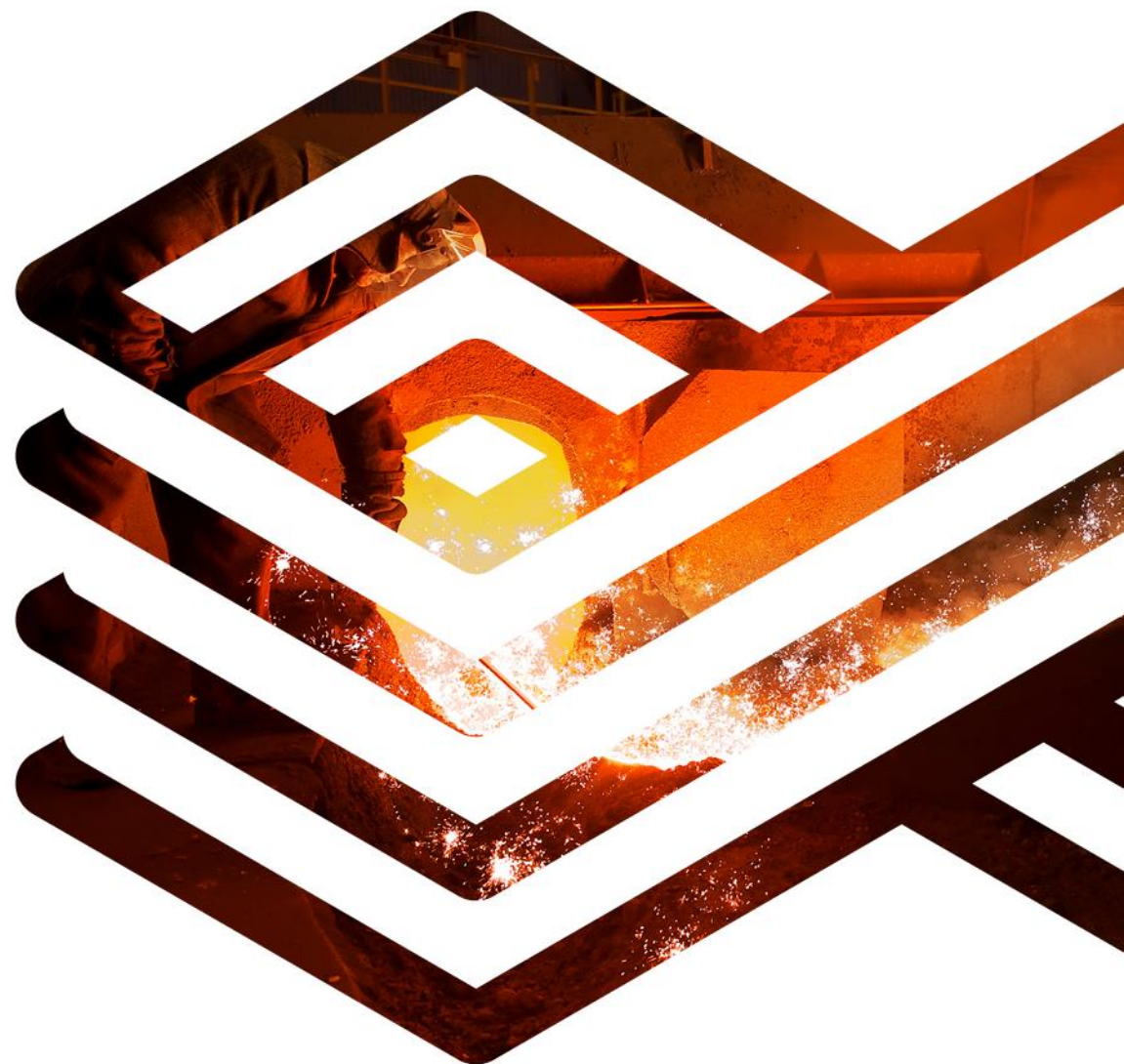


# The driving force of the refractory industry

**Roadshow**  
September 2018



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# Compelling investment case

1

## Clear strategy and strong competitive position

- Strong market position with 15% global market share, clear leadership in Americas, Europe and Middle East with broadest value-added solution offering
- Opportunity to develop and leverage technology across regions and portfolio
- Highest level of vertical integration in the industry with unique mineral sources and 50%+ self-sufficiency in all raw materials

2

## Rapid deleveraging and strong cash conversion

- Strong cash flow from operating business supported by synergies and organic growth opportunities
- Cash usage priority on deleveraging within 2 years to reach investment grade rating

3

## Significant synergy potential

- At least €60m synergies in the 2018 P&L and €110m in synergies to be achieved by 2020
- Interest expense reduced by at least €10m in 2018 and €20m in 2019 after re-financing completed in August 2018
- Additional “below the line” opportunities in working capital and tax



RHI MAGNESITA

# Refractory industry



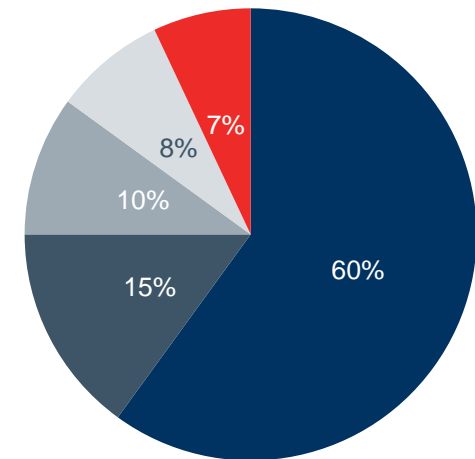


# Refractories are critical to all high-temperature industrial processes

- Refractories are critical consumable or investment goods for high-temperature manufacturing processes
- Fireproof materials consumed whilst protecting clients' production processes, retaining physical and chemical characteristics when exposed to extreme conditions
- Critical, yet represent less than 3% of COGS in steel manufacturing and less than 1% in other applications

## Main end markets €20 billion worldwide industry

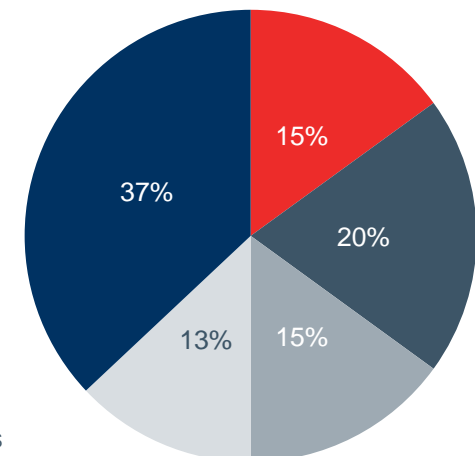
- Steel
- Energy, chemicals
- Nonferrous metals
- Cement
- Glass



Source: Company estimates


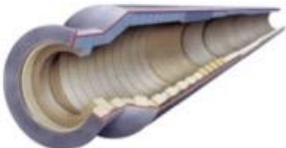

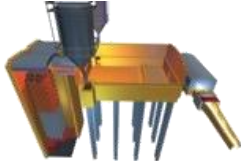
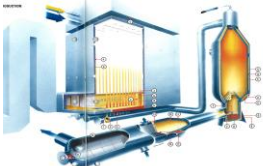
## Global refractory industry

- RHI Magnesita
- 4-6 segment specialists
- 10-20 regional champions
- 100-200 small local companies
- 1000+ small Chinese companies



Source: Company estimates of market share in US\$

# Refractories are continuously consumed during finished goods production

Key industries	Applications	Replacement	% of clients' costs	Refractory characteristics
<b>Steel</b>	Basic oxygen-, electric arc furnace casting ladles 	20 minutes to 2 months	~3.0%	<b>Consumable product</b>  Systems and solutions for complete refractory management  Demand correlated to output
<b>Cement/Lime</b>	Rotary Kiln 	Annually	~0.5%	
<b>Nonferrous metals</b>	Copper-converter 	1 – 10 years	~0.2%	<b>Investment goods</b>  Longer replacement cycles  Customized solutions based on the specific requirements of various industrial production processes
<b>Glass</b>	Glass furnace 	Up to 10 years	~1.0%	
<b>Energy/ Environmental/ Chemicals</b>	Secondary reformer 	5 – 10 years	~1.5%	Complete lining concepts including refractory engineering  Wide areas of application  Mostly project driven demand cycles  Ongoing demand for repairs

