During our planning procedures, we have made enquiries of management to understand and assess the extent of potential impact of climate related risk on the Group's financial statements.

We challenged the appropriateness of management's assessment of the potential impact (e.g. estimated useful life of assets, potential diminished access to financing) on major accounting estimates. The impact of climate related risks is not considered to be a separate key audit matter.

Audit approach fraud risks

We identified and assessed the risks of material misstatements of the financial statements due to fraud. During our audit we obtained an understanding of the entity and its environment and the components of the system of internal control, including the risk assessment process and management's process for responding to the risks of fraud and monitoring the system of internal control and how the supervisory board exercises oversight, as well as the outcomes. We refer to section "Effective risk management" of the Strategic report for management's fraud risk assessment and section "Sustainability governance" of the Strategic report in which management reflects on this fraud risk assessment.

We further evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption. We assessed whether those factors indicate that a risk of material misstatement due to fraud is present. In doing this we:

- We performed an inquiry of Audit Committee members as to fraud risks and related party transactions to identify the areas of their concerns in relation to fraud.
- We inquired with the Head of Internal Audit, Risk and Compliance about fraud cases identified throughout the year and reviewed the reports of Internal Audit function relevant to the reporting period. We also assessed the matters reported through the Group's whistleblowing and complaints procedure and results of management's investigation and follow-up on such matters.
- We inquired with Group and local executive management, 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 IT environment around key systems. We paid specific attention to the access safeguards in the IT system and the possibility that these lead to violations of the segregation of duties.

Based on fraud risk factors identified we performed the following specific procedures over the identified fraud risk factors:

Identified fraud risks	*Audit procedures*
Risk of management override of controls	• To address this specific risk, we executed the following strategy:
It is generally presumed that management is in a unique position to perpetrate fraud because of the available opportunity to manipulate accounting records and prepare fraudulent financial statements by overriding controls that otherwise appear to be operating effectively.	Where relevant to our audit, we evaluated the design and effectiveness of controls in the processes of generating and processing journal entries. We assessed whether deficiencies in controls, may create additional opportunities for fraud and incorporated respective corroborative procedures in our audit approach. We considered the outcome of our audit procedures over the estimates and significant accounting areas and assessed whether control deficiencies and misstatements identified were indicative of fraud. Where necessary, we planned and performed additional auditing procedures to ensure that fraud risk is sufficiently addressed in our audit.
Upfront and updated throughout the year, the board of directors provides guidance to the market on revenue and (adjusted) EBITDA. Lagging actuals provide a risk of override or bypassing of controls as management may be inclined to ensure meeting guidance as communicated to the market.	We evaluated key accounting estimates and judgements used in key accounting areas (like goodwill valuation, valuation of assets and liabilities) for biases, including retrospective reviews of prior year's estimates where available. Further reference is made to key audit matters in this auditor's report.

