RHI MAGNESITA

Capital Markets Day

14 November 2019

RHI MAGNESITA

Agenda

8.00am **Registration & coffee**

8.30am **Introduction and strategy update**
Stefan Borgas, CEO
followed by Q&A

9.00am **Developing the business model**
Gustavo Franco, CSO
followed by Q&A

9.45am **Optimising production**
Gerd Schubert, COO
followed by Q&A

10.30am **Coffee break (30 minutes)**

11.00am **Leading the industry through innovation**
Luis Bittencourt, CTO
followed by Q&A

11.45am **Delivering value**
Ian Botha, CFO
followed by Q&A

12.30pm **Closing remarks**
Stefan Borgas, CEO

1.00pm **Lunch**

Introducing the team

Stefan Borgas
Chief Executive Officer

Ian Botha
Chief Financial Officer

Gustavo Franco
Chief Sales Officer

Gerd Schubert
Chief Operating Officer

Luis Bittencourt
Chief Technology Officer

RHI MAGNESITA

Strategy update

Stefan Borgas, CEO

Overview

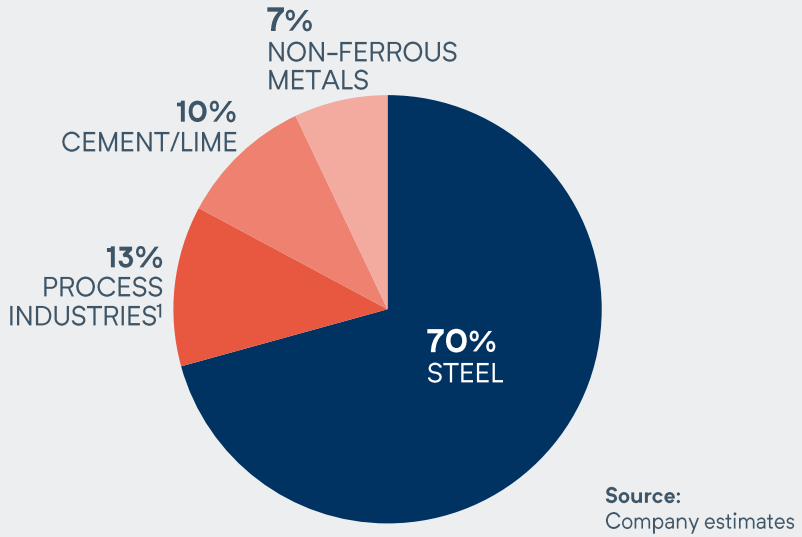
Merger of RHI and Magnesita in 2017 created the world's leading refractory business

Highlights

- 14,000 employees
- 32 production sites in 15 countries
- 10 raw material sites across 4 continents
- 10,000 customers
- €80m of synergies to date and on track to deliver €110m by 2020

Strong delivery track record

Diversified end markets



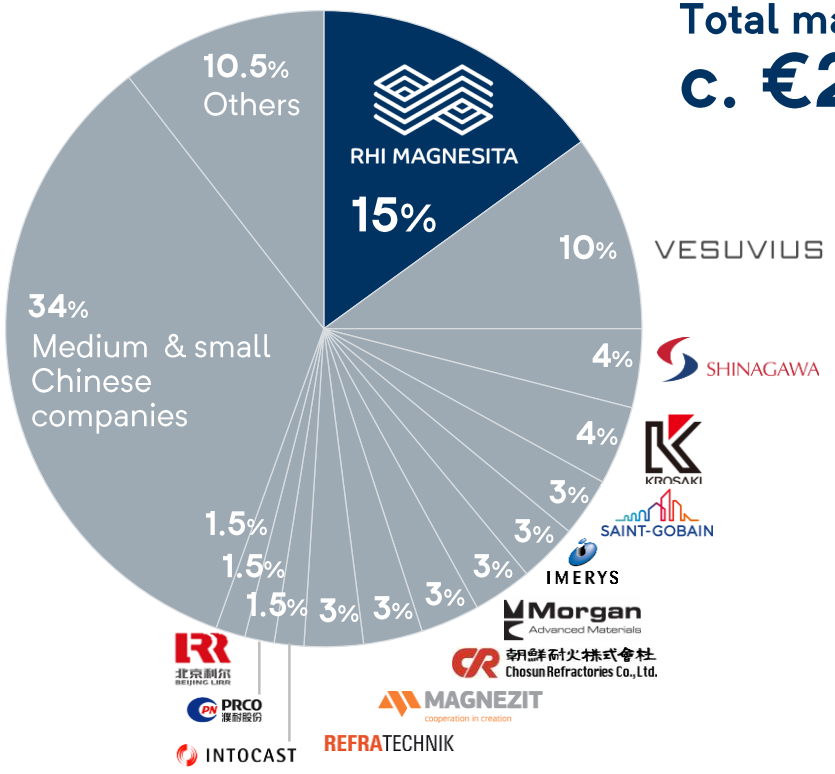
Broad based business

Note: 1) Process industries includes revenue from the following segments: Glass, Energy, Environmental and Chemicals, and mineral sales

Global leader in a highly fragmented market

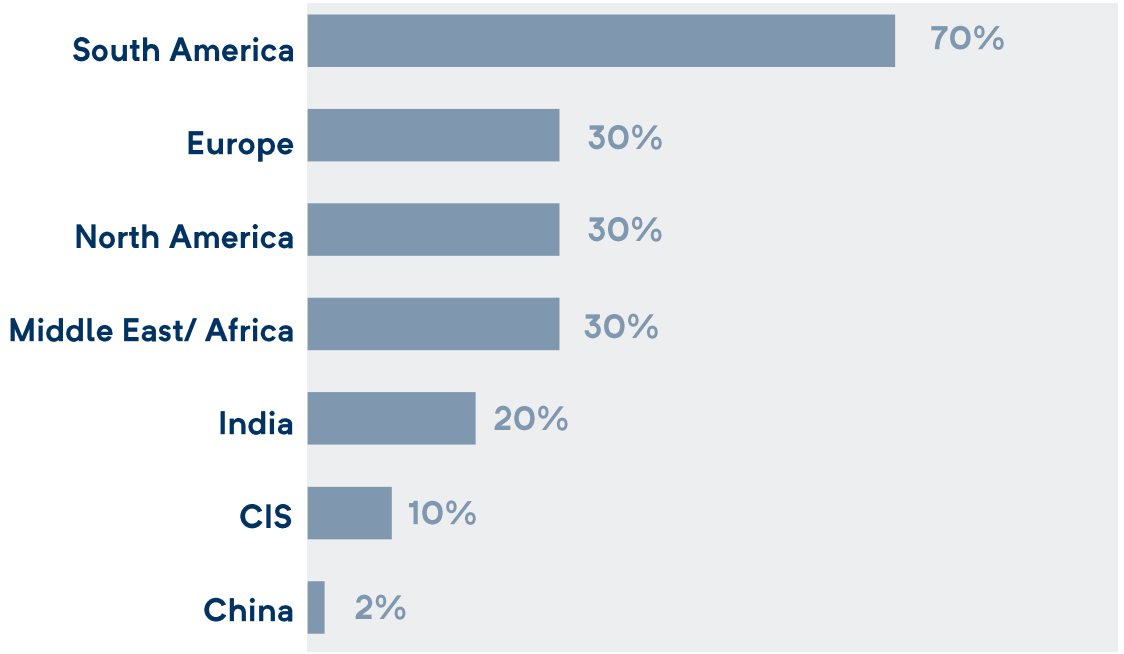
Growth opportunity through consolidation

Global market share



Total market size:
c. €20bn

Regional market share[1]



Note: 1) Approximate market shares based on company estimates, split by revenue

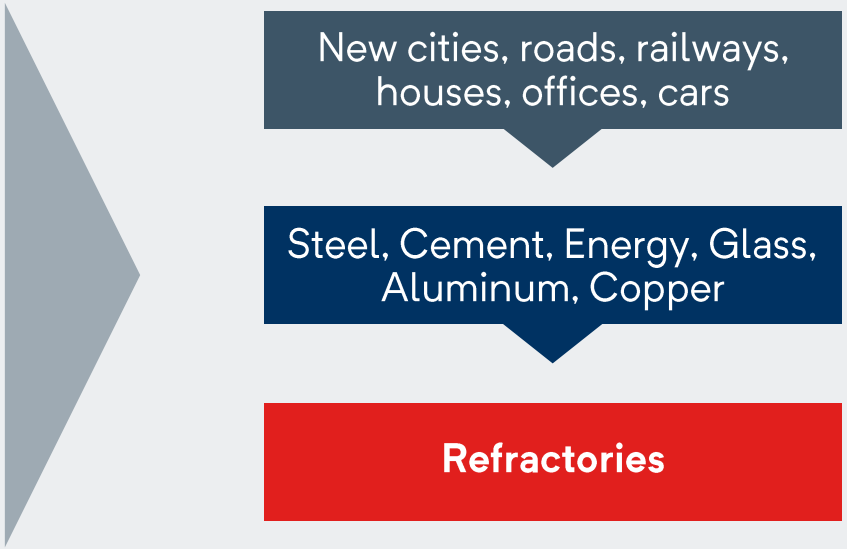
Serving a blue chip client base

STEEL	CEMENT	GLASS	METALS
ArcelorMittal, TATA STEEL, TECHINT, GERDAU, posco, NUCOR, OUTOKUMPU, ThyssenKrupp, NLMK, Severstal, JSW, ERDEMIR, Steel Dynamics, Inc., 盛隆冶金	LafargeHolcim, HEIDELBERGCEMENT, CEMEX, Votorantim, Sinoma 中国中材, CNBM	SCHOTT, ArdaghGlass, Vitro, O-I	VALE, bhpbilliton, GLENCORE, RioTinto
Serving 1,050 of 1,300 plants[1]	**Serving 1,350** of 1,500 plants[1]	**Serving 800** of 900 plants[1]	**Serving 650** of 2,000 plants[1]

Note: 1) Approximate number of plants worldwide, excluding China, based on Company estimates

Mega trends underpin long-term market growth

- Mega trends
  - Urbanisation
  - Globalisation
  - Motorisation
  - Industrialisation
- Emerging trends reshaping the future of the steel industry
  - Global climate and sustainability action
  - Fourth industrial revolution
- Estimated population growth of 2 billion by 2050 (9-10bn)
- Estimated increase in middle class of 3-4 billion people by 2050



Refractories are essential for our modern world

1 tonne of STEEL
demands ~10–15 Kg
of refractories

1 tonne of CEMENT
demands ~1 Kg
of refractories

1 tonne of GLASS
demands ~4 Kg
of refractories

1 tonne of ALUMINIUM
demands ~6 Kg
of refractories

1 tonne of COPPER
demands ~3 Kg
of refractories

Our strategic difference

Largest global footprint
Benefiting from scale and proximity to customers

Backward integration
Technical and financial advantage

Technical leadership
480 experts across 90 countries

Full suite of products & services
Delivering more than refractory materials to address customers' needs

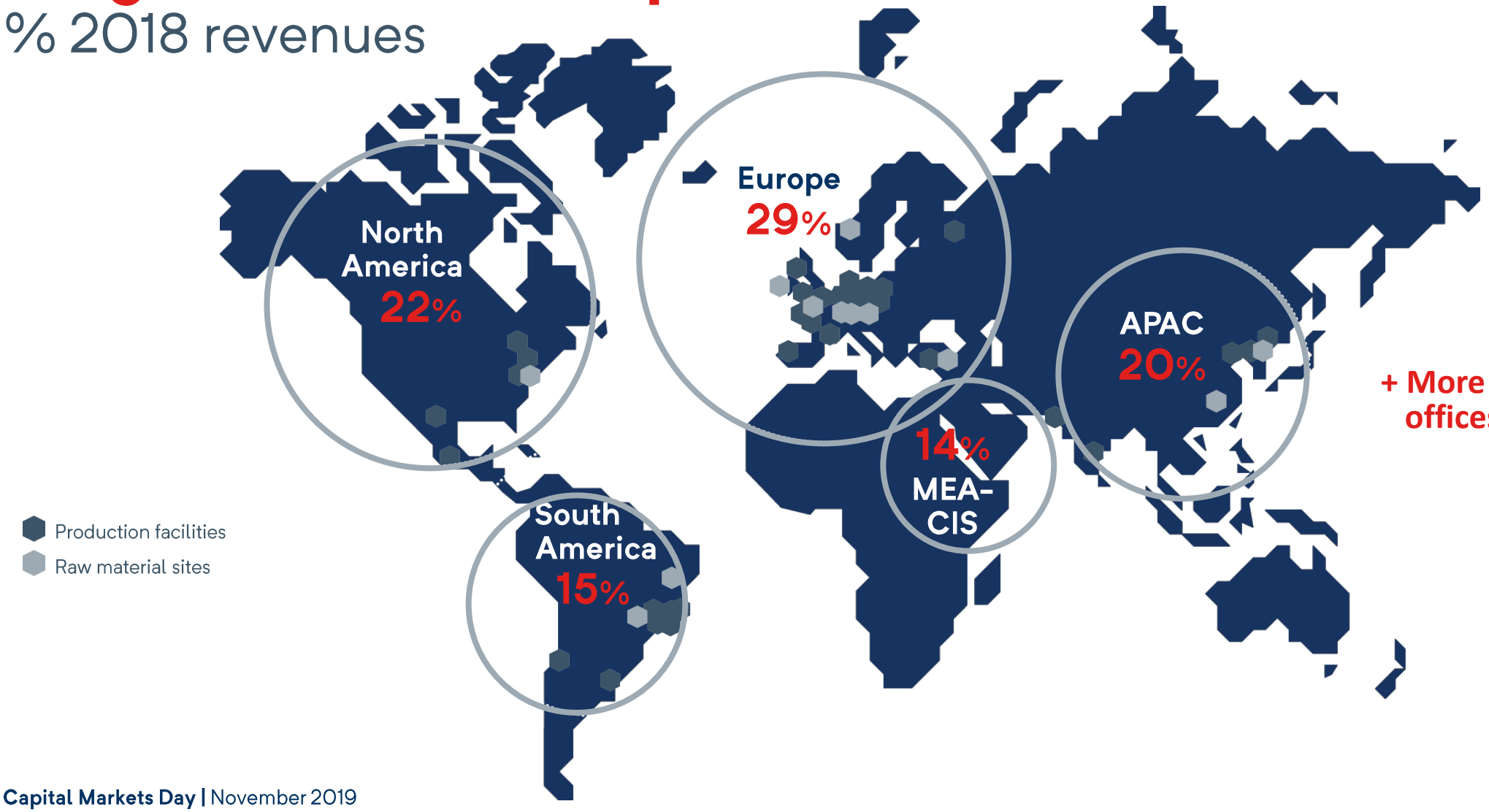
Low cost operator
Underpinning profitable growth