# A complex range of tailored refractory products are required for each application

## Bricks



1 Permanent lining



2 Non-basic,  
ex. Alumina



3 Basic, ex.  
Mag-Carbon

## Monolithics and pre casts



4 Mixes



5 Pre Castables

## Functional products



6 Slide Gates



7 Nozzles



8 Purge Plugs



9 ISO

## Example of refractory application for steel ladle



**+Systems and machinery**

# The driving force of the refractory industry



RHI MAGNESITA





## Providing everything, for everyone, everywhere

---

**€2.7bn**

2017 adjusted pro-forma revenue

---

**10,000**

Customers served globally

---

**14,000**

Employees spread  
over 37 countries

---

**35**

Main production sites across  
16 countries

---

**180**

Countries shipped worldwide

---

**13**

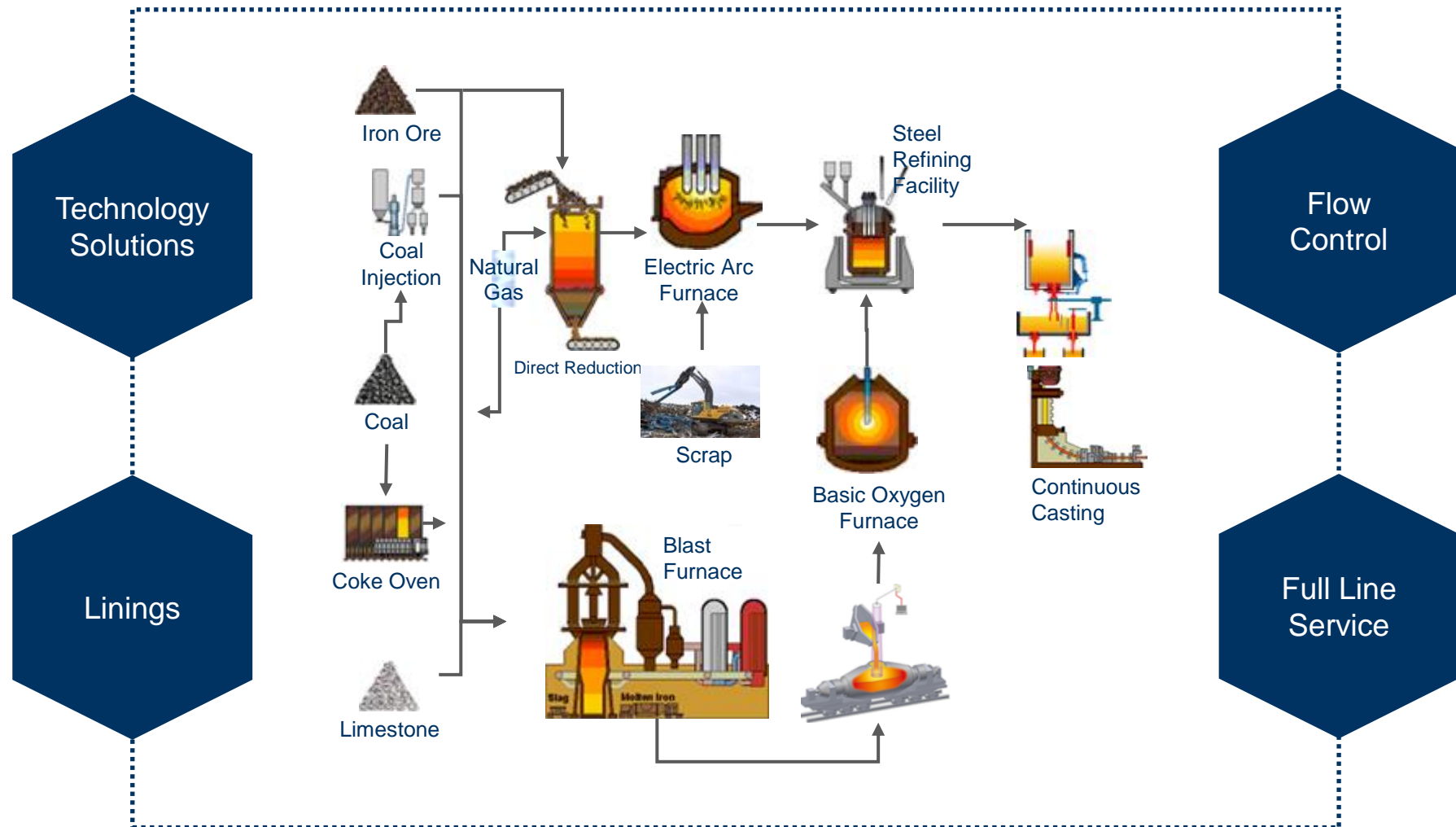
Raw material sites  
in 4 continents

---

**€37m**

Annual investment in Research

# Adding value through a full suite of products and services



# Serving all blue chip clients in every industry

## Steel



**TATA STEEL**



**OUTO KUMPU**



**posco**



**Severstal**



## Cement



**HEIDELBERGCEMENT**



## Glass

**SCHOTT**



## Metals



**GLENCORE**

**RioTinto**

Serving 1060 of 1250 plants<sup>1</sup>

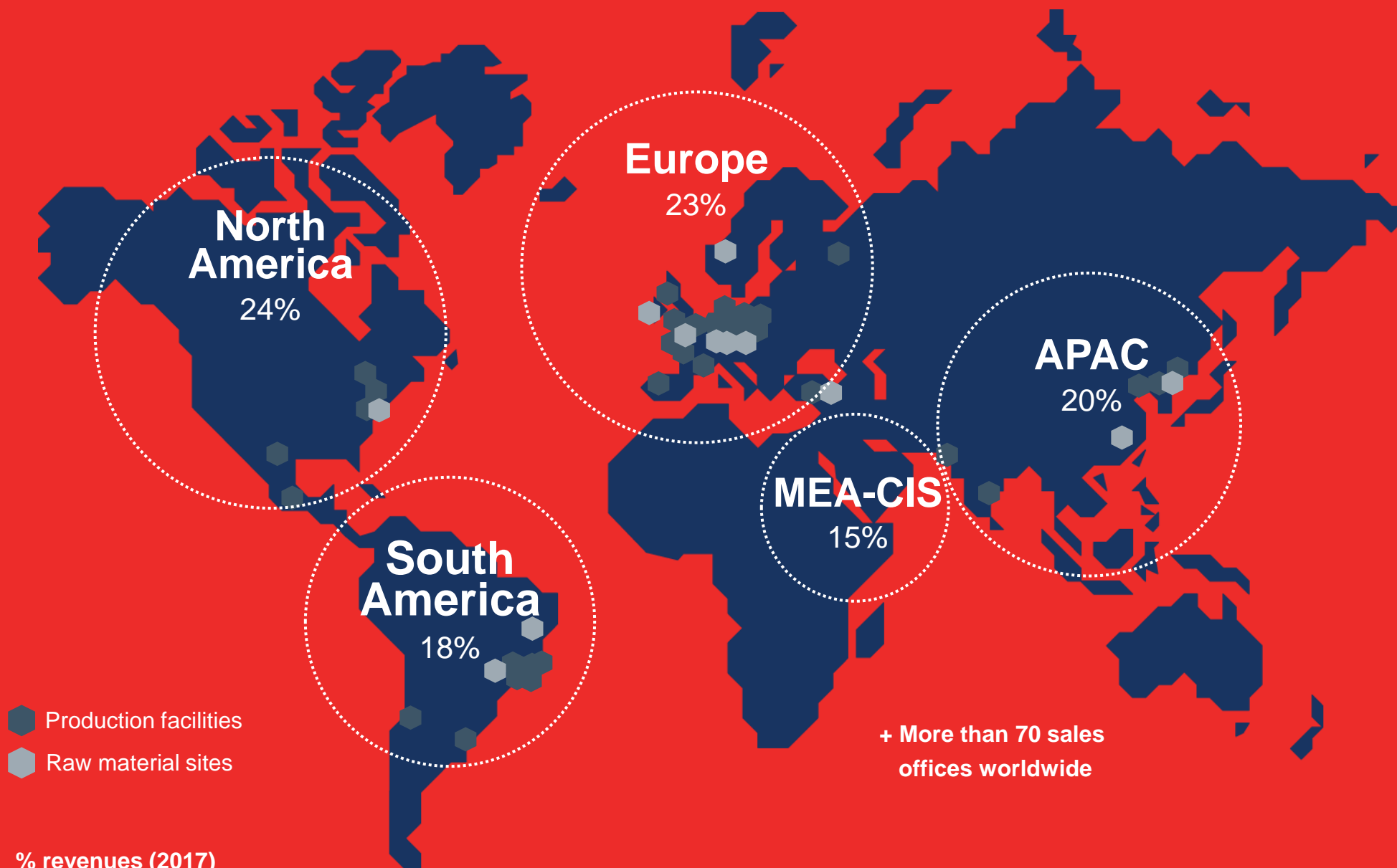
Serving 1376  
of 1537 plants<sup>1</sup>