Identified fraud risks	*Audit procedures*
	We performed data analysis and focused on journal entries related to the fraud risk factors identified during fraud risk assessment. Where we identified instances of unexpected journal entries, we performed additional audit procedures to address each identified risk.
In this context, we paid specific attention to non-routine transactions and areas of significant management estimations where management bias may result in fraudulent reporting, i.e. valuation of goodwill, intangible and tangible assets and liabilities.	We evaluated whether the business rationale (or lack thereof) of the significant transactions concluded in 2021 suggests that the Group may have been entered into to engage in fraudulent financial reporting or to conceal misappropriation of assets. We incorporated an element of unpredictability in the nature timing and extent of procedures. We performed substantive testing procedures over the consolidation entries. Our audit procedures did not lead to specific indications of fraud or suspicions of fraud with respect to management override of the internal controls.
Risk of fraud in revenue recognition	To address this specific risk, we executed the following strategy:
Upfront and updated throughout the year, the board of directors provides guidance to the market on revenue and (adjusted) EBITDA. In 2021, lagging actuals provide a risk of override or bypassing of well-established controls as management may be inclined to ensure meeting guidance as communicated to the market to meet shareholders expectations.	We discussed with the Audit Committee and executive management (e.g. the chief executive, finance and sales officers) the increased risk of overriding or bypassing controls when sales targets were increased. We discussed and inquired with the Group's sales officer, and local sales managers into the tone at the top, to assess to what extent not meeting targets have an impact on career opportunities or bonuses within the Company, and whether they have any knowledge of (suspected) fraud. In our conversations we addressed their views on overall fraud risks within the Group and their perspectives on the Groups mitigating controls addressing the risk of fraud in revenue.
In 2021, the Company faced pressure from decreasing margins and volumes and at the same time started a price increase strategy. Therefore, identified fraud risk factors pertain to risk of management override of controls and possible revenue overstatement through the recording of non-existent revenue or premature revenue recording following that the Company is under the pressure to achieve targets and meet shareholder expectations.	We updated our understanding of the revenue and receivable process through performing an end-to end walkthrough of the process whereby identifying individual revenue streams applicable to the Company and its subsidiaries. We assessed the IT environment around key systems, including IT dependent controls related to the revenue and receivables cycle. We also assessed the design and effectiveness of the internal control measures related to revenue recognition and processing journal entries related to revenue. We examined whether changes were made to internal control measures in the last months of the year. We paid attention to whether deficiencies in controls may create additional opportunities for fraud and incorporated respective corroborative procedures in our audit approach. We performed disaggregated revenue analytical procedures at significant components and planned additional audit procedures where unusual fluctuations were noted. No particular fraud matters were identified as a result. Using data analysis, we identified revenue entries with a credit impact to revenue accounts and non-regular off-sets and substantively tested them to verify that their nature did not represent fraudulent transactions or reporting. We performed substantive audit procedures to assess whether IFRS 15 criteria for recognising revenue in 2021, were met. We also performed substantive audit procedures over the credit notes issued to customers after year end (where material) to verify that no transactions were recorded in 2021 that were subsequently reversed through credit notes in 2022. Where material, our component auditors were required to test rebate accruals.

Our audit procedures did not lead to specific indications of fraud or suspicions of fraud with respect to the accuracy of the revenue reporting.

Audit approach going concern

As disclosed in section 'Principles and methods' on page 129 in the financial statements, Management prepared the financial statements on the assumption that the entity is a going concern and that it will continue its operations for the foreseeable future. Our procedures to evaluate management's going concern assessment included, amongst others:

- Review of management's going concern assessment. We corroborated management's analysis with the approved budget 2022, facts and circumstances that came to our attention from our auditing procedures.
- Inquiries of corporate and local management as to their knowledge of going concern risks beyond the period of management's assessment.
- Review of management's analysis of the forecasted levels of net debt, available undrawn borrowing facilities, compliance with debt covenants and the debt maturity profile.
- Corroboration of consistency between management's going concern analysis, the analysis of the forecasted levels of net debt with the future cash flow forecast as incorporated in goodwill impairment test. In evaluating management's forecasts and cash flows, we performed a look-back analysis to assess the accuracy of the forecasting process.
- An analysis of the financial position per balance sheet date in comparison to prior year's year-end to assess whether events or circumstances exist that may lead to a going concern risk.
- Consideration of the potential indications of the component's going concern uncertainty based on audit procedures performed by the component auditors. We evaluated the impact of such indications on the overall use of the going concern assumption applied by the Group.

Our procedures did not result in outcomes contrary to management's assumptions and judgments used in the application of the going concern assumption.

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 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.

Since the amount of new restructuring efforts decreased significantly in 2021 compared to 2020, the accounting for the production optimisation program was removed from the list of key audit matters.

Key audit matter	*Our audit work and observations*
Recognition and recoverability of deferred tax assets	
Refer to note 7, 9, 16 and 44 of the consolidated financial statements The Group recorded deferred tax assets for tax loss carryforwards and deductible temporary differences arising on various items for the amount of €102.3 million. Reference is made to note 16 of the financial statements.	We have requested and obtained evidence for the existence and accuracy of the tax loss carryforwards and assessed the expiration dates per jurisdiction. Where there was uncertainty around the acceptance of losses by the tax authorities, we requested and received a tax opinion from the Group's tax advisors.
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, taking into account the available carry-forward period. The Group also has losses and other temporary differences for which no deferred tax asset has been recognised in these consolidated financial statements.	Where significant management estimates and judgements involved is susceptible to management bias, we have critically reviewed the underlying facts to assess recognition and assessed the recoverability of deferred tax assets. In auditing recoverability, 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.
The Group's principal functions are based in Austria. Consequently, after applying transfer pricing policies, certain residual profits will be taxed in Austria.	In addition, we have considered the local remaining carry-forward period together with any applicable restrictions in recovery for each individual jurisdiction.
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	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

Key audit matter	Our audit work and observations
for our audit.	and judgment used in the recognition and recoverability assessment of the deferred tax assets to be supported by the available evidence.