Solutions offerings
Long-term client partnerships to drive efficiencies

Underpinned by the strength of our people and culture and our commitment to a sustainable business model

Largest Global Footprint

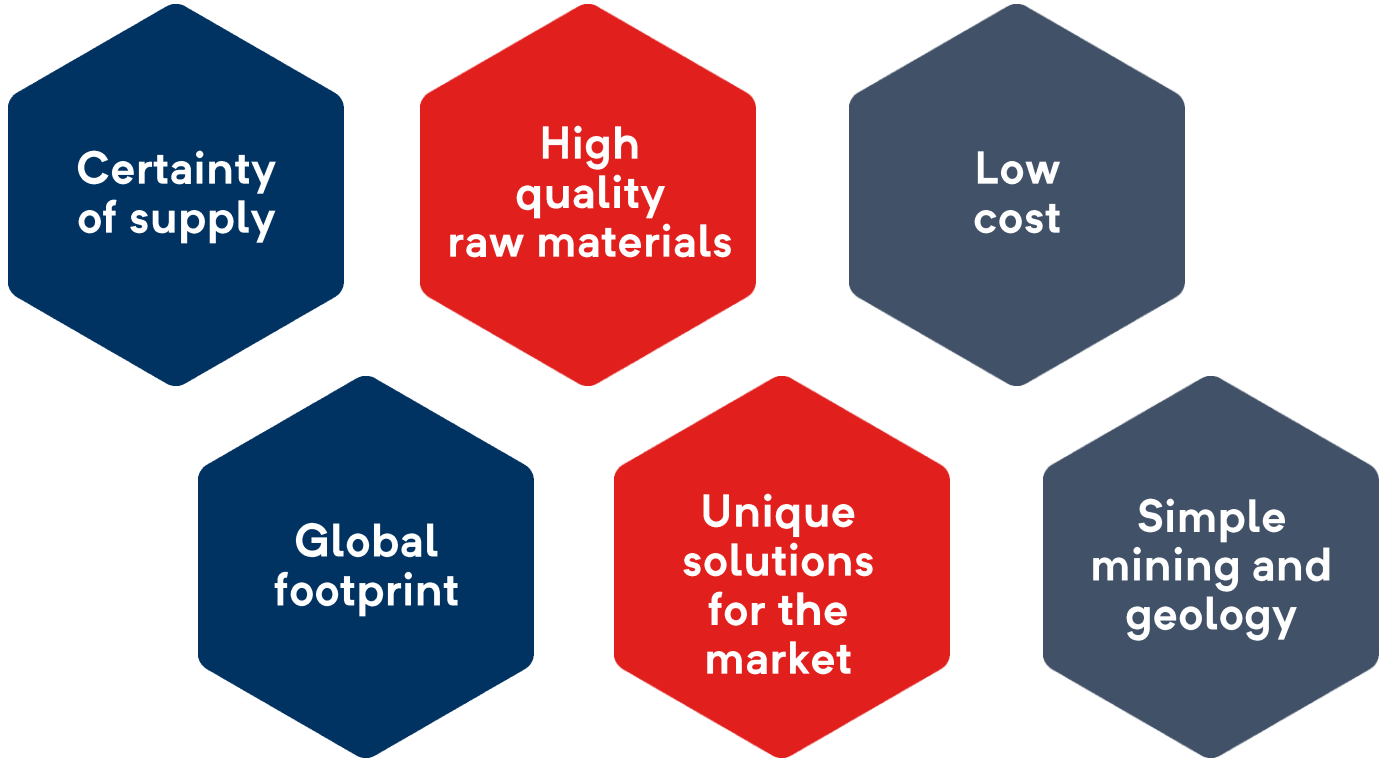
% 2018 revenues



+ More than 70 sales offices worldwide

Backwards integration is a strategic advantage

Unrivalled offering for customers



Leading industry returns

70% backwards integrated in basic raw materials / 50% in total raw materials

Technological leadership

2
R&D Hubs

3
R&D Centers

480
Experts[1]

+110
PhD's / Masters[1]

2.2%
R&D as a % of revenues[1]

12%
New product revenue as % of revenues[2]

Raw materials advantage

Applied R&D

Innovation

Aim:
to be the leading solution provider in the refractory industry based on innovative technologies and digitalisation

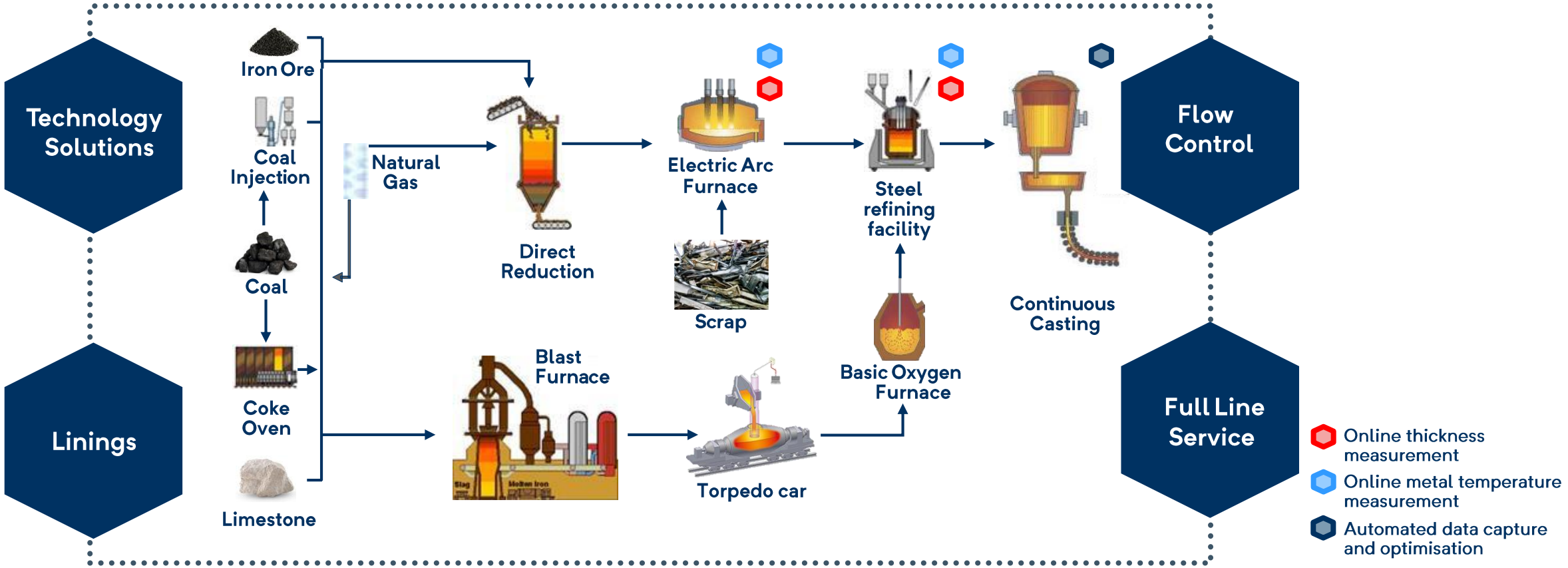
Notes:
1) R&D + Technical Marketing and Product management
2) Defined as products and brands less than 5 years old

Group's strategy builds on strengths, to benefit from the market opportunities

Increase EBITA per annum by €70-€80m
One time cost of €220m, of which 1/3 is financed by net working capital reduction

Full suite of products complemented by knowledge and services

Example: Steel customer



Expanding our solutions offering

Innovation to further enhance business model

Current solutions offering

Refractory products

- Functional refractory products
- Tailor made refractory products (shapes/grade)

Technical services

- On-site consulting & supervision
- Installation and design
- On-site commissioning & heat-up
- Post mortem analysis, simulations & customer training

Supply chain services

- Warehousing
- "Track & Trace", just in time delivery
- E-commerce
- Insourced processes (purchasing, planning)

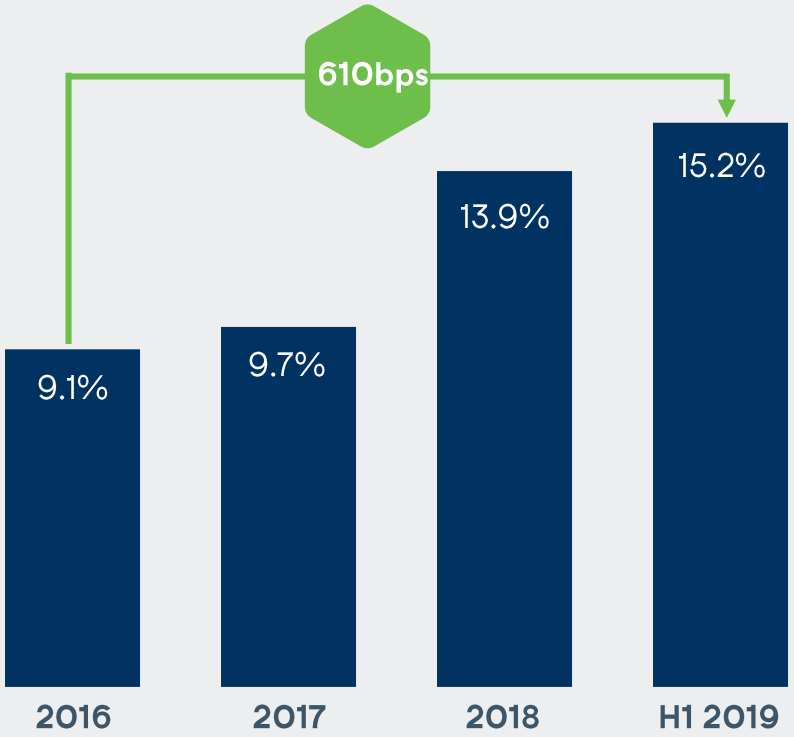
Future innovation

- Recycling of waste
- Advanced services
- Digitalisation (APO, thickness measurement, temperature measurement)
- Automation

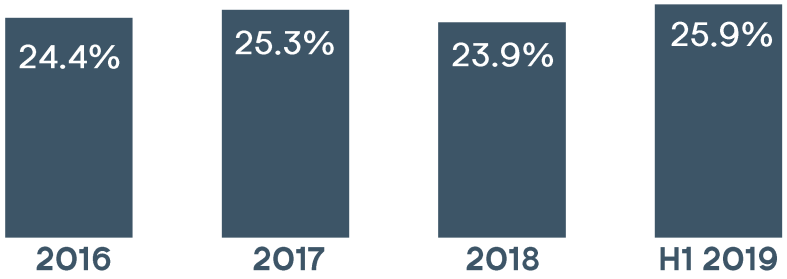
Drive solutions from 22% to 40% of sales and improve Group margin

Consistent focus on cost

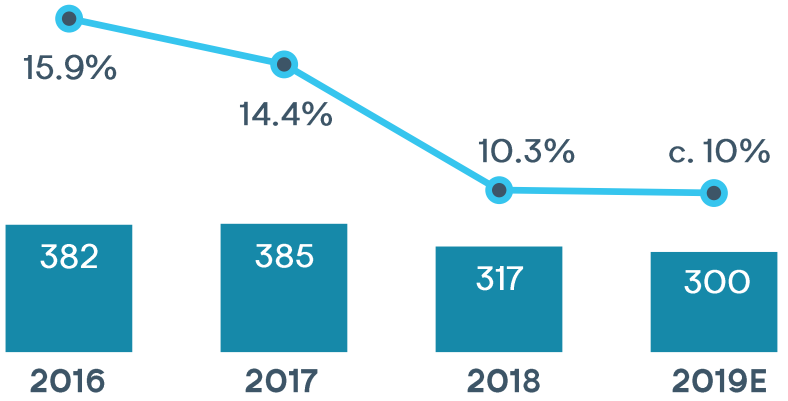
Adjusted EBITA margin (%)



Consistent gross margin (%)



Fixed cost discipline (SG&A in €m and %[1])



Note: 1) SG&A calculated as a percentage of revenues. Figures for 2017, 2018 and 2019 exclude R&D expenses

Significant further cost improvement opportunities

Ongoing operational excellence

- Implementation of processes and systems
- Culture and behaviour change

Keep conversion costs flat — offsetting price inflation

Increase productivity by 2% per year

Production Optimisation Plan

- Plant consolidation
- Plant specialisation and cost reduction
- Raw material re-organisation
- Implement state of the art technologies