Serving 800  
of 900 plants<sup>1</sup>

Serving 650  
of 2000 plants<sup>1</sup>

<sup>1</sup>ex-China

## Optimally positioned to reach clients everywhere

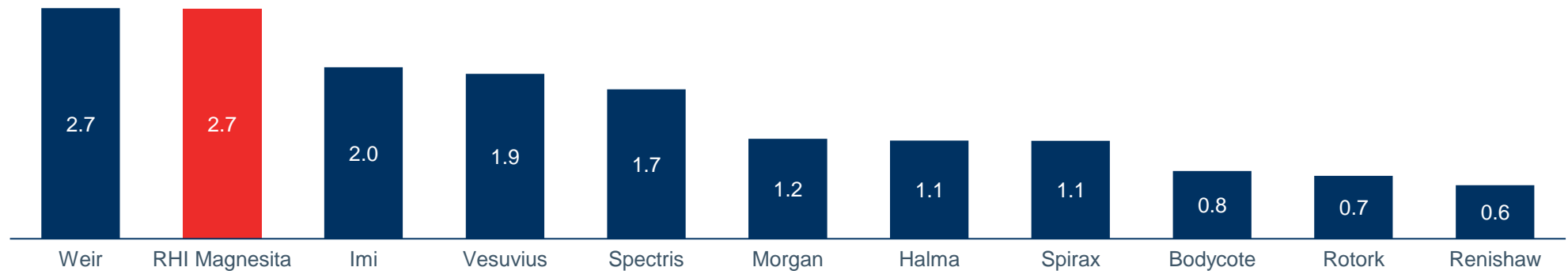


% revenues (2017)

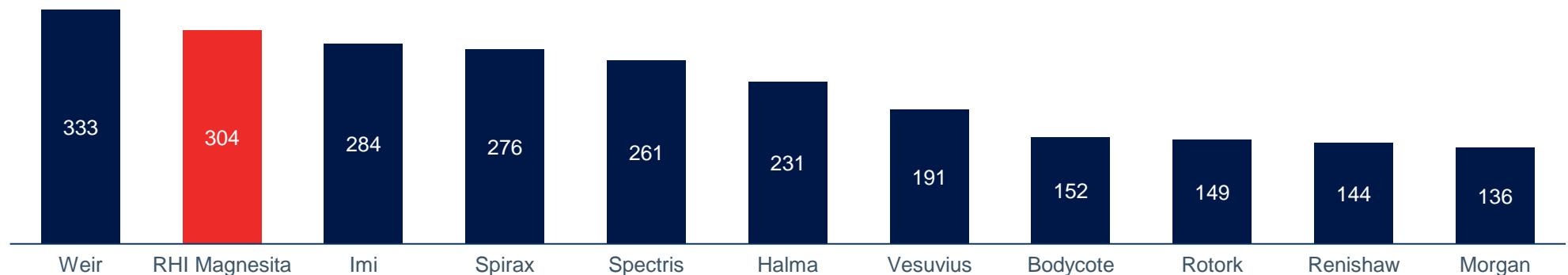


## Amongst the leading FTSE 250 industrial companies

### Revenue (€ Bn)



### EBITA (€ mln)



Source: Company 2017 Annual Reports



RHI MAGNESITA

# Strategy

# Build a global refractory leader with a distinctive customer proposition based on technology and cost competitiveness to ensure manufacturing of essential materials for the world



## Markets

**Worldwide presence** with strong local organizations and **solid market positions**. **Opportunity to expand in Asia.**



## Competitiveness

**Cost competitive and safe production network** supported by **lowest cost G&A services**. **Opportunity to lower COGS through capacity expansion.**



## Portfolio

**Comprehensive refractory product portfolio** including basic, non-basic, functional products and services in **high performance segments**. **Opportunity to grow via capacity expansion and partnerships.**



## People

Hire, retain and motivate **talent** and nurture a **meritocratic, performance-driven, client-focused friendly culture**. **Opportunity to attract new talent from inside and outside RHI Magnesita.**

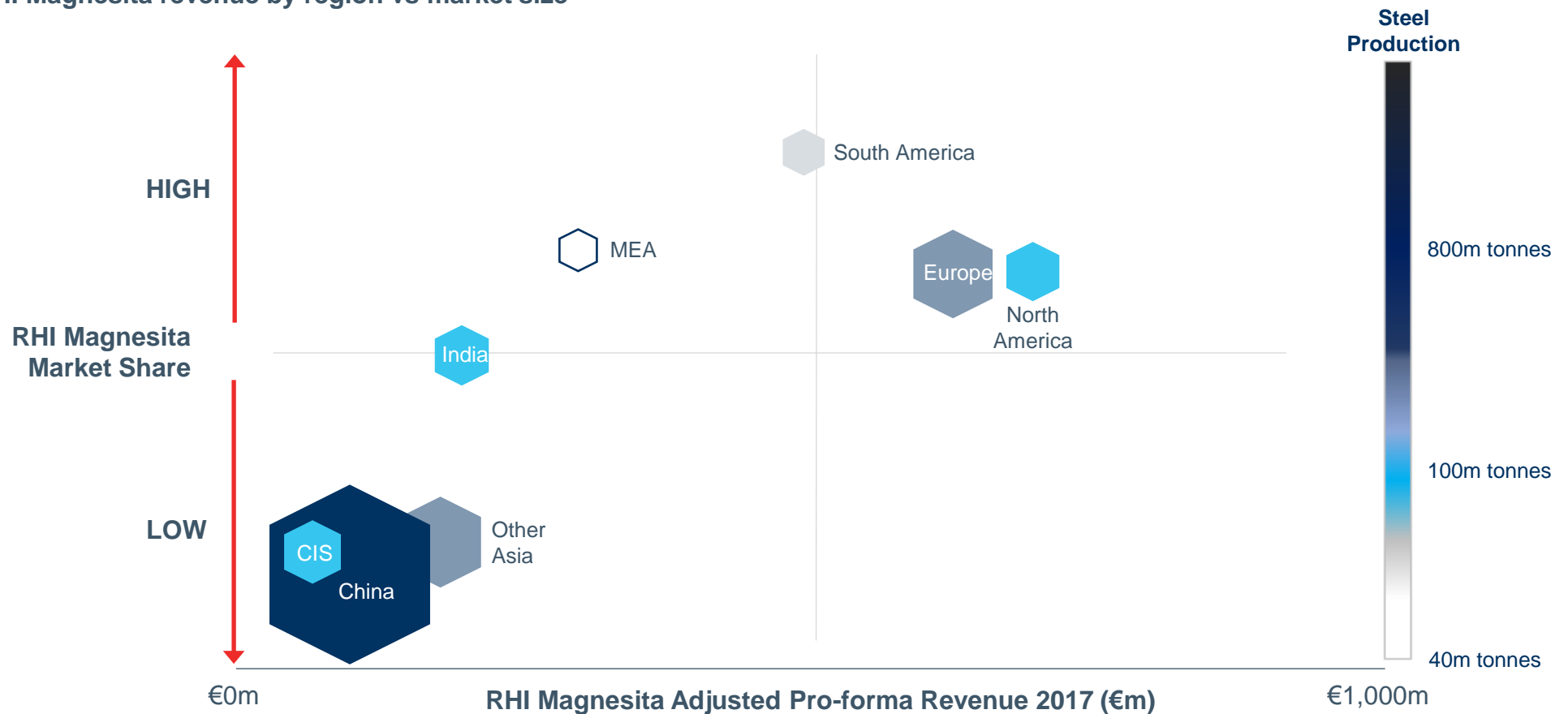


## Technology

**Top solution provider** in the refractory industry with an extensive portfolio based on **innovative technologies and digitalization**. **Opportunities to develop tailored solutions with new technologies and partners.**