Valuation of goodwill and other intangible assets

Refer to note 7, 9, 10, 11, and 38 of the consolidated financial statements

The Group capitalized goodwill of €114.4 million, mainly related to the acquisition of the Magnesita Group in 2017. In addition, the company capitalised intangible assets of €282.6 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 signs 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 regarding any accounting effects. The assessment did not result in an impairment.

As disclosed also in note 7 'Principles of accounting and measurement' of the financial statements, the Group has considered raw material pricing and carbon emission pricing scenarios in assessing the impact of climate change on the results of impairment testing of goodwill and intangible assets with indefinite useful life. Management acknowledges the potential impact of climate change related risks on future costs and expects to invest €50 million over the next four years for research and development of new technologies to reduce and capture CO2 emissions. This is not expected to have a material impact on impairment assessment and therefore is not included in the valuation.

We understood that during the preparation for compliance with TCFD, the Group has identified and modelled possible risks and opportunities related to climate change. As it is unlikely that these materialise before 2025, management did not include them in the impairment test and the Strategic planning that covers the period until 2025.

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 management.

Given that the areas where significant management estimates and judgements involved is susceptible to management bias and creates opportunities for fraud, we, with the support of our valuation specialists, 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. Finally, we assessed the 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.

Report on the other information included in the annual report

The annual report contains other information. This includes all information in the annual report in addition to the financial statements and our auditor's report thereon.

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 all the information regarding the directors' report and the other information that is required by Part 9 of Book 2 and regarding the remuneration report required by the sections 2:135b and 2:145 subsection 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and the 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 and section 2:135b subsection 7 of the Dutch Civil Code and the Dutch Standard 720. The scope of such procedures was substantially less than the scope of those procedures performed in our audit of the financial statements, except for the audit performed on information in the remuneration report that marks 'audited'.

The board of directors is 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. The board of directors are responsible for ensuring that the remuneration report is drawn up and published in accordance with sections 2:135b and 2:145 subsection 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements and ESEF

Our appointment

We were appointed as auditors of RHI Magnesita N.V. by 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 and now represents a total period of uninterrupted engagement of 5 years.

European Single Electronic Format (ESEF)

RHI Magnesita N.V. has prepared the annual report, including the financial statements, in ESEF. The requirements for this format are set out in the Commission Delegated Regulation (EU) 2019/815 with regard to regulatory technical standards on the specification of a single electronic reporting format (these requirements are hereinafter referred to as: the RTS on ESEF).

In our opinion, the annual report prepared in XHTML format, including the partially marked-up consolidated financial statements as included in the reporting package by RHI Magnesita N.V. complies in all material respects with the RTS on ESEF.

The board of directors is responsible for preparing the annual report, including the financial statements, in accordance with the RTS on ESEF, whereby the board of directors combines the various components into a single reporting package. Our responsibility is to obtain reasonable assurance for our opinion whether the annual report in this reporting package, complies with the RTS on ESEF.

Our procedures, taking into account Alert 43 of the NBA (Royal Netherlands Institute of Chartered Accountants), included amongst others:

- Obtaining an understanding of the entity's financial reporting process, including the preparation of the reporting package.
- Obtaining the reporting package and performing validations to determine whether the reporting package, containing the Inline XBRL instance document and the XBRL extension taxonomy files, has been prepared, in all material respects, in accordance with the technical specifications as included in the RTS on ESEF.
- Examining the information related to the consolidated financial statements in the reporting package to determine whether all required mark-ups have been applied and whether these are in accordance with the RTS on ESEF.

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 or its controlled entities, for the period to which our statutory audit relates, are disclosed in note 59 to the financial statements.

Responsibilities for the financial statements and the audit

Responsibilities of the board of directors for the financial statements

The board of directors is responsible for:

- the preparation and fair presentation of the financial statements in accordance with EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code; and for
- such internal control as the board of directors determines 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, the board of directors is responsible for assessing the Company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, the board of directors should prepare the financial statements using the going-concern basis of accounting unless the board of directors either intends to liquidate the Company or to cease operations or has no realistic alternative but to do so. The board of directors should disclose in the financial statements any event and circumstances that may cast significant doubt on the Company's ability to continue as a going concern.