Cost savings of €40m by 2022

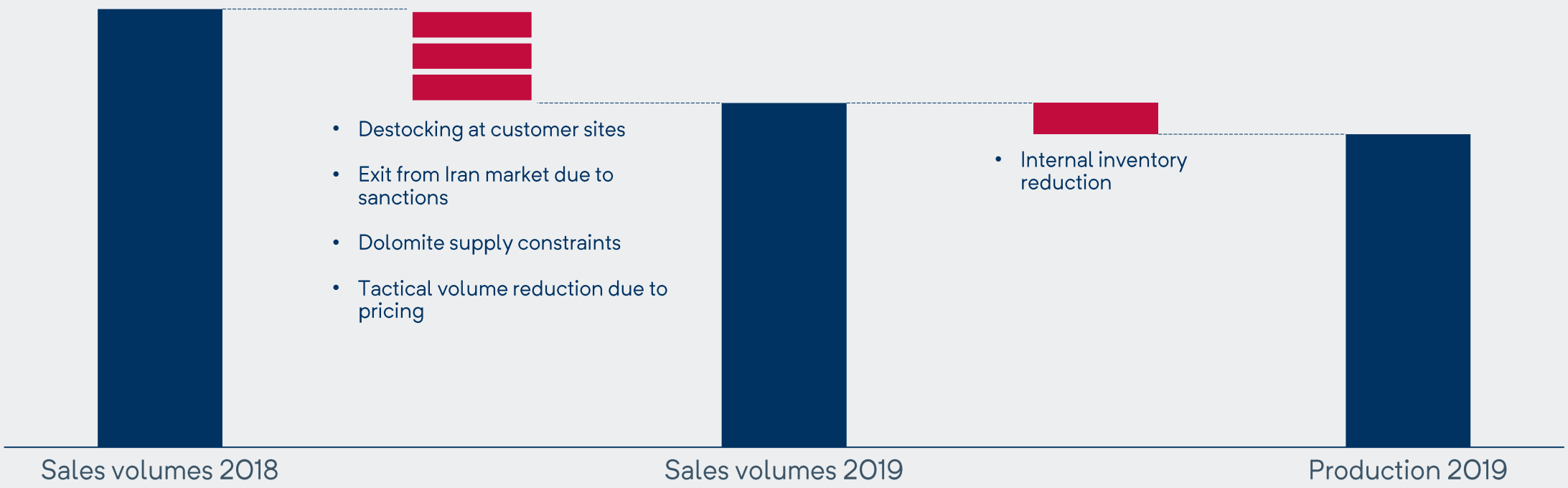
Future opportunity

- Benefits from automation/digitisation
- Further supply chain improvements
- Ongoing lean management benefits

Further cost benefits to be defined

Weak volume backdrop for Steel division in 2019

Driven by customer destocking, selective market exit and some direct market volume loss



Our 2025 Sustainability targets: Scope 1

CO_2 emissions

Reduce by 15% per tonne by 2025[1]

Energy

Reduce by 5% per tonne 2025

NOx and SOx emissions

Reduce by 30%, starting with China by 2021

Recycling

Increase use of secondary raw materials to 10% by 2025

Safety

Strong safety culture with zero accidents

Diversity

Improve gender diversity on Board and in senior leadership by 33% by 2025

Community

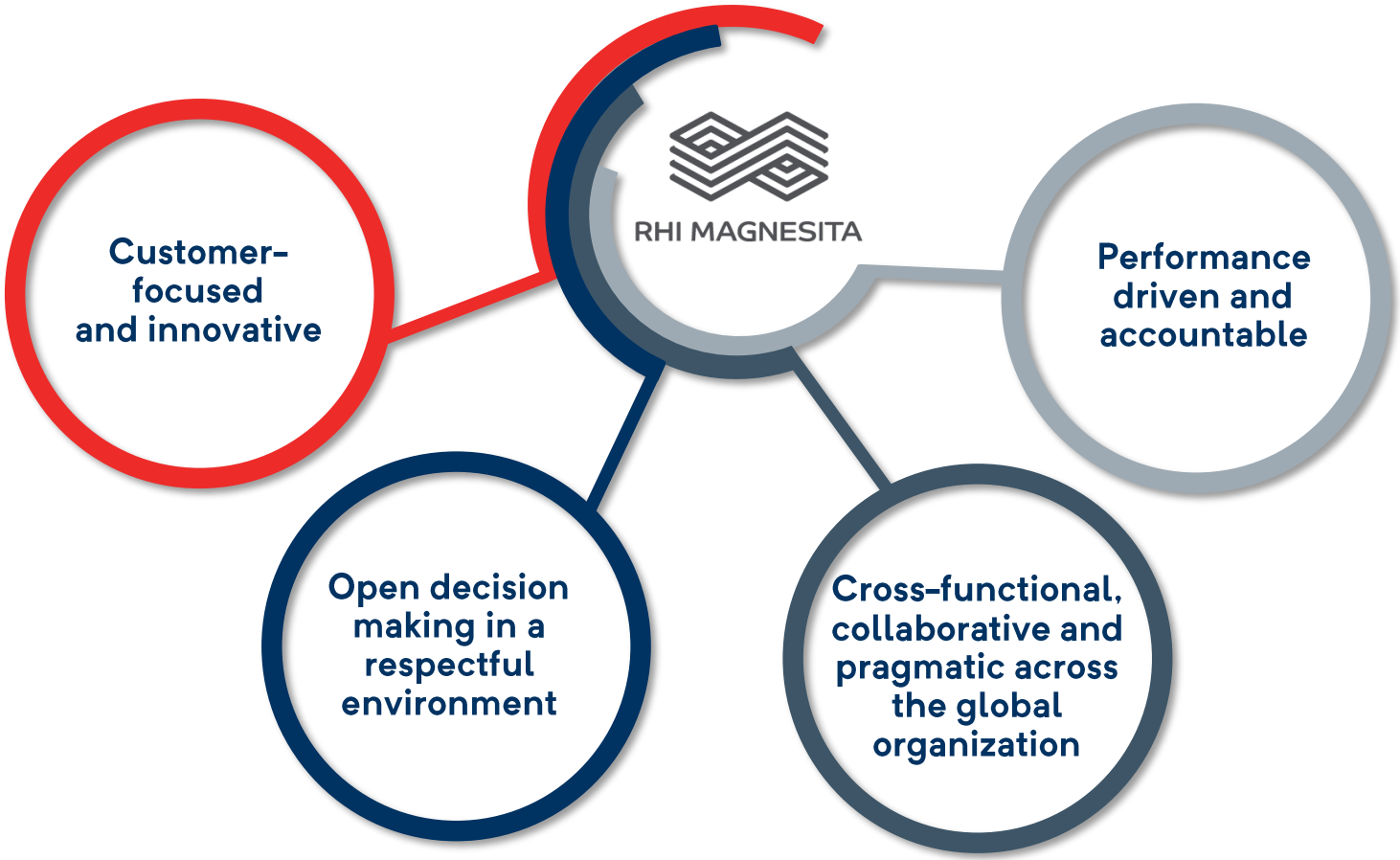
Develop strategic, impact-focused community investment partnerships and invest 1% of net profits

Scope 2 & 3: Significant further opportunity to develop customer solutions to minimise energy consumption and emissions

Note: Targets are compared to 2018 baseline; 1) Includes Scope 2 and 3

Culture

Critical to success of the merger and future growth



Our people

Performance driven and accountable

Strengthening the team

New international graduate programme – 15 new planned hires globally

Employer branding launch with more than 70,000 followers on LinkedIn

Incentivisation

Creation of one global bonus scheme and a new role profiling framework

Developing our culture

Culture implementation
60 champions / 3,000 employees trained

Diversity, a focus area – workforce currently represented by 11% women across 38 nationalities. Senior management represented by 5 nationalities

Training and development critical

Roll out of new leadership programme (Fit To Lead) with 150 senior leaders aligned around a new RHI Magnesita capability framework

Full talent management and succession planning process implemented

Key messages

- Merger of RHI and Magnesita created global refractories leader with clear strategic differentiators
- Integration significantly complete
- Resilient business model
- Strong balance sheet provides opportunities for continued investment and consolidation
- Compelling opportunities in new markets, especially India and China

Priorities 2020 — 2022:

1. Maximising value from commercial strategy
2. Production optimisation with cost reduction
3. Development of business model towards solutions
4. Measured consolidation opportunities
5. Improve operational cash conversion and grow cash flow

RHI MAGNESITA

Developing the business model

Gustavo Franco, Chief Sales Officer

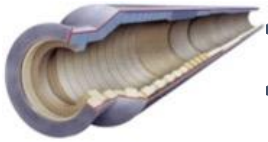
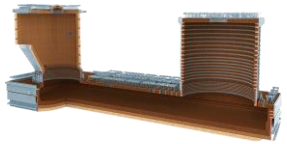
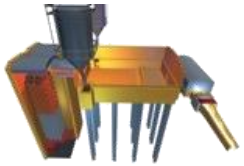
Key messages

- Expansion of business model to increase value in core markets
- Significant opportunity in selected growth markets
- Price management programme demonstrates “value-based approach” strategy
- Business model to be complemented by digital solutions

Our business at a glance

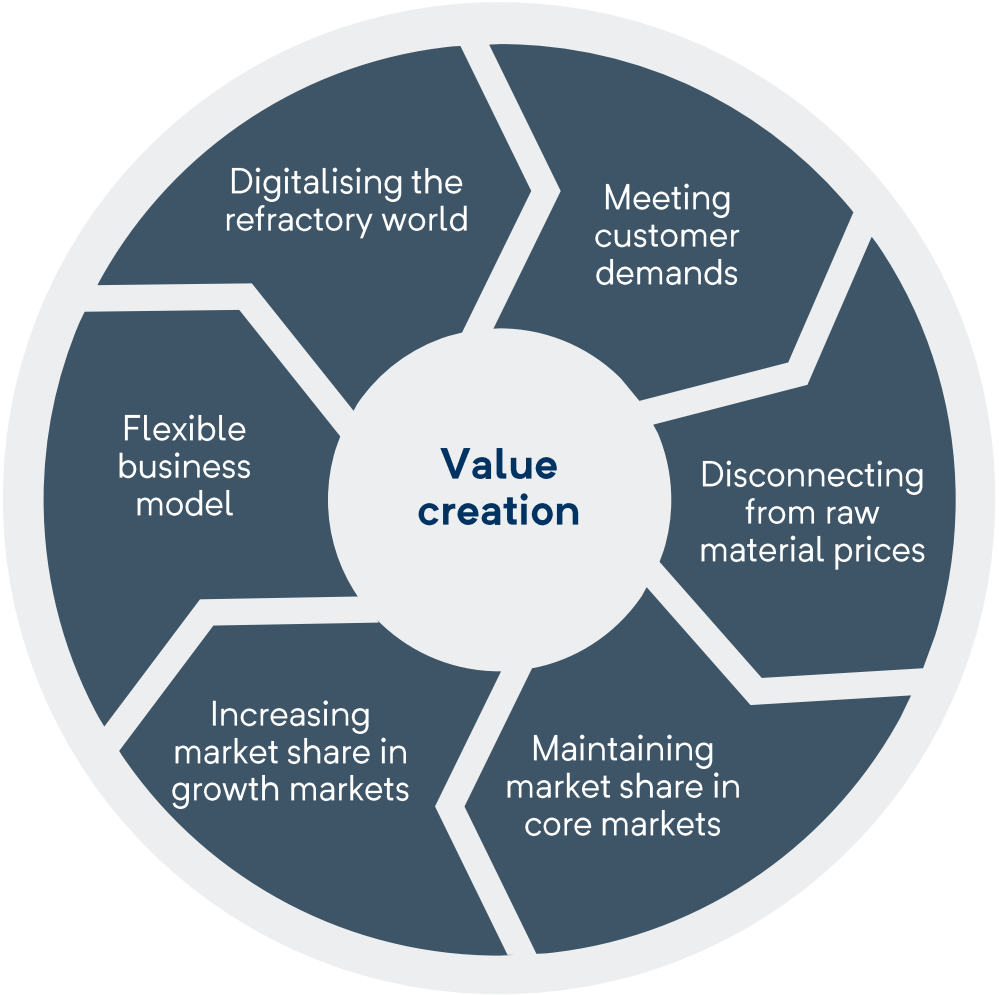
Industrial division

Project businesses

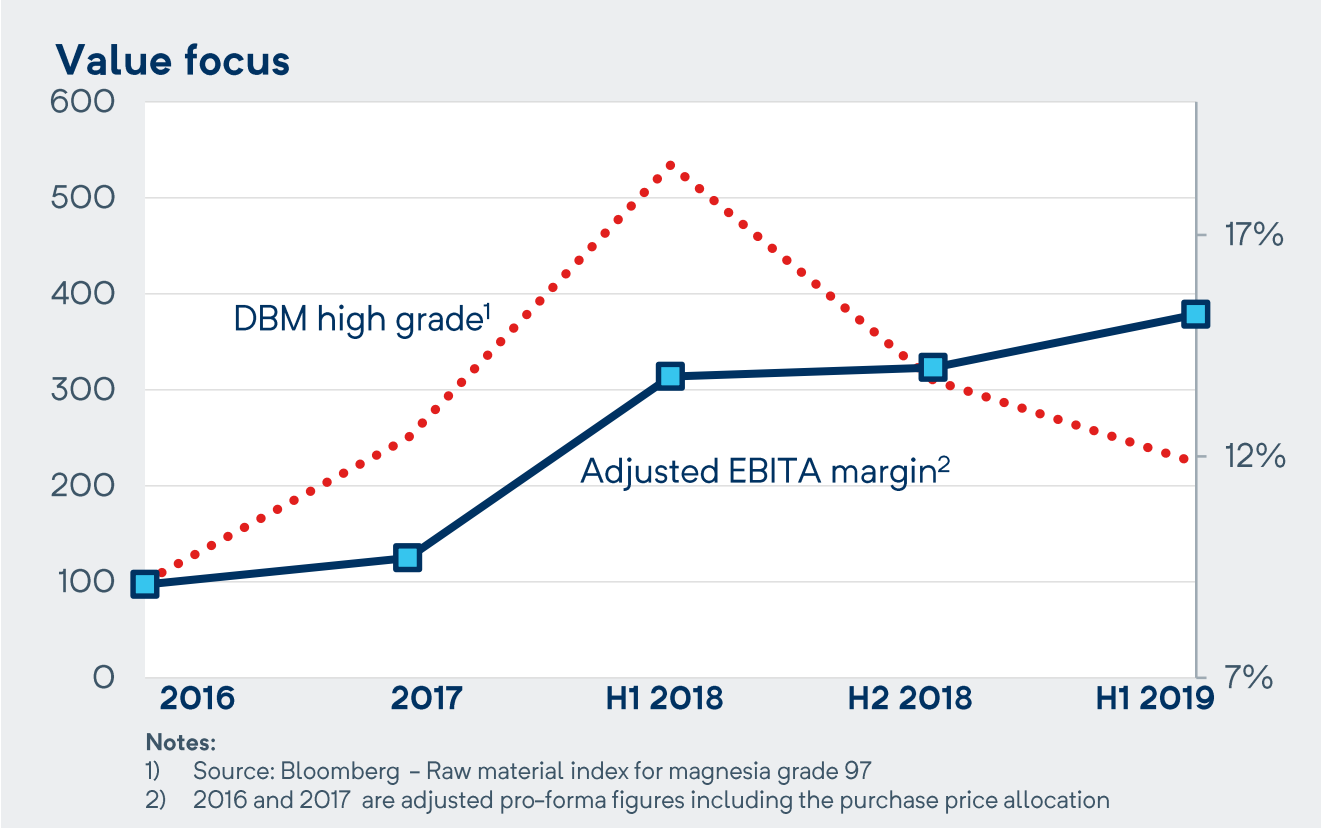
Customer industries	Main application	Lifetime and costs	Refractory characteristics
Steel 70% of revenues	Basic oxygen furnace, Electric arc furnace, ladles, flow control 	• 20 minutes to 2 months • c.3% of customers' costs	• Part of customers' operational expenditure • Systems and solutions for complete refractory management • Demand correlated to output
Cement/Lime 10% of revenues	Rotary kiln 	• Annually • c. 0.5% of customers' costs	
Non-ferrous metals 7% of revenues	Copper flash smelter 	• 1 to 10 years • c. 0.2% of customers' costs	• Part of customers' capital expenditure • Longer replacement cycles based on project driven demand • Complete lining concepts including refractory engineering • Wide areas of application
Glass[1] 7% of revenues	Glass furnace 	• Up to 10 years • c. 1% of customers' costs	
Energy, Environmental, Chemicals[1] 6% of revenues	Secondary reformer 	• 5 to 10 years • c. 1.5% of customers' costs	