# High market share in Europe and Americas with opportunities to occupy 'white spaces' in India, China and CIS

RHI Magnesita revenue by region vs market size



- **Dedicated strategy for China** with focus on growing locally, to achieve sustainable and profitable revenue growth
- **Focus on organic growth in India** (high quality demand) and **US** based on positive local market development
- Drive **organic growth in the mid term** and in the long run consider M&A to achieve overall global presence



# Extend market position in high quality applications and strengthen non-basic mixes and functional products

Portfolio	Main Applications	Opportunity
<b>Basic Products</b>	<ul style="list-style-type: none"> <li>□ <b>Steel:</b> converters and ladles</li> <li>□ <b>Industrial:</b> Nonferrous Metals</li> </ul>	<ul style="list-style-type: none"> <li>□ Great capability and logistics: Production in all continents and short lead-time to everyone, everywhere</li> <li>□ RHI Magnesita, for example, produces world-class mag-carbon bricks. The combination of the best raw materials with the continuous investments in R&amp;D allowed the Company to develop a high-performance product which enhances clients productivity</li> </ul>
<b>Non-basic products</b>	<ul style="list-style-type: none"> <li>□ <b>Steel:</b> blast furnace &amp; reheating furnaces and direct reduction</li> <li>□ <b>Industrial:</b> bricks &amp; castables</li> </ul>	<ul style="list-style-type: none"> <li>□ Estimated global market of €4 billion+</li> <li>□ RHI Magnesita has a complete non-basic product portfolio</li> <li>□ Strong presence in South America. Great opportunity to expand in North America and Europe</li> </ul>
<b>Functional Products</b>	<ul style="list-style-type: none"> <li>□ <b>Steel:</b> continuous and ingot casting</li> <li>□ <b>Industrial:</b> Nonferrous Metals</li> </ul>	<ul style="list-style-type: none"> <li>□ Technical expertise, complete product portfolio, solutions beyond refractory products such as mechanisms</li> <li>□ A global plant footprint allows optimization of supply chain</li> <li>□ Continuously growing business with a combined market share globally ~20%; significant growth potential</li> </ul>
<b>Engineering Solutions</b>	<ul style="list-style-type: none"> <li>□ <b>Steel:</b> tundish efficiency improvement</li> <li>□ <b>Industrial:</b> raw material testing &amp; experimenting</li> </ul>	<ul style="list-style-type: none"> <li>□ Service provider and strong partner with the capability to provide solutions beyond refractories</li> <li>□ Tailor made solution for all customer requirements</li> <li>□ Simulations and modelling for improvement of customer processes (water modelling; fluid dynamics)</li> </ul>

## Top solution provider in the industry, investing in innovative technologies and digitalization

1

**Continue investing in R&D** to create products, which have a distinct competitive advantage by costs or by product performance and defend current margin level sustainably

3

Develop into a **system supplier** based on R&D, partnerships and selective acquisitions and **gain 50-100 basis points in margin**

2

**Explore digitalization & automation** across the value chain to create additional value for our customers and achieve cost reduction and gain additional margin to our company

# The industry's largest dedicated research team, pushing the boundaries of what is possible

We drive innovation in every aspect of our business, from materials, robotics and Big Data, to bespoke new business models and efficient new processes, under extreme conditions.

## Refractories

- Development and optimization of refractory products and manufacturing processes
- Market driven project portfolio
- Plant technical support and quality control

## Mineral

- Increase ore recovery, maximize mine useful life and minimize environmental impacts
- Development of high quality, low cost raw material sources

## Basic research

- Basic research ensuring technology leadership
- Strong focus on innovation

## Recycling as an opportunity

- Green technology applied to reprocessing, sorting and reutilization of recycled raw material

Global research team of 270+ employees, of which 98 have masters and PhDs, working out of 2 research hubs and 3 centers



Investing €37m p.a. into technology-based solutions

# On-site technical experts consult, develop and deliver innovative solutions directly to clients

**340+ technical engineers across 90 countries**, working on-site with clients to provide custom-made solutions, installation support, recycling, post-mortem analysis and more.

---

A combination of...



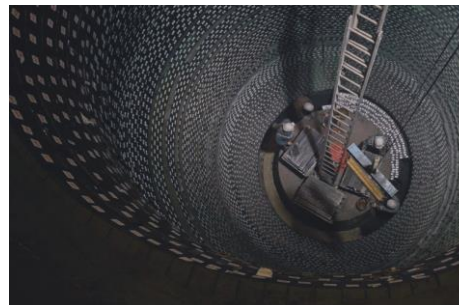
High quality raw materials



Continuous investments in R&D



World-class products



On-site technical consulting

---

...ensures customers

- ☐ Improve efficiency
- ☐ Improve quality
- ☐ Increase productivity
- ☐ Reduce costs
- ☐ Reduce working capital
- ☐ Reduce energy and other raw materials consumption
- ☐ Reduce environmental footprint