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 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.

Rotterdam, 27 February 2022
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 2021 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 the board of directors.
- Concluding on the appropriateness of the board of 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 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 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 actions taken to eliminate threats or safeguards applied.

From the matters communicated with 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.

Return on invested capital (ROIC)

ROIC is calculated as adjusted net operating profit after tax (NOPAT), divided by total invested capital for the year. Invested capital is a sum of non-current assets including deferred tax assets, trade and other current receivables, inventories and income tax receivables less other non-current financial assets, deferred tax liabilities, trade and other current liabilities, income tax liabilities and current provisions. Adjusted net operating profit after tax (NOPAT) is calculated as sum of Adjusted EBITA, amortisation expense and result from joint ventures less income taxes paid.

Liquidity

Liquidity comprises cash and cash equivalents and undrawn committed credit facilities of €600 million.

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.

Glossary

AC	Audit Committee
AGM	Annual General Meeting
AI	artificial intelligence
APM	alternative performance measures
APO	Automated Process Optimisation
ANKRAL LC	RHI Magnesita low-carbon product series, which is designed to support customers as they reduce emissions in their supply chain
ANKRAL X	RHI Magnesita product series, which combines clinker melt resistance with flexibility
BOF	basic oxygen furnace
BST	Broadband Spectral Thermometer
CAGR	compound annual growth rate
Capex	capital expenditure
CCU	carbon capture and usage
CDC	Centers for Disease Control and Prevention
CDP	global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CoGS	Cost of Goods Sold
COVID-19	coronavirus disease 2019
CSO	Chief Sales Officer
CSC	Corporate Sustainability Committee
CIS	commonwealth of independent states
CO_2	carbon dioxide
CSC	Corporate Sustainability Committee
DBM	dead burned magnesia
DCGC	Dutch Corporate Governance Code 2016
EAF	electric arc furnace
EBIT	earnings before interest and taxes
EBITA	earnings before interest, taxes and amortisation
EBITDA	earnings before interest, taxes, depreciation and amortisation
EEC	environment, energy and chemicals
ED	Executive Director
EMT	Executive Management Team
EPS	earnings per share
ERD	Employee Representative Director
ESG	Environmental Social Governance
EU	European Union
GRI	Global Reporting Initiative
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
ISO	Isostatically pressed
KPI	key performance indicator
LTIFR	lost time injury frequency rate (per 200,000 working hours)
LTIP	long-term incentive plan
MAR	Market Abuse Regulations
M&A	mergers and acquisitions
MES	manufacturing execution systems
NFM	non-ferrous metals
NGO	non-governmental organisation
NMEA	near Middle East and Africa
NOx	nitrogen oxides
NPS	Net Promoter Score
OIE	Other income and expenses
QCK	Quick Check
ROIC	return on invested capital
RFID	radio frequency identification
SDGs	United Nations Sustainable Development Goals
SG&A	selling, general and administrative expenses
SKU	stock-keeping unit
SOx	sulphur oxides
SRM	secondary raw materials
STEM	science, technology, engineering and mathematics
TAC	Technical Advisory Committee
TCFD	Task Force on Climate-related Financial Disclosures
TRIF	total recordable injury frequency
TSR	total shareholder return
UKCGC	UK Corporate Governance Code 2018
VR	virtual reality
WHO	World Health Organization

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 Company shares, represented by depository interests, of RHI Magnesita N.V, are listed on the Premium Segment of the Official List on the Main Market of the London Stock Exchange, and RHI Magnesita N.V holds a secondary listing on the Vienna Stock Exchange (Wiener Börse).

Ticker symbol: RHIM
ISIN Code: NL0012650360

Investor information

The Company's website www.rhimagnesita.com provides information for shareholders and should be the first port of call for general queries. The Investors section (https://ir.rhimagnesita.com/) contains details on the current and historical share price, analyst presentations, shareholder meetings as well as a "Shareholders Information" section. Annual and Interim Reports can also be downloaded from this section.

You can also subscribe to an "Investors mail 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 dividend payments, or a change of address:

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Financial calendar

Q1 Trading Update	5 May 2022
Annual General Meeting	25 May 2022
Half Year Results	27 July 2022

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