Note: 1) Includes revenue from mineral sales

How do we create value for RHI Magnesita



The focus on a value-based approach, disconnecting from raw material prices



Notes:
1) Source: Bloomberg – Raw material index for magnesia grade 97
2) 2016 and 2017 are adjusted pro-forma figures including the purchase price allocation

Value-based approach

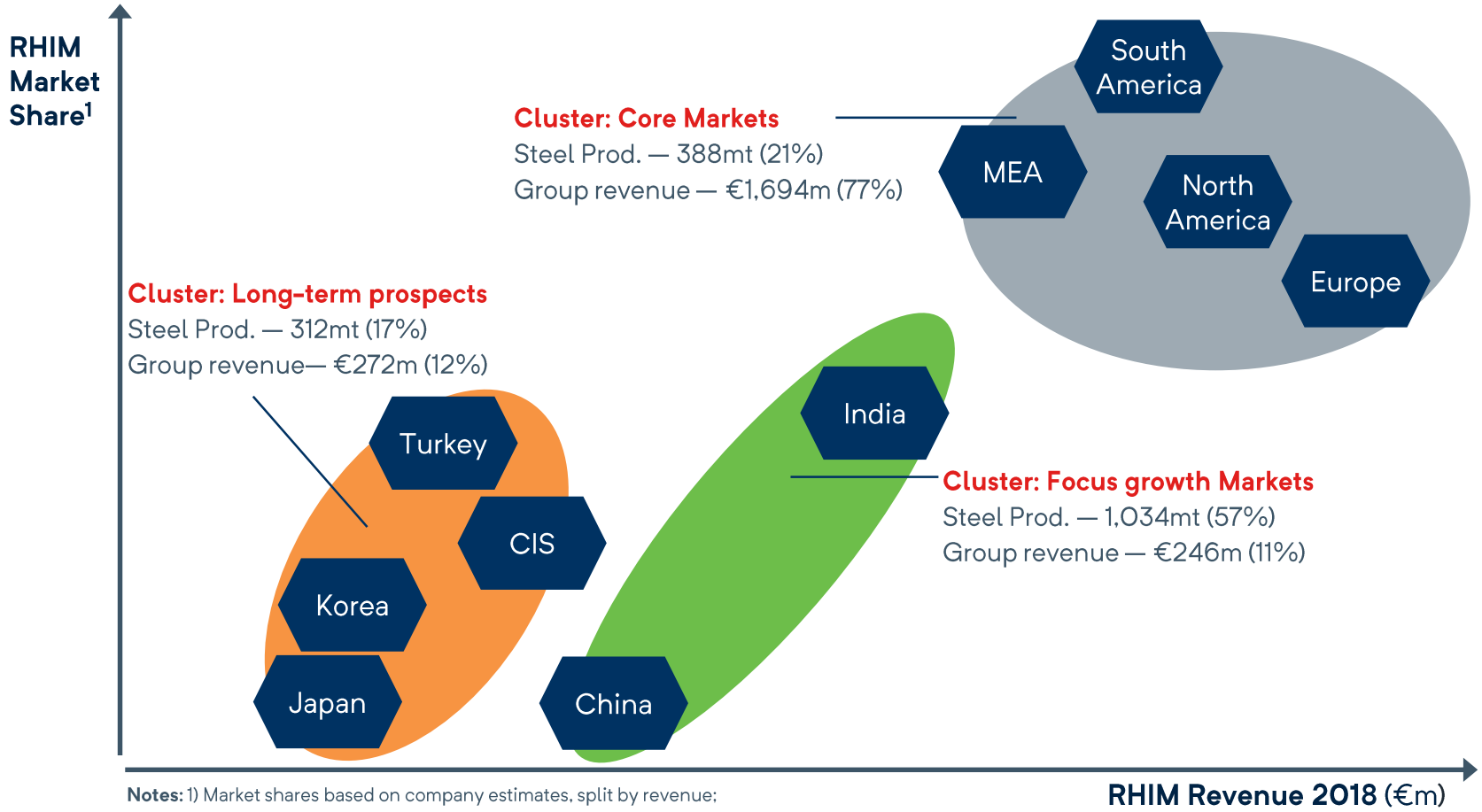
- Highly tactical
- Regional pricing concept
- Global player in all product offerings
- Price discipline

Value offering

- Broad product portfolio covering full performance spectrum
- Leveraging expertise for cost-optimised offering
- Continuously driving value at customer sites through systematic performance evaluation

Deep dive: steel

Significant potential in growth markets



Notes: 1) Market shares based on company estimates, split by revenue;

Cluster: core markets

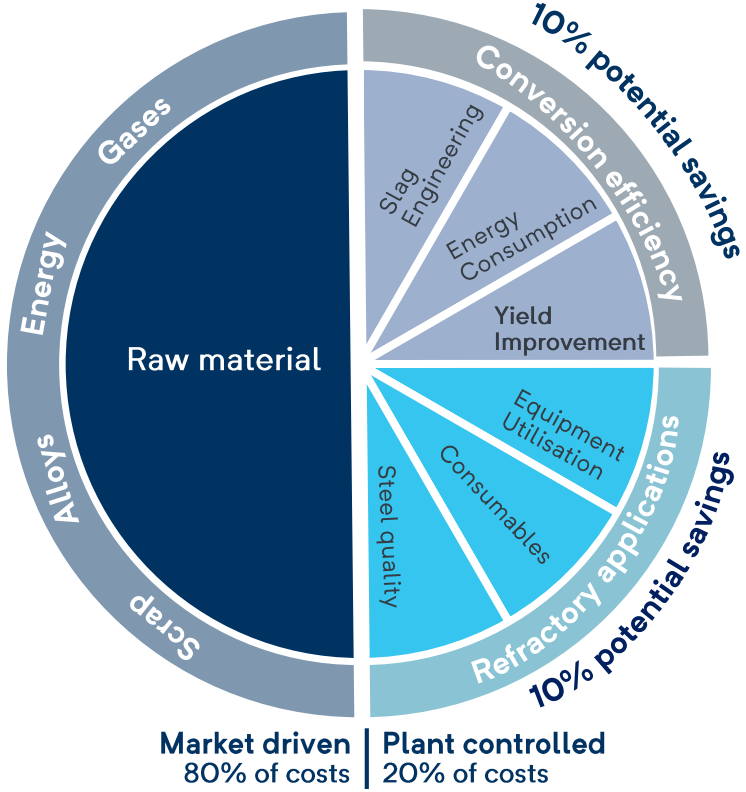
Maintaining market share in Core Markets

Market trajectory		Impact	Strategic orientation
North America • Mature market • Larger players including RHI Magnesita taking market share	• Increasing trade barriers • High share of EAF production at 70%		Focus on driving value, leveraging strong market offering to gain market share
Europe • Tightening environmental restrictions • Mature market with heavy exposure to automotive	• High cost production base • Some trade barriers driving retaliatory protectionism		Focus on preserving value and market share
South America • Dynamic market with growing domestic demand • Strong steel exports	• Political uncertainty subduing domestic GDP growth • Balanced share between EAF and BOF		Retain market share and grow with the market, capitalize on breadth of offering
MEA • Political uncertainty remains in the MEA region	• Exit from Iran in 2019 following sanctions		Focus on preserving value and mantain market leadership, opportunities in new solutions

Cluster: core markets

Maintaining market share through solutions business model

Client cost structure



Client benefit

- ✓ Reduced downtime
- ✓ Lower refractory consumption
- ✓ Lower energy and other raw materials consumption
- ✓ Higher productivity

RHI Magnesita benefit

- ✓ Higher market share
- ✓ Higher client retention
- ✓ Lower competition
- ✓ Longer contracts

Current solutions portfolio

127 solutions contracts worldwide

Strategy for selling solutions

Customer benefits

Productivity
Reducing consumption of refractories and higher output of finished products

Working Capital
Optimising customer inventory levels

Health & Safety
Health and Safety focus on accident free production

Product Quality
Opportunity costs in lower scrap rates

Supply Flexibility
Flexibility of supply to meet fluctuating customer demand

Capex Savings
More efficient usage of and spend on fixed assets

Environmental Impact Reduction
Emission reduction, thermal efficiency drive and recycling

Direct Cost Reduction

Cluster: focus growth markets

Local for local strategy to pursue profitable growth in China & India

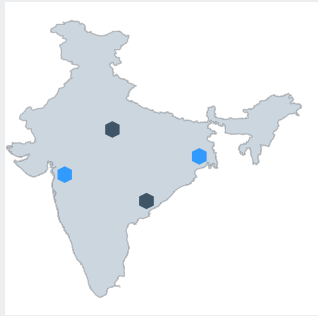
China

- Implementing "local for local" strategy
  - Further ramp-up of sales force
  - Develop localised product portfolio
  - Improve local technical support
  - Execute Chizhou Dolomite business plan
- Small complementary M&A to complement local portfolio and facilitate penetration of solutions business in China
- Pursue new business through local market insights and tailored product portfolios
- First FLS contract secured in H1 2019

Production facility Sales offices

India

- India merger to consolidate Indian entities, operations and sales teams
- Implementing local for local strategy
  - Local MGU production to penetrate Indian market
  - Sales expansion in Industrials
  - Ramp-up Non-basic Products for Cement/Lime
  - Expand local R&D to further localise product portfolio and increase time-to-market



Targeting India and China c.20% of Groups revenue by 2022

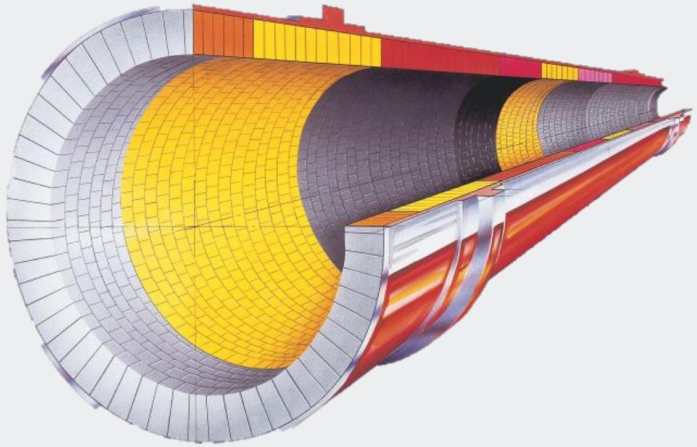
Industrial division

Continued strong momentum in the short term

Market trajectory	Impact	Strategic orientation
Cement • Steady growth in line with GDP and regional construction activity • Local for local – Cement typically locally produced and supplied • Growing environmental pressure, as one of the biggest CO_2 emitting industries globally		Focus on capturing local market growth and driving value through digital solution services
Glass • Steady long term growth of glass demand: construction, automotive and consumables • Refractory technology not likely to shift between Basic vs. Alumina		Drive value generation on basis of strong second market position & backward integration
Non-ferrous metals • Positive long-term growth dynamics driven by megatrends such as electrification, energy storage solutions and stainless demand • Aluminium has different dynamics, being highly commoditized		Focus on preserving value through expanding customer offering
Energy, Environmental, Chemicals • Driven by underlying trends in oil & gas and petro-chemical industry, in close correlation with oil price development • Demand characterised mainly by installation & engineering services • Local business, with a fragmented supplier base		Focus on driving value through expanding customer offering

Cement market focus

Rotary kiln



- One main application (rotary kiln)
- Few brands and shapes
- Relining once a year

- RHI Magnesita is the global leader
- Consolidated market
- Competitive advantage coming from vertical integration (high quality, low cost raw material)
- Consistent business model (product and supply chain) bringing reliability and just in time delivery to our core markets
- Strong regional presence, including China

Expanding our solutions offering

Innovation to further enhance business model

Current solutions offering

Refractory products	Technical services	Supply chain services	Future innovation
• Functional refractory products • Tailor made refractory products (shapes/grade)	• On-site consulting & supervision • Installation and design • On-site commissioning & heat-up • Post mortem analysis, simulations & customer training	• Warehousing • "Track & Trace", just in time delivery • E-commerce • Insourced processes (purchasing, planning)	• Recycling of waste • Advanced services • Digitalisation (APO, thickness measurement, temperature measurement) • Automation