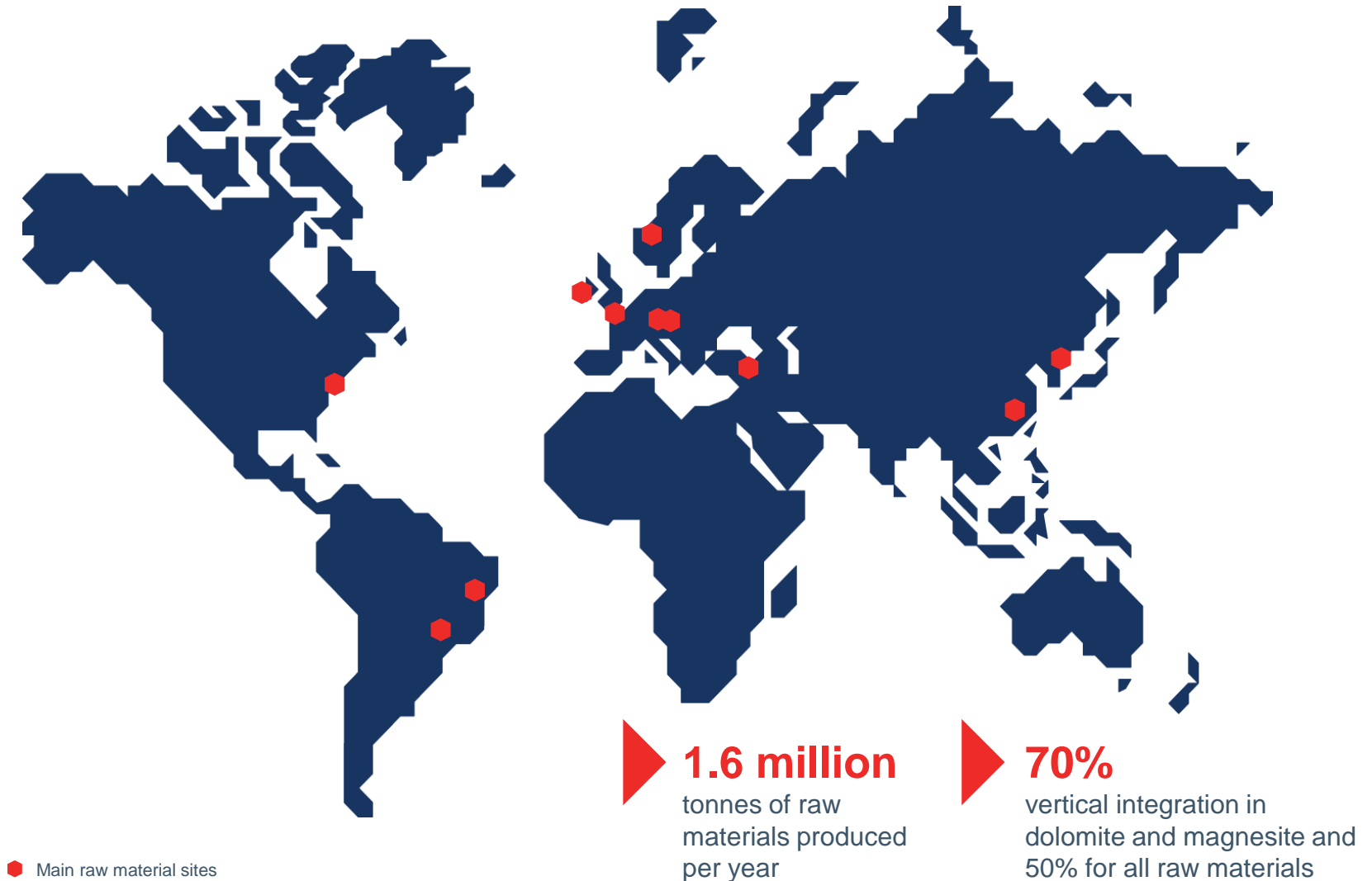


## Cost competitive and safe production network supported by lowest cost G&A services

- ❑ **Reduce conversion & logistics costs and optimize FX changes tactically** through the most efficient usage of the global production footprint
- ❑ Run the **lowest cost G&A services** to support the daily business
- ❑ Strictly implement and safeguard **achievement of operational synergies** from the merger
- ❑ **Improve efficiency and expand capacity selectively** to support growth ambitions



## Unrivalled competitive advantage through vertical integration, in multiple sites

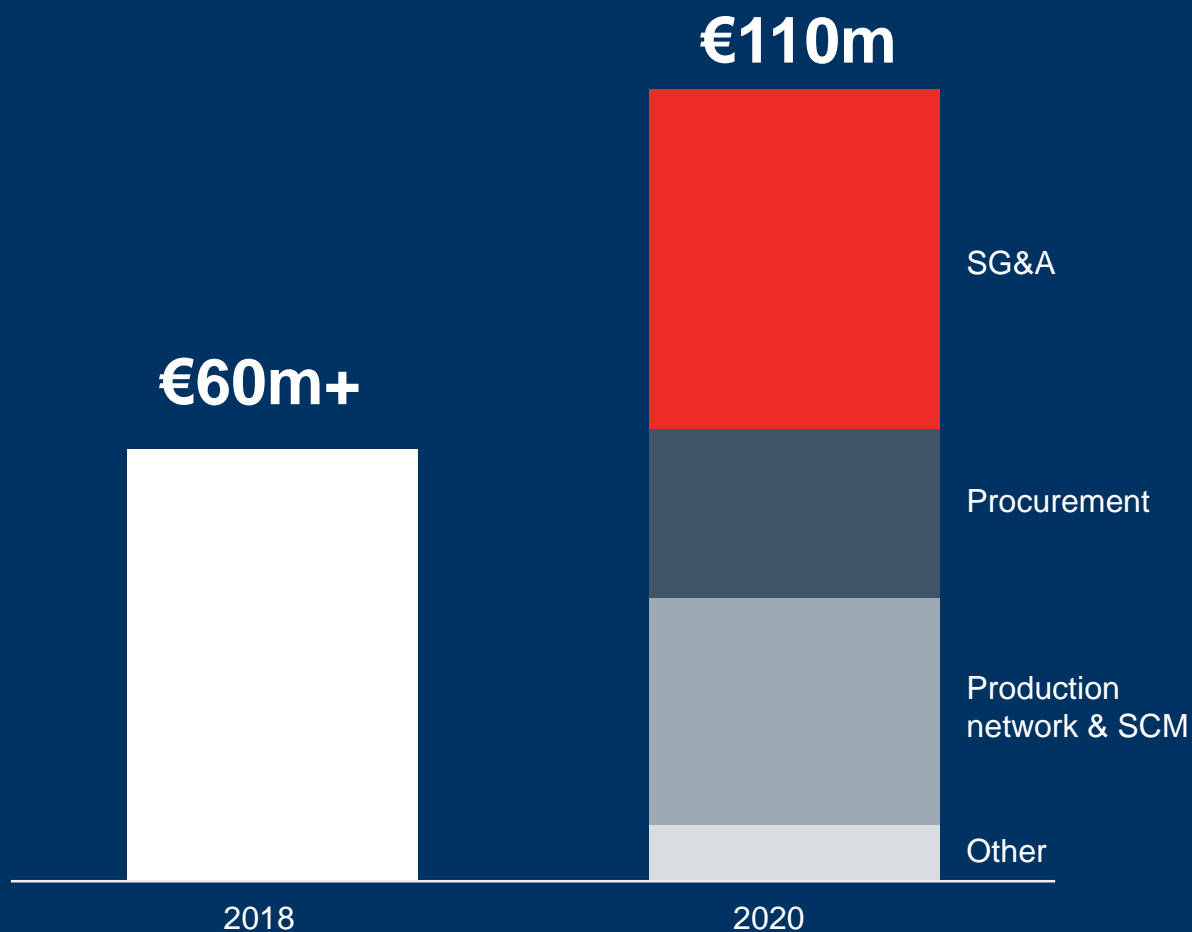


Certainty of supply

High quality materials

Cost competitiveness

## Increased synergy potential to be realised by 2020



Cash restructuring costs of €100-130m

- At least €60m synergies in the 2018 P&L and €110m in synergies to be achieved by 2020
- Expected total cash restructuring costs are projected to be €110-130m, with €75m of cash outflows disbursed during 2018
- Interest expenses reduced by at least €10m in 2018 and €20m in 2019 after re-financing completed in August 2018
- High volatility in global raw material markets pose additional risks and uncertainty, but also further upsides
- Integration team is working on additional fronts, especially in G&A and the production network, which may lead to additional savings

# Synergy opportunities across a range of business activities

## Opportunities

<b>SG&amp;A</b>	<ul style="list-style-type: none"> <li>□ Rationalization of sales network</li> <li>□ Streamlining corporate management and back-office</li> <li>□ Ramp-up of shared service centers</li> </ul>
<b>Procurement</b>	<ul style="list-style-type: none"> <li>□ Best sourcing prices in overlapping countries and spend categories</li> <li>□ Beneficial scale effect from high volumes</li> <li>□ Increase vendor financing</li> </ul>
<b>Production Network and Supply Chain</b>	<ul style="list-style-type: none"> <li>□ Network rationalization, enhancing distribution, reducing logistic costs and lead-time and improving capacity utilization</li> <li>□ Reallocate complementary product portfolios</li> <li>□ Enhanced raw material integration</li> </ul>
<b>Others</b>	<ul style="list-style-type: none"> <li>□ Cross-selling opportunities</li> <li>□ Product master-data homogenization</li> </ul>

## Additional ‘below the line’ synergies are expected post-integration

### Opportunities

<b>Capex</b>	<ul style="list-style-type: none"> <li>□ Footprint optimization to reduce maintenance capex over next 2-3 years</li> <li>□ Shift overall capex towards higher share of value &amp; growth projects</li> </ul>
<b>Working Capital</b>	<ul style="list-style-type: none"> <li>□ Reallocate production and shorten supply chain</li> <li>□ Replace third party raw materials with internal production</li> <li>□ Eliminate inventory overlap in key countries (Brazil, Mexico, United States)</li> </ul>
<b>Interest Expenses</b>	<ul style="list-style-type: none"> <li>□ Refinance facilities to take advantage of enhanced credit profile</li> <li>□ Use cash flows to delever company and reduce capital structure burden overall</li> <li>□ Target investment grade rating</li> </ul>
<b>Tax</b>	<ul style="list-style-type: none"> <li>□ Converge effective tax rate to global multinational levels: 25-29% in the short term and &lt;25% in the long term</li> <li>□ Monetize significant deferred tax assets</li> <li>□ Optimize efficiency of capital structure</li> </ul>