Drive solutions from 22% to 40% of sales and improve Group margin

Digitalisation offers exciting new solutions

Current solutions offerings

- Product
- Application
- Supply Chain
- Service

Expanded solutions offerings

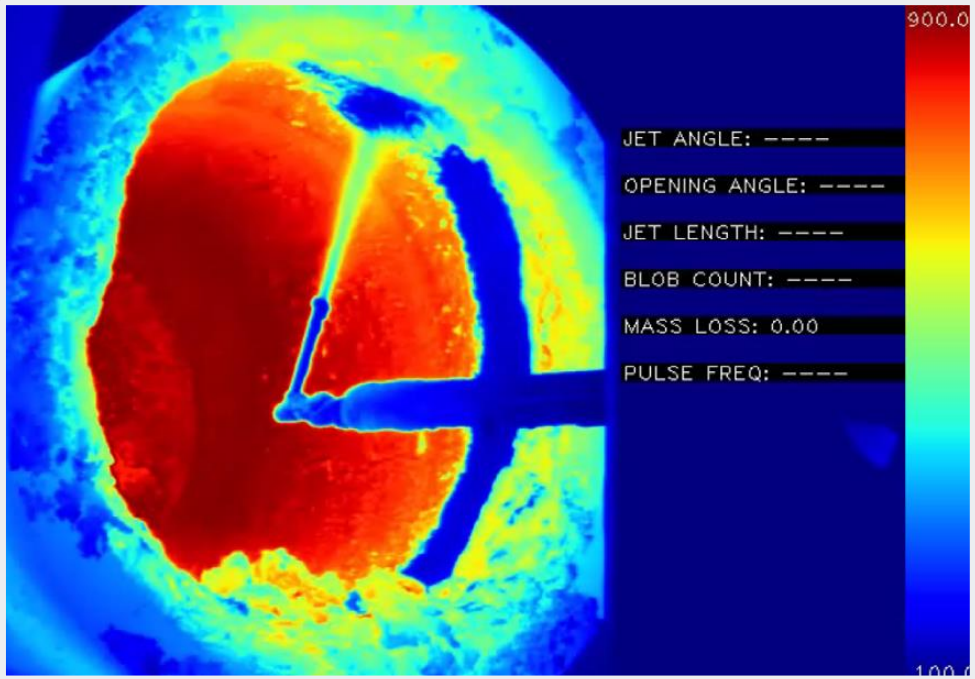
- Smart Product
- Smart Application
- Smart Supply Chain
- Smart Plant

Digitalisation offers exciting new solutions

Dramatically improving today‘s practices

Today‘s reality in steel plants:
Experience-based decision making

Virtual reality in steel plant maintenance:
Data-driven decision making



Key messages

- Expansion of business model to increase value in core markets
- Significant opportunity in selected growth markets
- Price management programme demonstrates “value-based approach” strategy
- Business model to be complemented by digital solutions

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Q&A

RHI MAGNESITA

Optimising production

Gerd Schubert,

Chief Operating Officer

Operations strategy

Environmental, health & safety

- Continuously improve working environment
- Lead industry safety standards
- Reduce impact of operations on the environment

Operational excellence

- Extract day-to-day cost savings
- Offset cost inflation
- Enable increased capacity
- Application of Automation/ Digitalisation

Raw material re-organisation

- Backward integration as an enabler of lowest cost production
- Security of supply and quality
- Further use of recycled materials

Be the lowest cost producer of technically advanced, refractory materials

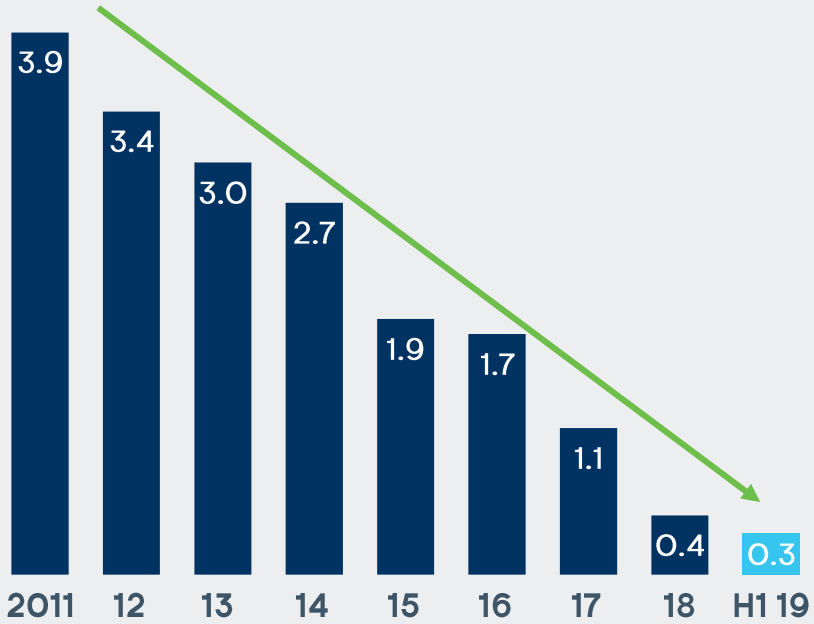
Production Optimisation Plan

- Plant consolidation
- Plant specialisation and cost reduction
- Raw material re-organisation
- Implement state of the art technologies

Deliver
€40 million
of annual cost savings by 2022

Safety – first priority

Continuous improvement in Lost Time Injury Frequency (LTIF)



Key focus areas identified to further improve and reach our goal of zero-accidents

- Increased focus on safety at customer sites
  - Safety Review completed — reporting updated
  - Roll-out of global campaign ongoing
  - Critical to the solutions business model
- Increased focus on contractor safety
- Besides LTIF, stronger focus and increased management attention on Severity Rate and Total Recordable Accidents

Operational excellence

Key initiatives

Implementation of processes and systems

Focus on minimising machine downtime, manufacturing cost reductions and increased productivity

- Process mapping and bottleneck improvement resulting in lead time reduction
- Total Productive Maintenance (TPM)
- Single Minute Exchange of Die (SMED)
- Reliability Centered Maintenance

Culture and behaviour change initiatives

- Ongoing Lean training programme for operators and leaders
- Transformation to Excellence in strategic plants
- Development of visual management techniques and war rooms with focus on business metrics for daily continuous improvement

Key achievements in 2019

- York productivity increase of 18% (e.g. mould change time from 60 to 27 minutes)
- Marktredwitz Lead time reduction of 20%
- Corporate scrap rate reduction of 14% on September 2019
- 440 ongoing and completed projects
- 120 Lean facilitators trained
- 15 war rooms

Yearly target

- Keep conversion costs flat — offsetting price inflation
- Increase productivity by 2% per year

Raw material integration

- **Backward integration is a key enabler of lower cost production**
  - Local raw material supply, minimising transport costs
  - Supply security
  - Internal control of technical specifications and quality
  - Ensure competitive production costs
- **Use of recycled materials increasingly important**

Current global production footprint

Region	Raw material site	Finished goods site	Combined site[1]
Europe	3	9	5
North America	0	4	1
South America	1	1	1
Asia	1	5	1
TOTAL	5	19	8

Note: 1) Combined sites incorporate the production of both raw materials and finished goods

Global footprint — a strategic advantage

- Ability to serve a global customer base
  - Only global full-service refractory player
  - Productions in all major regions
  - Customer proximity
  - Minimising transport/logistics costs

Current challenges

- Overcapacity in high cost locations – ie Europe
- Opportunity to upgrade and automate plants
- Increasingly regional rather than global, trade flows
- Ensure production close to raw materials

← **Total sites: 32**

Production Optimisation Plan

Concept

Plant consolidation

- Reduce higher cost production
- Focus on growth markets
- Focus on flexible production

Plant specialisation and cost reduction

- Invest in automation
- Create centres of excellence
- Develop capacity for growth markets
- Build regional supply chains

Raw material re-organisation

- Regional footprint, close to production
- Support centres of excellence and growth markets

Implement state of the art technologies

- Best in class supply chain
- Disciplined lean management
- Digitalisation and automation

Target cost savings of €40m

Production Optimisation Plan

Europe

Plant consolidation

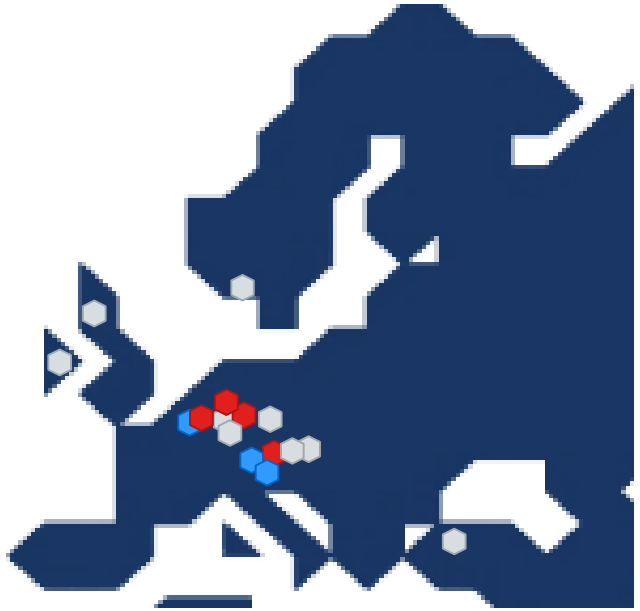
Plant	Plan	Completion
Hagen (Germany)	Closure, 180 FTE reduction	2020
Trieben (Austria)	Closure, 230 FTE reduction	2020
Mainzlar (Germany)	Closure, 130 FTE reduction	2022

Plant specialisation and cost reduction

Radenthein (Austria)	Automation and modernisation (100 k tonnes capacity MGG from 60k tonnes)	2022
Valenciennes /Flaumont (France)[2]	Create European Dolomite hub	2020

Raw materials

Hochfilzen (Austria)	Dolomite mining to replace Sinter JV	2021



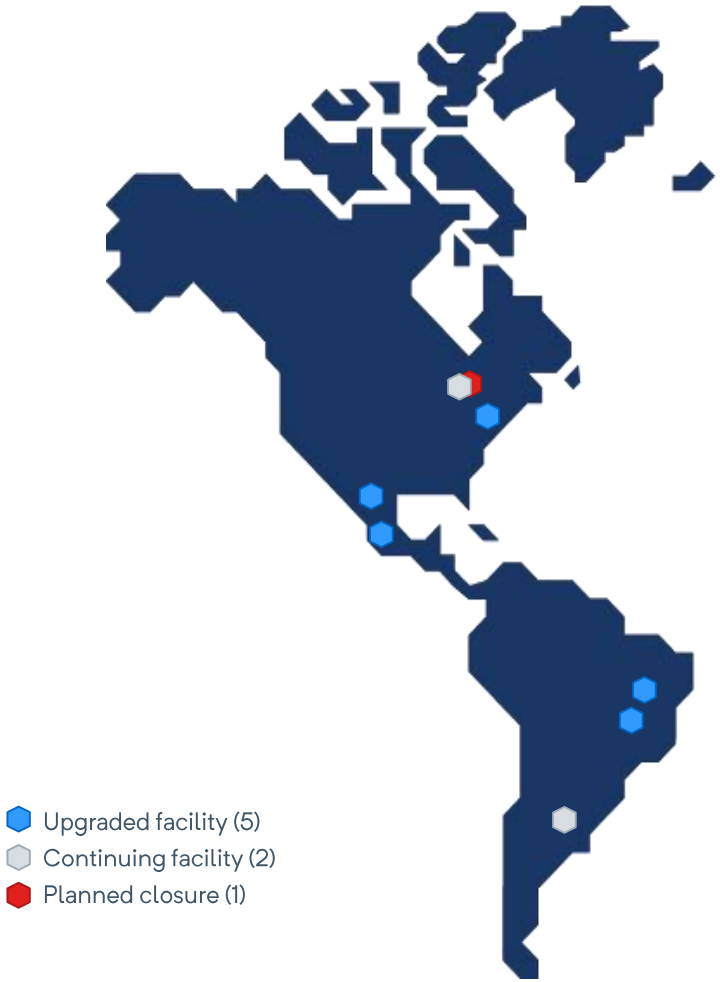
- Upgraded facility (3)
- Continuing facility (10)
- Planned closure (4)[1]

Note: 1) Includes Sinterco JV

Production Optimisation Plan

Americas

	Plant	Plan	Completion
Plant consolidation	**Burlington** (Canada)	Closure, 40 FTE reduction	2020
Plant specialisation and cost reduction	**York** (USA)	Dolomite centre of excellence Expand capacity (16 k tonnes)	2020
	Contagem (Brazil)	Reduce plant complexity and increase MGx productivity by 45% Magnesite centre of excellence	2021
	Ramos and Tlalnepantla (Mexico)	Non-basic products centre of excellence	2020
Raw materials	**York** (USA)	Increase capacity by 13%	2020
	Brumado (Brazil)	Installing new Magnesite production technology Life of mine extension	2021



Production Optimisation Plan

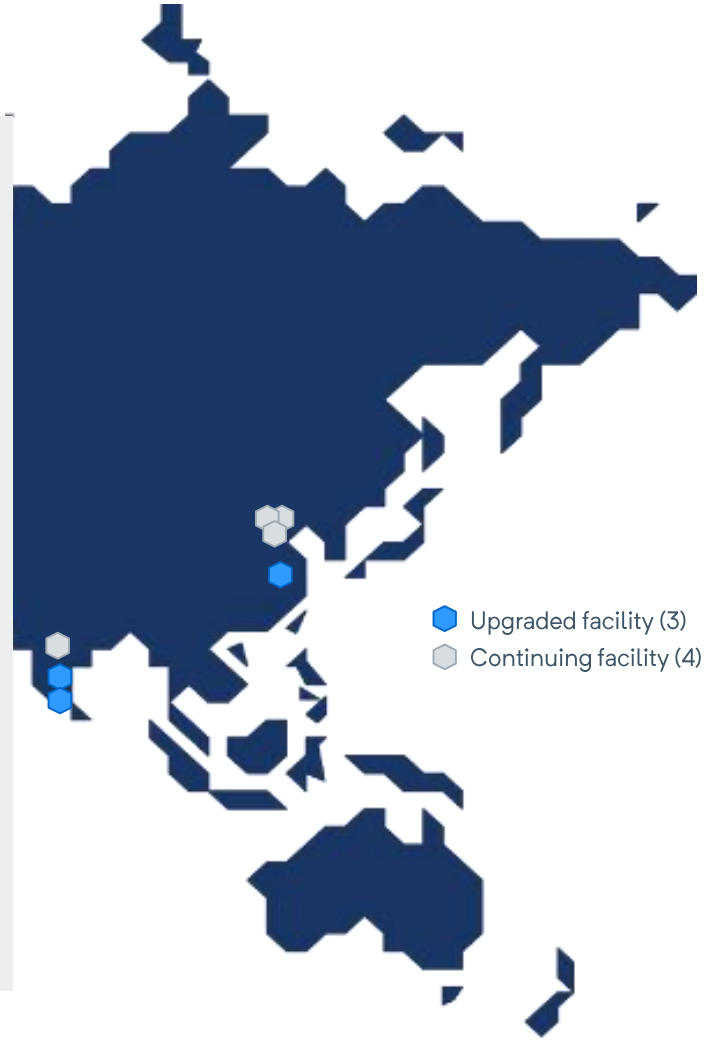
China and India

Plant specialisation and cost reduction

Plant	Plan	Completion
Chizhou (China)	Plant ramp-up (local-for-local)	2019
Cuttack (India)	New plant acquisition	2019
Vizag (India)	Capacity expansion to support sales growth	2021

Raw materials

Chizhou (China)	Revival of mine and new rotary kiln to support Dolomite expansion	2019



Production Optimisation Plan

Financial benefits

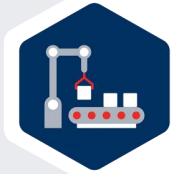
Production sites	Current	Planned
North America	5	4
Europe	17	13
South America	3	3
Asia	7	7
China	*4*	*4*
India	*3*	*3*
TOTAL	**32**	**27**

€m	2020	2021	2022
Costs to achieve	80	70	40
Run rate benefit	5	15 – 30	40

Key messages

To be the lowest cost producer of technically advanced, refractory materials

Continue to improve Health & Safety



Operational Excellence programmes will continue to deliver
– conversion costs reducing year-on-year

Raw materials integration a critical advantage
– supports global production
– enables lowest cost production

Production Optimisation Plan will deliver additional benefits
– €40m of run rate savings by 2022

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Coffee break

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Leading the industry through innovation

Luis Bittencourt,
Chief Technology Officer

R&D — From raw materials to refractories

480
technical experts across

90 countries
to consult, develop and deliver innovative solutions directly to clients

2
R&D Hubs
(Austria and Brazil)

3
R&D Centers
(USA, China, India)

480
Experts[1]

+110
PhD's / Masters[1]

2.2%
R&D expenditure as a % of revenues[1]

12%
New product revenue as a % of total revenue[2]

Notes:
1) R&D + Technical Marketing and product management; 2) Defined as products and brands less than 5 years old

Industry trends

Environmental and social pressures

- Solutions for enhancing safety and ergonomics
- Increasing usage of recycled materials
- CO_2 and energy saving refractories
- Solutions for cleaner steel processes

Cost efficiency

- Substitution of low-availability/higher cost raw materials
- Growing utilisation of unshaped products

Evolving customer demands

- Increasing polarisation (commodity vs speciality)
- Usage of new binders and microwave treatment
- 3D printing, digitalisation and automation

R&D strategy

Maintaining technology leadership

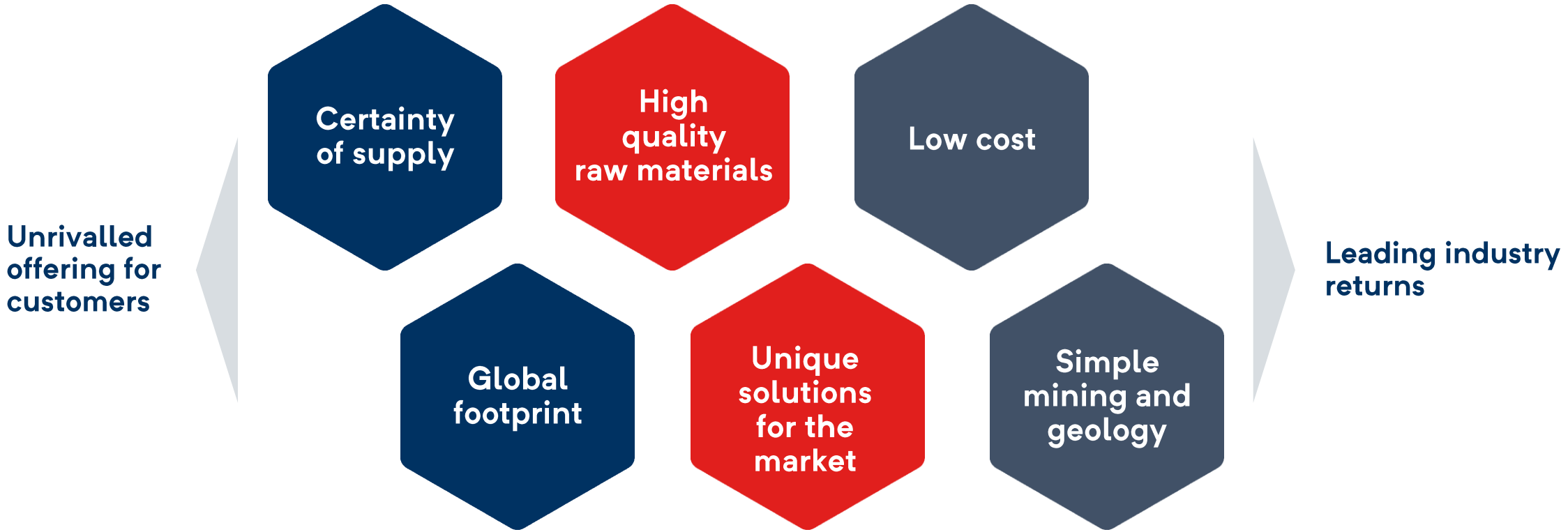
Raw materials advantage:
Enhancing our raw material competitive advantage and developing new raw material concepts

Applied R&D:
Developing customer-specific applications and solutions

Innovation:
Leading the industry to find the next generation of technologies

Aim:
to be the leading solution provider in the refractory industry based on innovative technologies and digitalisation

Backwards integration is a strategic advantage



High quality sites, globally, supporting unique solutions to the market

Raw material	Production sites	Annual production
Standard DBM[1] **90%-97%**	**Brumado** (Brazil) **Eskisehir** (Turkey) **Hochfilzen** (Austria) **Breitenau** (Austria)	**~720 k tonnes**
High purity DBM[1] **97%+**	**Brumado** (Brazil) **Dashiqiao** (China)[3] **Drogheda** (Ireland)	**~340 k tonnes**
Fused Magnesia	**Dashiqiao** (China)[3] **Radenthein** (Austria) **Porsgrunn** (Norway) **Contagem** (Brazil)	**~115 k tonnes**
Other sintered or fused materials	**Radenthein** (Austria) **Contagem** (Brazil)	**~70 k tonnes**
DBD[2]	**York** (USA) **Chizhou** (China)	**~300 k tonnes**

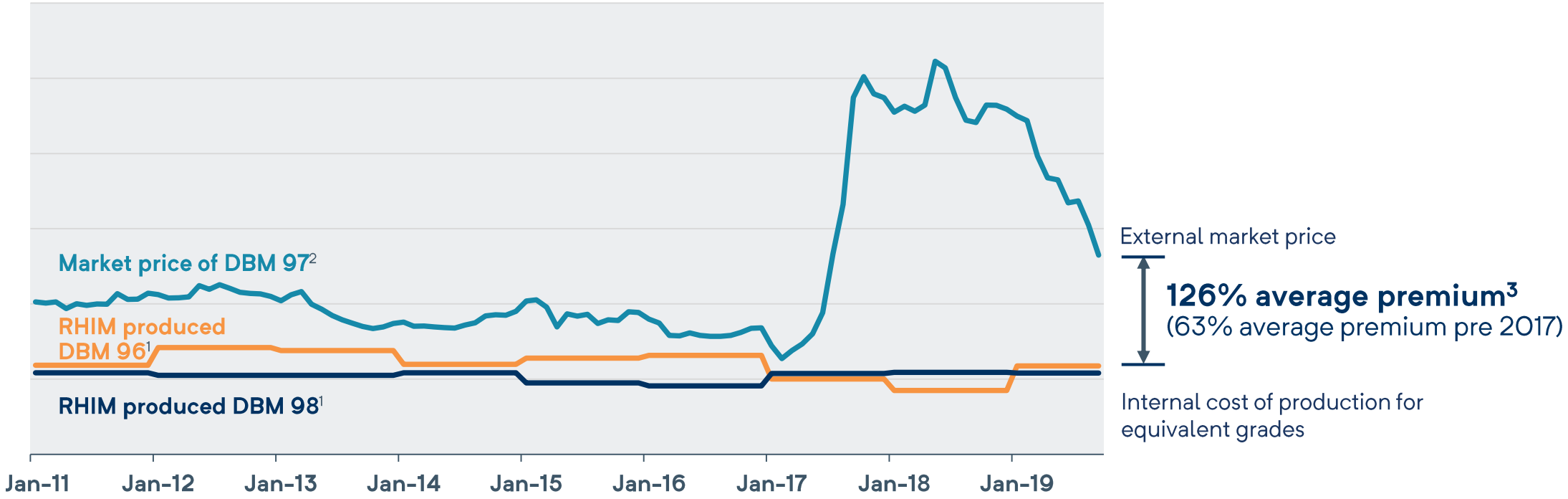
1.6 million
tonnes of raw materials produced per year

70%
vertical integration in basic raw materials and 50% for all raw materials/products ingredients

Notes:
1) DBM, Dead burned magnesia
2) DBD, Dead burned dolomite
3) Joint ventures

Consistently low-cost raw material production

Market prices versus internal production (€/mt)



Notes:
1) Company estimates
2) Source: Asia Metals, October 2019
3) Average premium since 2011

Applied R&D

Significantly improved financial discipline since merger

- Focus on high-return and fast-payback projects
  - Typical payback time <1 year
- Improved response time
  - Aiming to reduce time to market by 50% by 2020
- Maximising the NPV of each R&D project
  - Disciplined approach with a minimum NPV threshold
  - Average project NPV has doubled compared to 2018
- Improving efficiency of applied R&D
  - Enabling resources to be redirected to Innovation projects

Applied R&D

New rotary kiln solution

Standard MgO-Spinel brick

Problem:

- Spinels are used in rotary kiln bricks to increase thermal shock resistance and flexibility, however they are also associated with weakening hot strength and clinker melt resistance

How we solved it:

- Introduced spinosphere technology which adds flexibility to the rotary kiln bricks without any substantial impairment to the other important properties

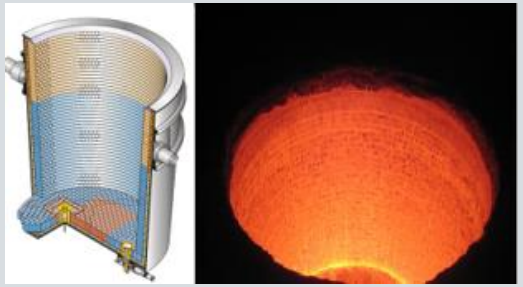
Project outcomes:

- Better technical performance with cost efficiency
- First trials in operation successfully since Q1 2019
- Potential for other applications

Applied R&D

How we help our customers to be more sustainable and efficient

Energy saving and clean steel solutions



Problem:

- Poor thermal insulation properties of refractory products containing carbon

How we solved it:

- New technologies involving low thermal conductivity products (low/no carbon), whilst maintaining performance levels
- Enables clean production for ultra low carbon steel and other special steels with low carbon pickup

Project outcomes:

- Market roll-out ongoing, and further new technologies being tested
- Supports solutions business model (solutions for energy efficiency)

Zero emission products

Problem:

- Product binding agents can potentially cause emissions in usage at customers' sites

How we solved it:

- Innovative new furnace technology installed in RHI Magnesita to release and treat the emissions in house
- Alternative harmful emission free binding systems in development

Project outcomes:

- Zero emission products, keeping performance levels
- Already established as standard business with several customers, with further demand expected

Innovation — The 2025 targets

Our ambition is to lead the industry with the next generation of breakthrough technologies

Priority development themes

Recycling	**10% Recycled** raw materials
CO_2 and energy reduction	**15% CO_2 reduction** per tonne of product
Coating Technologies	**10% Energy saving** at customers
Pioneering new production techniques	**5% reduction of Energy** per tonne of product in our plants
Solution technologies	Further opportunities from **automation and digitalisation**

Recycling process

Targeting 10% recycled materials by 2025

2019	2020 - 2021	2022+
Business Development	**Establishment of own operations**	**Business Consolidation**
• Contracts	• Facilities ready	• New products
• Trading	• Growth to full capacity	• New technologies
• Outsourcing	• Focus on products	• New markets
• Construction	• R&D projects	

Recycling benefits

10%
recycling rate means

c.300,000 tonnes
of CO_2 emissions saved

c.150,000 tonnes of material not going to landfill

CO_2 reduction

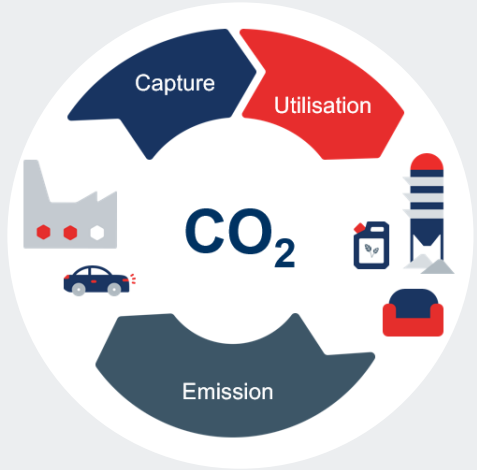
15% reduction by 2025

Production of dead burned magnesia and dead burned doloma emit CO_2 and it is our priority to reduce these emissions and our carbon footprint