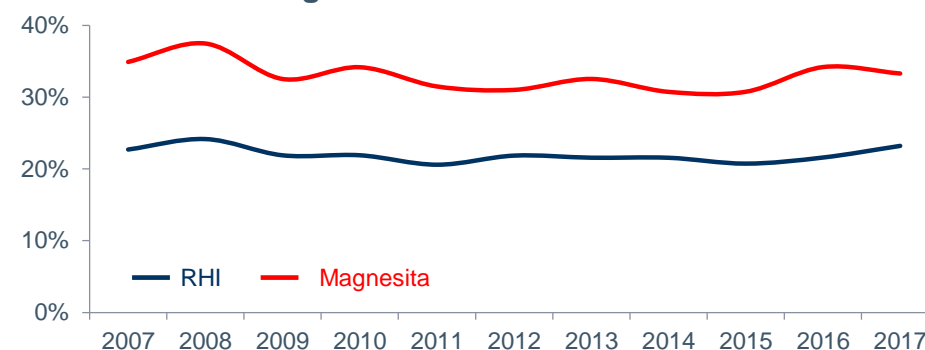
# Financials



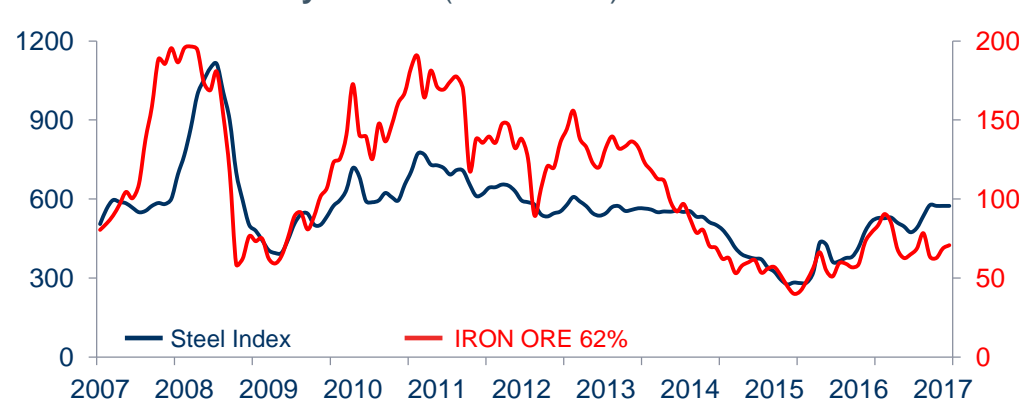
# Resilient business model with little volatility across the cycle and low level of commoditisation

	Basic Materials Markets	RHI Magnesita
Raw Materials	<ul style="list-style-type: none"> <li>Commoditized</li> <li>Price takers of key raw material inputs</li> </ul>	<ul style="list-style-type: none"> <li>Lower volatility in cost due to significant vertical integration</li> </ul>
Finished Product	<ul style="list-style-type: none"> <li>Commoditized</li> <li>Price takers of standardized finished products</li> </ul>	<ul style="list-style-type: none"> <li>Non-commoditized</li> <li>Over 100,000 SKUs</li> <li>1-3% of client's COGS</li> <li>Service intensity</li> <li>Make to order</li> <li>Resilient &amp; uncorrelated prices</li> </ul>

### Historic Gross Margin<sup>1</sup>



### Historic Commodity Prices<sup>2</sup> (USD/tonne)



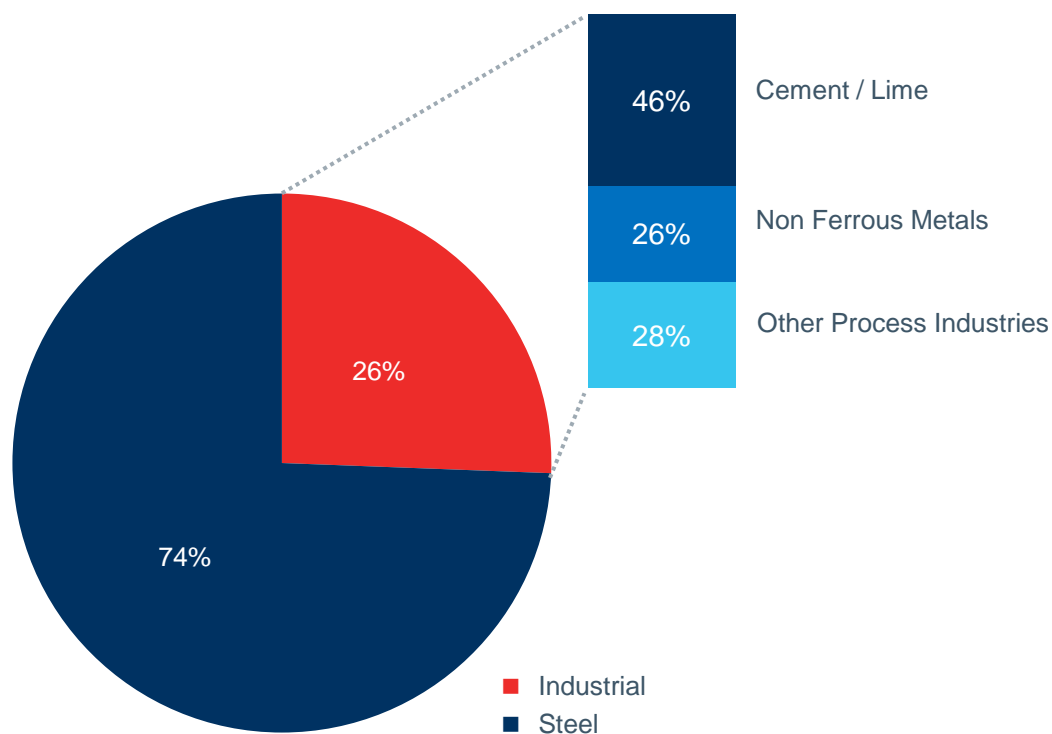
1: Gross margin as reported by RHI and Magnesita in their respective Financial Statements. Prior to the combination, Magnesita included freight in Selling expenses, rather than COGS.

2: Steel index: Bloomberg benchmark

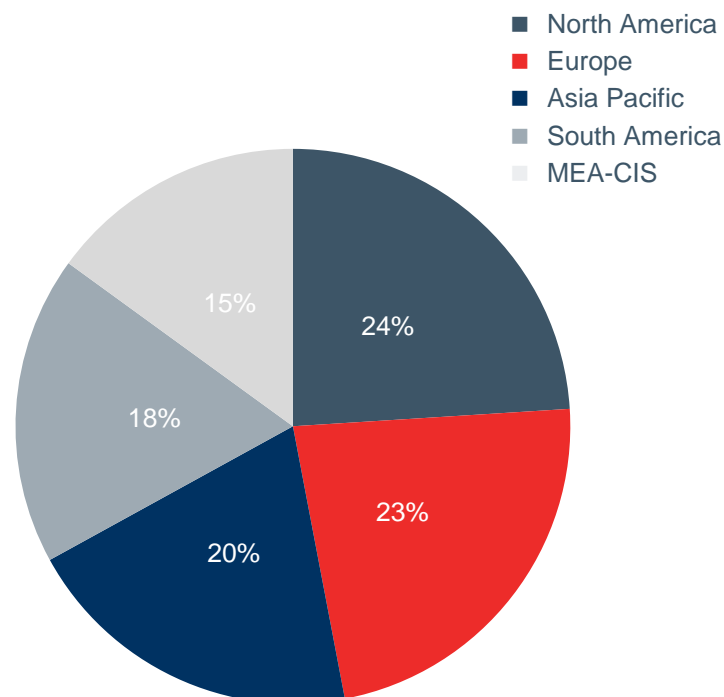
# 2017 adjusted pro-forma revenue breakdown