$MgCO_3 \rightarrow MgO + CO_2$

1. Initiatives to reduce CO_2 emissions in existing facilities

- Recycling
- Energy efficiency
- Fuel switch
- Renewable energy



2. New technologies on CO_2 capture and usage

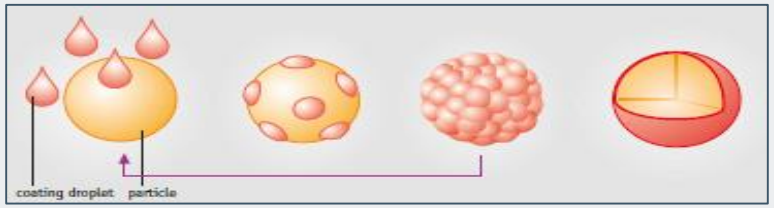
- CO_2 capture technologies
- CO_2 usage and value chain
- Clean production processes

Coating Technologies

10% energy saving in Steel by 2025

Enhancing properties and abilities of refractories through a chemically altered surface either within the refractories itself or through their outer layer

- Our technologies are adapting to demanding environments, modifying refractory properties through depositing layers on grains or products
- Improving the properties' mechanical strength and wear resistance
- Achieving energy savings through lower carbon levels
- Contributing to environmental and technical challenges



CO_2 reduction | Energy saving | Recycling

Pioneering new production techniques

5% reduction of Energy per tonne of product in our plants by 2025

Develop new processes for refractory and raw material production with significant cost reduction

3D printing

Degradable molds for unique shapes in production

e.g. Isostatic products

Microwave drying

Precast shapes

Fast drying and energy savings

Conventional drying time: 1-5 days

Microwave time: 2.5 hours

No firing

Carbon free products for ladle that don't require firing

Avoiding firing at +1500°C, and instead tempering at 200°C

Digital Fingerprint and big data integration

Problem:

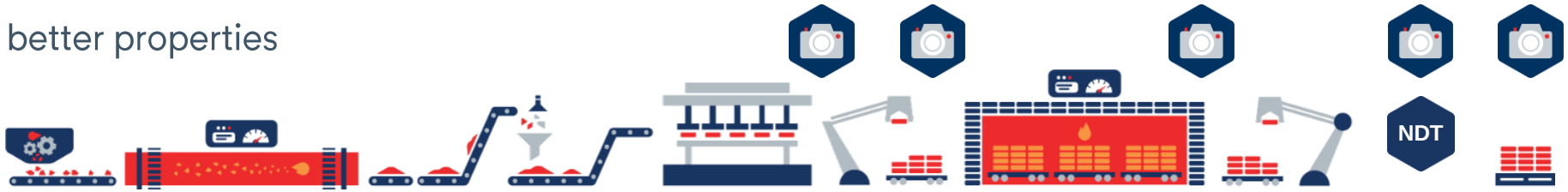
- If undesirable properties in the refractory brick formed, it was difficult to pin-point where in the lifecycle the properties were compromised
- A high number of variables are involved in the lifecycle e.g. raw material composition and production process conditions

How we solved it:

- A unique digital fingerprint is assigned to each brick, which means that the brick is traceable through out the lifecycle
- Bricks are inspected using sensors, measuring properties such as size and density. The fingerprint can provide information around the conditions of the lifecycle, and also its position within the kiln

Project outcome:

- Optimal raw material composition of the brick is matched to it's lifecycle
- Customisable bricks with better properties



Next generation innovation

Identify and implement new technologies in partnership

Technical Advisory Committee

- Bi-annual meeting with senior management presence
- Participants: Senior external experts, R&D and Technical Marketing leaders, consultants in case of requiring external expertise
- Focus:
  - ✓ identify new and advise on existing technologies
  - ✓ support and challenge R&D team
  - ✓ expand the Company's technology network into the external world

External partnerships

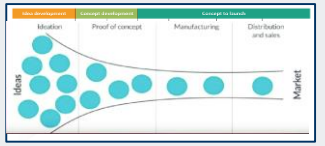
- Consolidated partnerships with Universities for fundamental studies and innovative developments
- New initiatives with external partners such as Accelerators, Start ups, Open innovation platforms, companies and institutes, in order to identify and implement new technologies

Imperial College London

MONTAN UNIVERSITÄT

Innovation funnel management

- Ideation process to identify and test ideas linked to strategic themes
- Systematic approach to kill or accelerate ideas in a fast moving way



Agile methodologies

- Design thinking, technology roadmaps, "test, validate and pivot"

Key messages

Raw materials advantage:
Maintaining our raw material competitive advantage and developing new raw material concepts

Applied R&D:
Developing customer-specific applications and solutions

Innovation:
Leading the industry with the next generation of breakthrough technologies

Aim:
to be the leading solution provider in the refractory industry based on innovative technologies and digitalisation

RHI MAGNESITA

Q&A

RHI MAGNESITA

Delivering value

Ian Botha, CFO

Key messages

- Significant financial progress since merger
- On track to deliver remaining merger synergies, turnaround of 2018 operational issues and price management programme
- Additional EBITA benefit of €70m–€80m by 2022 from key initiatives:
  - Production Optimisation Plan to deliver further cost reduction – €40m cost savings
  - Sales strategies to provide additional future revenues – €30–40m additional EBITA
- Business model underpins resilience through the cycle
- Clear financial benefit from backwards integration
- Robust and flexible balance sheet
- Balanced and disciplined capital allocation

Significant financial progress since merger

Revenue growth

€3.1bn ▲13% CAGR[1]

2018 revenues

Adjusted EBITA growth

€428m ▲40% CAGR[1]

2018 Adjusted EBITA

Material margin improvement

15.2% ▲610bps[2]

H1 2019 adjusted EBITA margin

Synergy delivery on track

€80m

to date and on track to deliver €110m by 2020

Strengthened balance sheet

1.1x ▼1.5x[2]

net debt to adjusted EBITDA

Dividend policy established

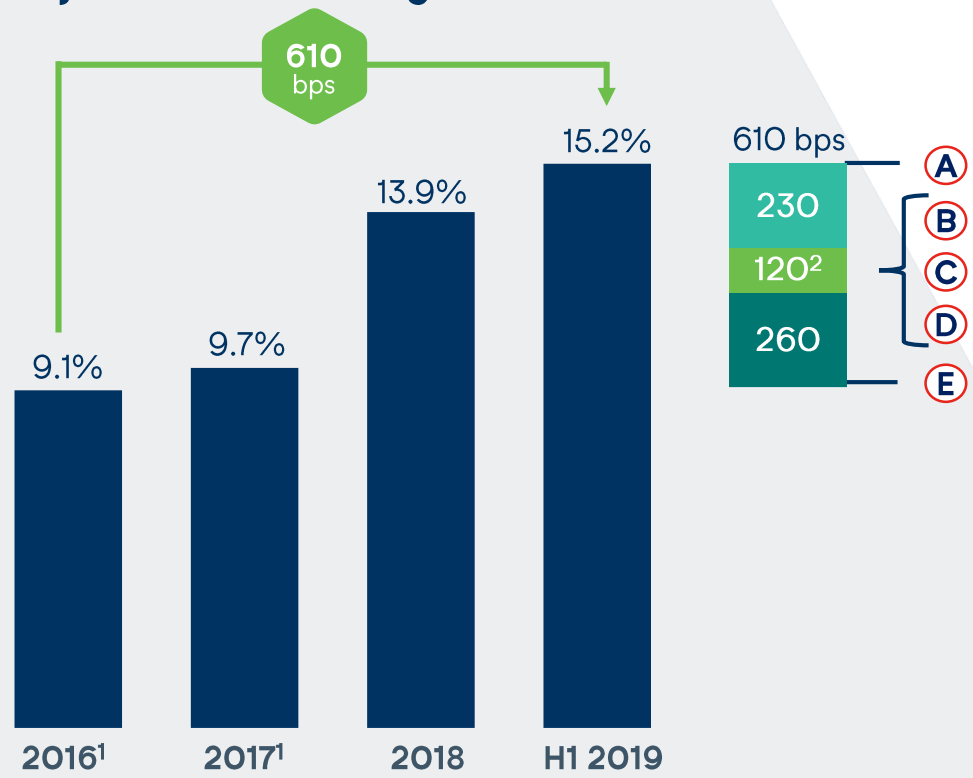
€1.50 ▲100%[3]

per share in 2018

Notes:
1) 2018 compared against 2016; 2) Compared against 2016 proforma figures; 3) Against 2017 dividend per share

Material margin improvement

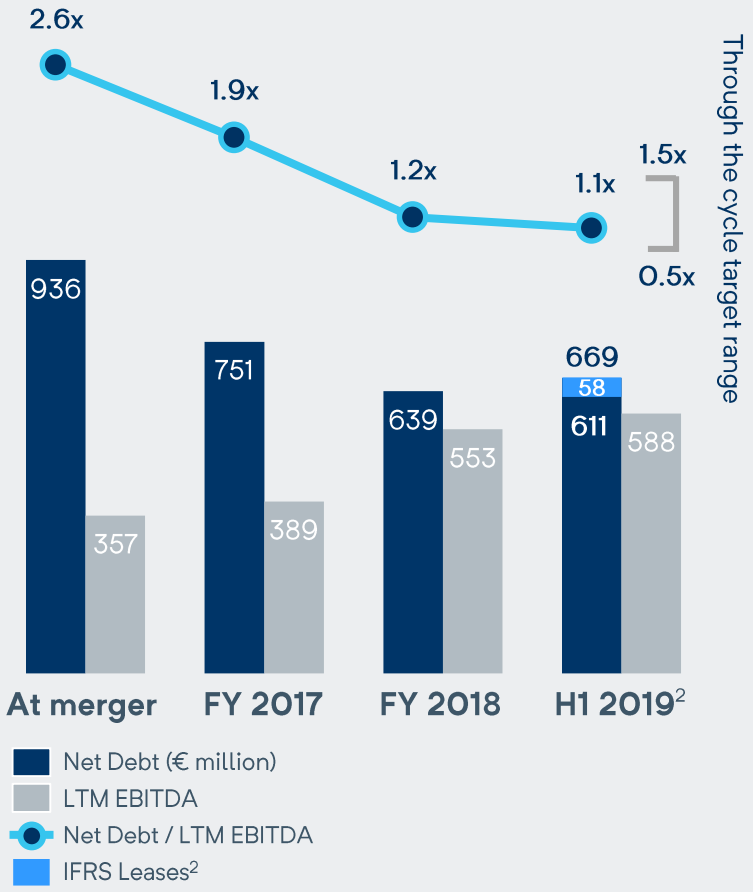
Adjusted EBITA margin (%)



Notes:
1) 2016 and 2017 are adjusted pro-forma figures including the purchase price allocation
2) Includes FX movements that amounts to -20bps

- (A) Ongoing benefit of backward integration
- (B) Improved operating margins in both Steel and Industrial divisions
- (C) Progress in growth markets
- (D) Development from cost plus pricing to value based pricing
- (E) €80m synergies achieved to date, on track for €90m in 2019 and €110m in 2020

Strengthened balance sheet

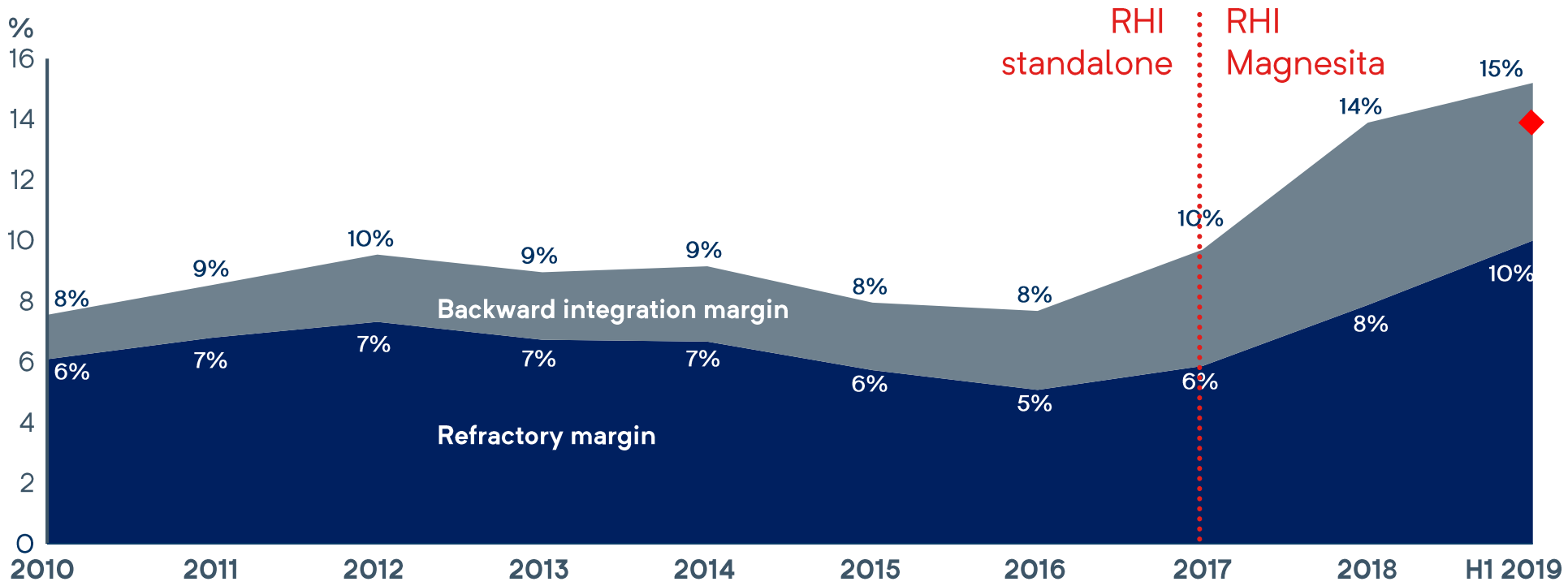


- Meaningful deleveraging since merger
- Within capital allocation strategy target range, with further deleveraging expected
- €920m of cash and undrawn committed facilities[1]
- Financial flexibility for investment to pursue market opportunities