Total Revenue: c.€2.7 bn

by Industry<sup>1</sup>



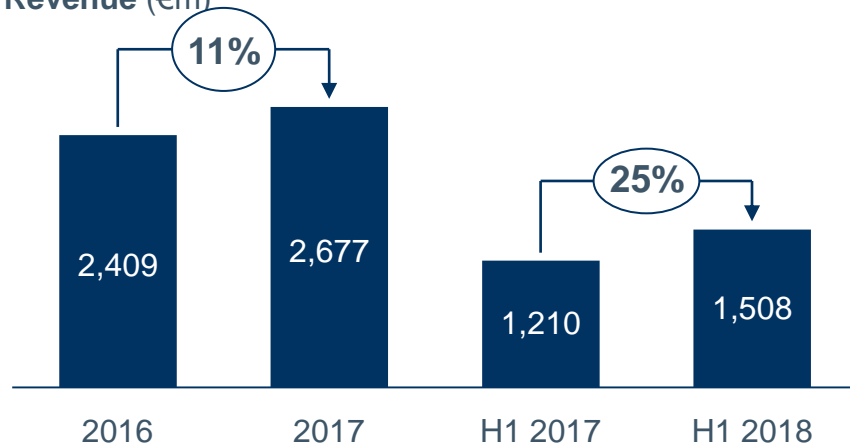
by Geography



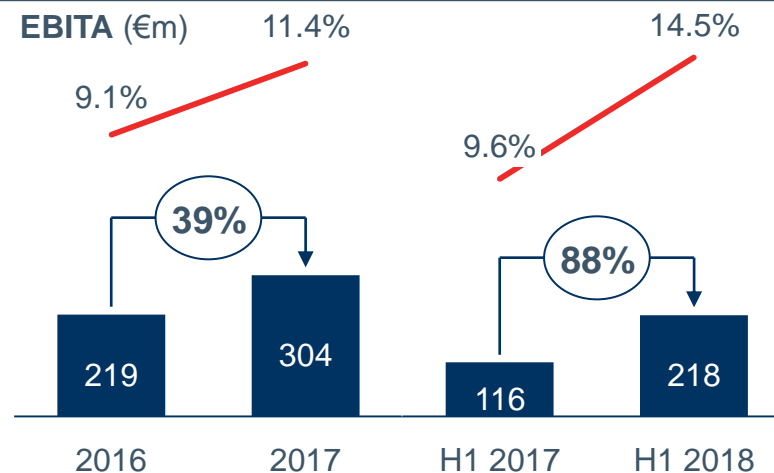
<sup>1</sup> Revenue split considers only refractory segments

# Adjusted pro-forma results

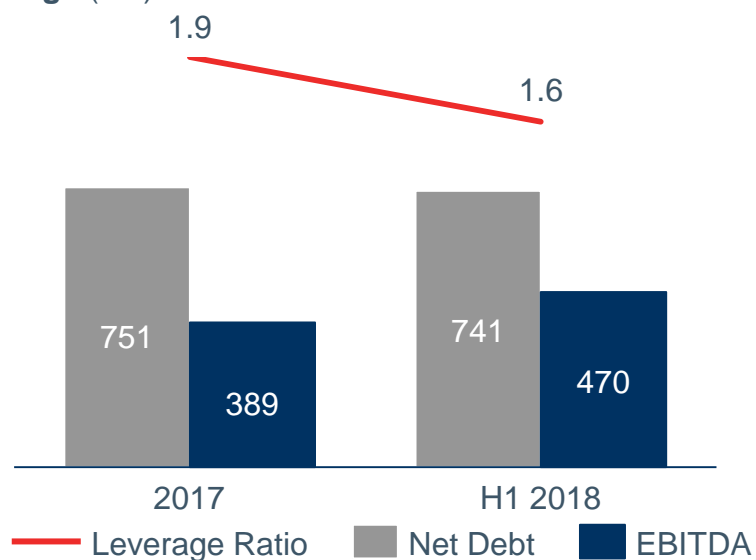
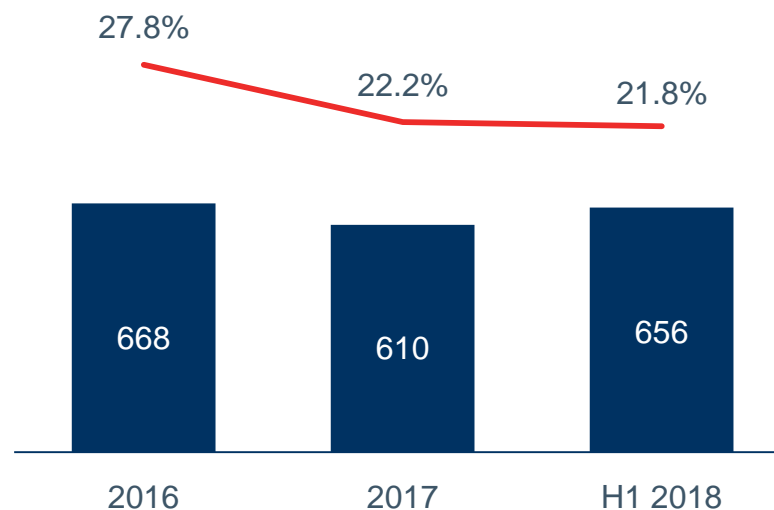
Revenue (€m)



EBITA (€m)



Leverage (€m)

Working Capital Intensity<sup>1</sup> (€m)

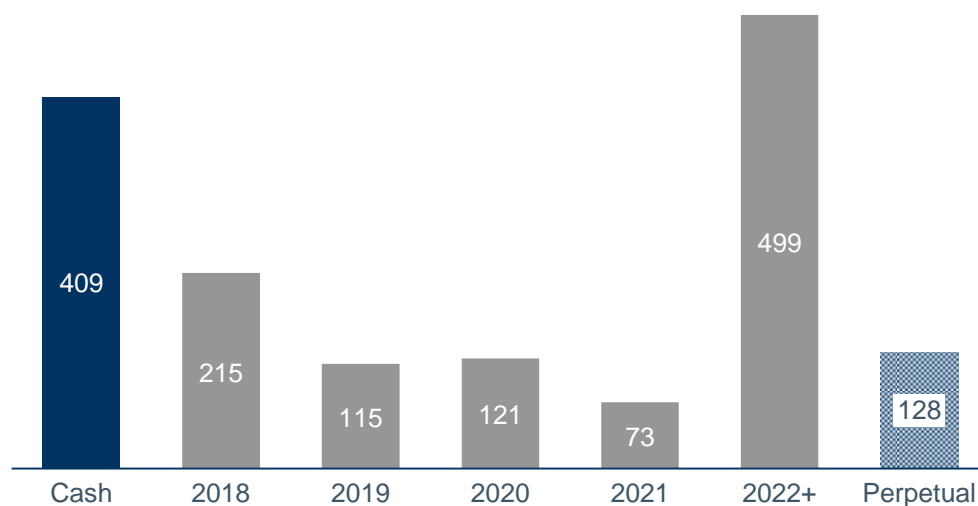
1: Working capital intensity measured as a percentage of annualized 2H17 adjusted pro-forma revenue  
RHI Magnesita September 18 Roadshow

# Capital structure

## Solid credit profile and commitment to de-leveraging the current business

- On 3 August 2018 the company successfully raised a new unsecured US\$600 million 5-year term loan and multicurrency revolving credit facility
- Proceeds of the new facility will be used to redeem the entire amount of outstanding Magnesita Perpetual Bonds on 20 August 2018 and prepay other short-term facilities

## Amortisation Schedule (€ millions, as of 30 June 2018)

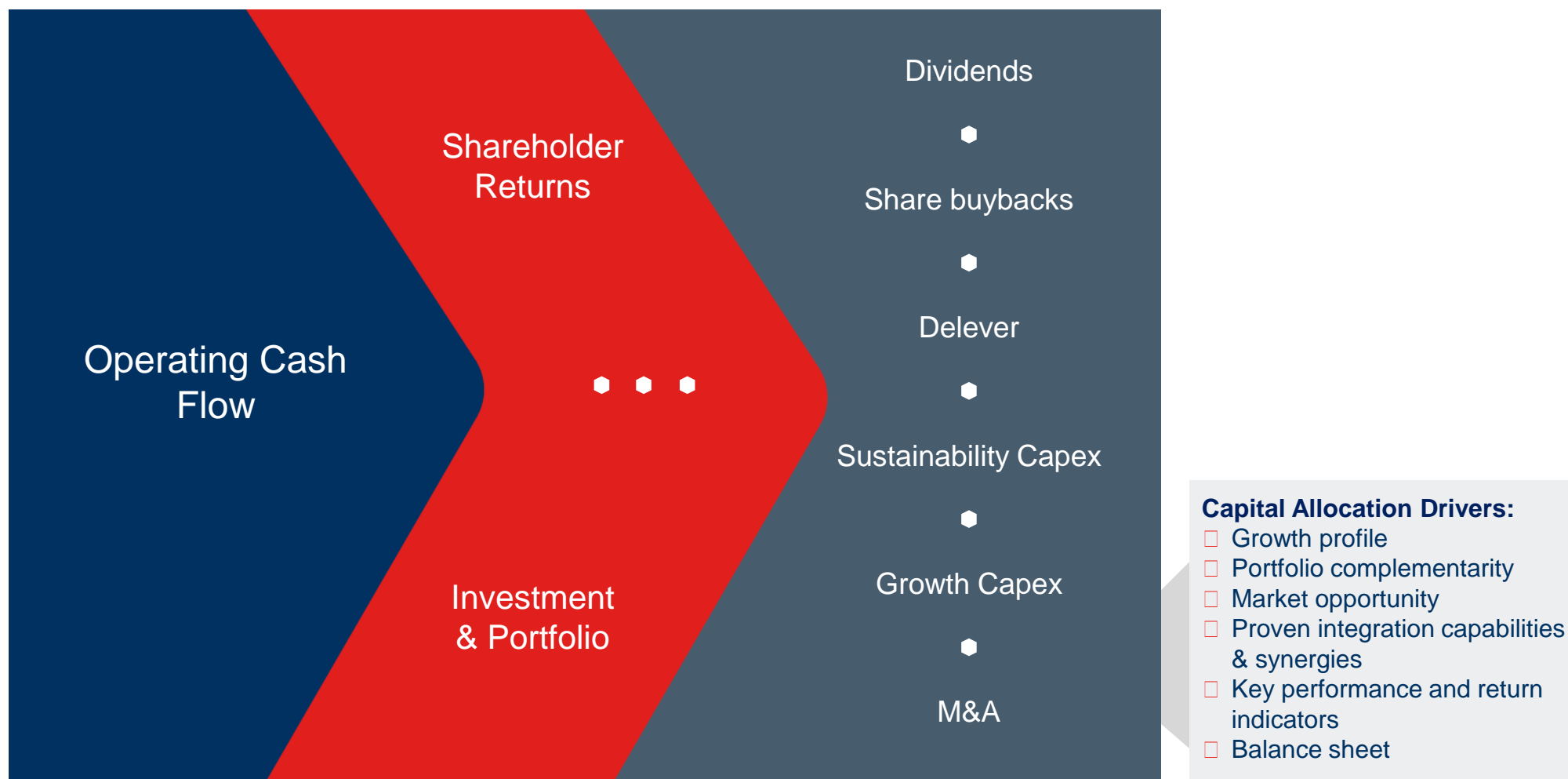


Capitalisation Table	€ millions
OeKB Term Loan	306
Perpetual Bond	128
Other Loans & Facilities	717
<b>Total Gross Indebtedness</b>	<b>1,151</b>
Cash, Equivalents & Marketable Securities	409
<b>Net Debt</b>	<b>741</b>



# Capital strategy

Dynamic capital allocation over time, supporting long term strategy, providing flexibility for market opportunities and increasing shareholder returns



Target leverage below 2.0x operating EBITDA

# Compelling investment case

1

## Clear strategy and strong competitive position

- Strong market position with 15% global market share, clear leadership in Americas, Europe and Middle East with broadest value-added solution offering
- Opportunity to develop and leverage technology across regions and portfolio
- Highest level of vertical integration in the industry with unique mineral sources and 50%+ self-sufficiency in all raw materials

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- At least €60m synergies in the 2018 P&L and €110m in synergies to be achieved by 2020
- Interest expense reduced by at least €10m in 2018 and €20m in 2019 after re-financing completed in August 2018
- Additional “below the line” opportunities in working capital and tax

**Taking  
innovation  
to 1200°C  
and beyond**



RHI MAGNESITA





RHI MAGNESITA

# Appendix





# Driving client performance improvements

Equipment/Application	Service	Starting point	End game	Improvement
<b>Client A (Integrated)</b>				
Basic Oxygen Furnace (B.O.F.)	Refractories	1,900 heats	7,200 heats	<b>+385%</b>
	Assembly	145 h	40 h	<b>3.8X faster</b>
Blast Furnace	Runners	1,600 h	330 h	<b>4.8X faster</b>
Torpedo Cast	Casting	230 kton metal	640 kton metal	<b>+280%</b>
<b>Client B (Mini Mills)</b>				
EAF	Roof	300 heats	2,100 heats	<b>+600%</b>
	Assembly	27 h	8 h	<b>3.4X faster</b>
	Working Line	360 heats	1,200 heats	<b>+200%</b>
Slide Gate	Refractory	3 heats	9 heats	<b>+200%</b>
<b>Client C (Stainless)</b>				
AOD	Working Line	55 heats	70 heats	<b>27%</b>
EAF	Working Line	200 heats	300 heats	<b>50%</b>
Ladle	Working Line	50 heats	65 heats	<b>30%</b>

Source: RHI Magnesita



# Management team

Executive Management Team	Joined	Background
<b>Stefan Borgas</b> <i>CEO</i>	2016	<ul style="list-style-type: none"> <li>Former CEO of Israel Chemicals Ltd and Lonza Group</li> <li>Several management positions at BASF</li> </ul>
<b>Octavio Lopes</b> <i>CFO</i>	2012	<ul style="list-style-type: none"> <li>Former CEO of Magnesita and Equatorial Energia</li> <li>Several management positions at GP Investments</li> </ul>
<b>Luis R. Bittencourt</b> <i>CTO</i>	1989	<ul style="list-style-type: none"> <li>Former R&amp;D and raw material VP of Magnesita</li> <li>BA in mining engineering (UFMG), MS degree in metallurgical engineering (University of Utah) and PhD in ceramic engineering (University of Missouri)</li> </ul>
<b>Gerd Schubert</b> <i>COO</i>	2017	<ul style="list-style-type: none"> <li>Former COO of Pfeiderer S.A.</li> <li>Global Operations Director at Ferro Deutschland GmbH and Ferro Spain</li> </ul>
<b>Reinhold Steiner</b> <i>CSO</i>	2012	<ul style="list-style-type: none"> <li>Former CSO Steel Division of RHI</li> <li>Former CEO of Chtpz Group</li> </ul>
<b>Thomas Jakowiak</b> <i>Integration</i>	2000	<ul style="list-style-type: none"> <li>Former CSO Industrial Division of RHI</li> <li>Several leadership positions at RHI</li> </ul>
<b>Simone Oremovic</b> <i>Human Resources</i>	2017	<ul style="list-style-type: none"> <li>19 years of experience in leadership positions in HR, among other fields at GE, Telekom Austria, IBM and Shire/Baxter</li> </ul>
<b>Luiz Rossato</b> <i>Corporate Develop.</i>	2008	<ul style="list-style-type: none"> <li>Former Legal Council, M&amp;A and Institutional VP of Magnesita</li> <li>General Counsel of the Year 2012 by International Law Office</li> </ul>

## FX

## EBITDA Sensitivity on an annualised basis

vs €	Unit	Δ in EBITDA (€m)
USD	+1 cent	4.30
CNY	+0.01 yuan	-0.24
BRL	+0.10 reais	2.12
INR	+1 rupee	0.58

## H1 2018 Exchange Rates

1 € =	Closing Rate	Average rate
USD	1.16	1.21
CNY	7.70	7.70
BRL	4.49	4.08
INR	79.78	79.13

**Find out more at**  
**[rhimagnesita.com](https://rhimagnesita.com)**