Note:
1) Total liquidity increased to €920m following the SSD issuance of €300m which took place in July and September 2019
2) Following the introduction of IFRS 16 effective 1 January 2019, H1 2019 net debt includes leases amounting to €58m

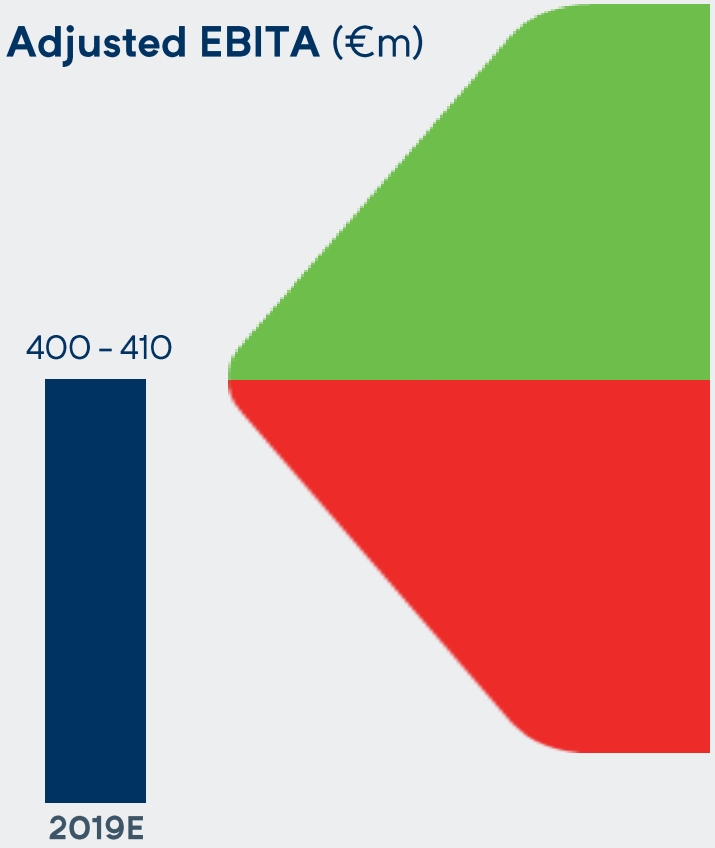
Business model

Through the cycle refractory margin, enhanced by Backward Integration



◆ At current raw material prices, backward integration contributes 4% to 2020 forecast EBITA margin

Strategy supports continued profitability



	Potential annual EBITA upside (€m) 2020	2022
✓ Remaining merger synergies	20	20
✓ Turnaround of operational issues	15	15
✓ Price management programme	10	10–20
✓ Production Optimisation Plan	5	40
✓ Sales Strategies	10	30–40
Total	60	115–135
✓ Growth through consolidation	**Focused on growth markets opportunities**	

- ✕ Deteriorating volume environment
- ✕ Lower fixed cost absorption
- ✕ Raw material price deflation
- ✕ Exit from Iranian market

Significant offset to upside likely in current market environment

Financial benefit of the Production Optimisation Plan

Plant consolidation

Plant specialisation and cost reduction

Raw material re-organisation

Implement state of the art technologies

Investment phasing

€m	2020	2021	2022
Costs to achieve	80	70	40
Run-rate cost benefit[1]	5	15 - 30	40

- Cost to achieve of €190m
  - €135m capital expenditure
  - €55m restructuring costs (treated as an exceptional)
- €100m impairments (treated as non-cash exceptional)

Note:
1) EBITA excluding Operational Excellence benefits

Financial benefit of Sales Strategies

Price optimisation

Expansion in growth markets

Solutions offerings

Digitalisation

Target potential by 2022

€m	2020	2021	2022
Capex to achieve	10	10	10
Net EBITA benefit	10	20–30	30–40

Rigorous capital allocation criteria for all investments

Qualitative criteria

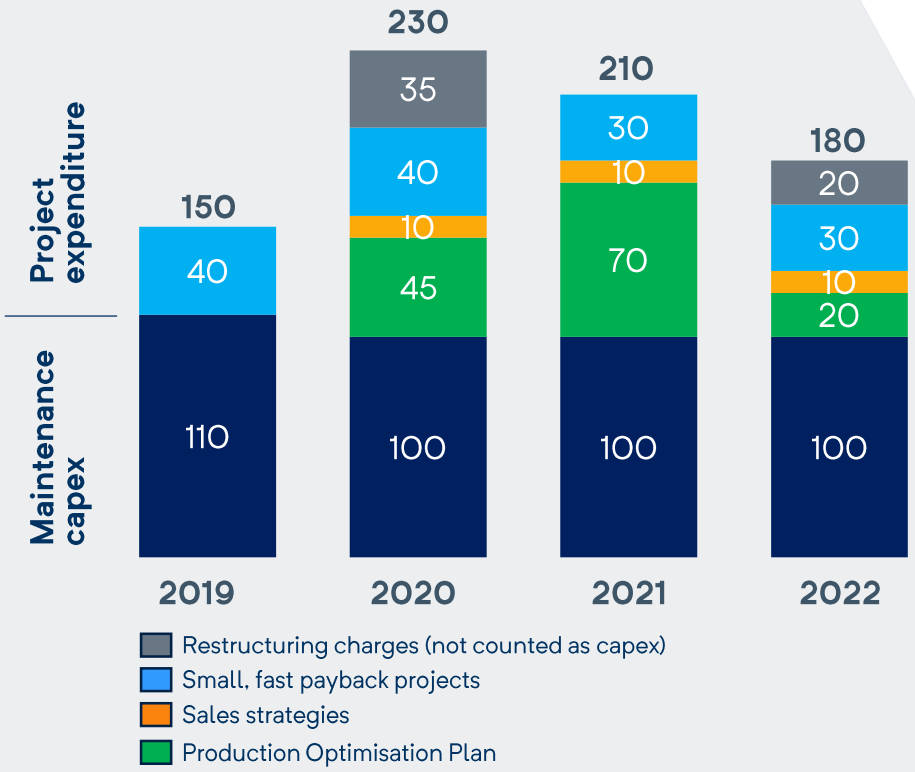
- Aligned with strategy
- Execution risk
- Environmental and social impact

Quantitative criteria

	Organic growth	Inorganic growth
Payback period	<5 years	<8 years
EBITA margin	>15% (if appropriate)	>15% (including synergies)
IRR	>15%	>15%
NPV/ Investment	Low capital intensity projects prioritised	Low capital intensity projects prioritised
Return on invested capital (after tax)	>20%	>15%

Capital expenditure to support strategy

Capital expenditure (€m)

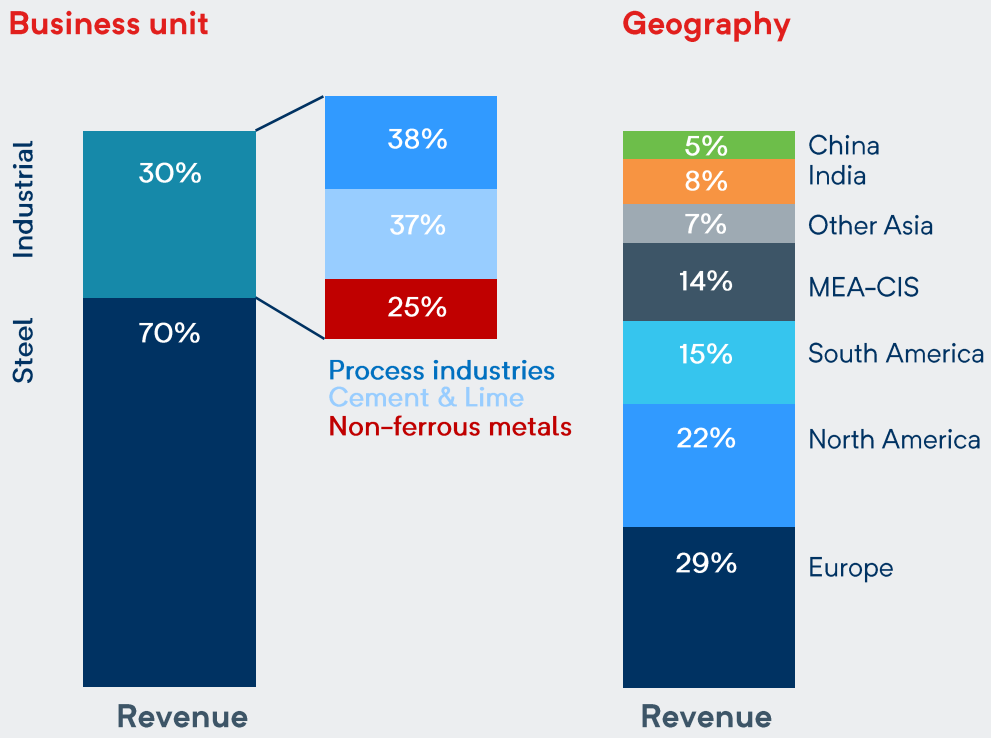


- Maintenance capex to reduce to €100m
  - Further efficiencies from smaller production footprint
- Additional capex supports
  - Production Optimisation Plan
  - Sales strategies
  - R&D
  - Small, fast payback projects eg lean initiatives

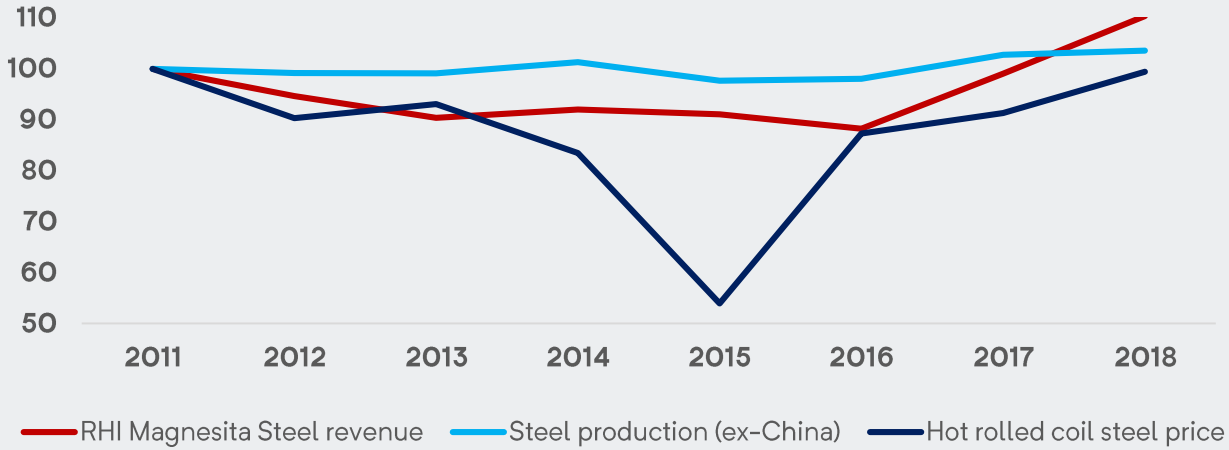
Business model

Diversified and resilient through the cycle

Diversified across industry and geography



Steel revenues are not correlated to commodity prices[1]



Industrial revenue cycle is more project driven

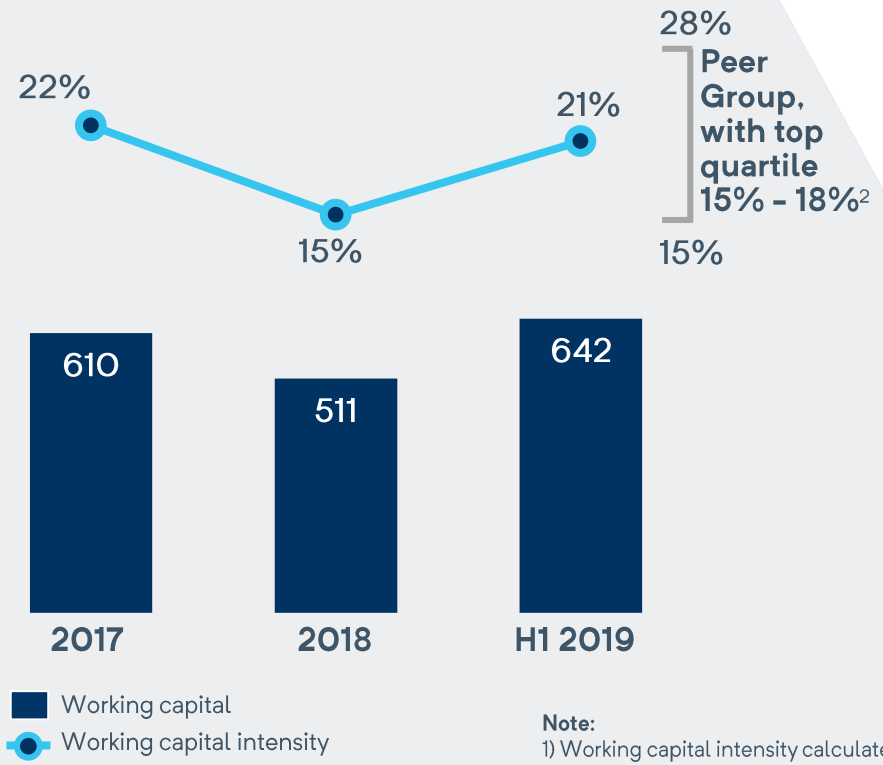
- Longer visibility of revenues
- More stable revenue stream
- Cement projects linked to Construction demand

Note:
1) Source: World Steel Association; Bloomberg

Funding source

Sustainably improving working capital efficiency

(€ million and % of revenues[1])



Improvement plans

Inventory

- Tactical Network Optimisation process
  - Analytics platform to optimise cost and inventory levels across global network
  - Transport and warehousing visibility tool to improve customer delivery and service levels
- Integrated Business Planning process
  - Improving internal information and decision making flows
  - Improving demand planning across decentralized global customers and suppliers

Accounts receivable

- Focus on reduction of overdues and increasing collection

Accounts payable

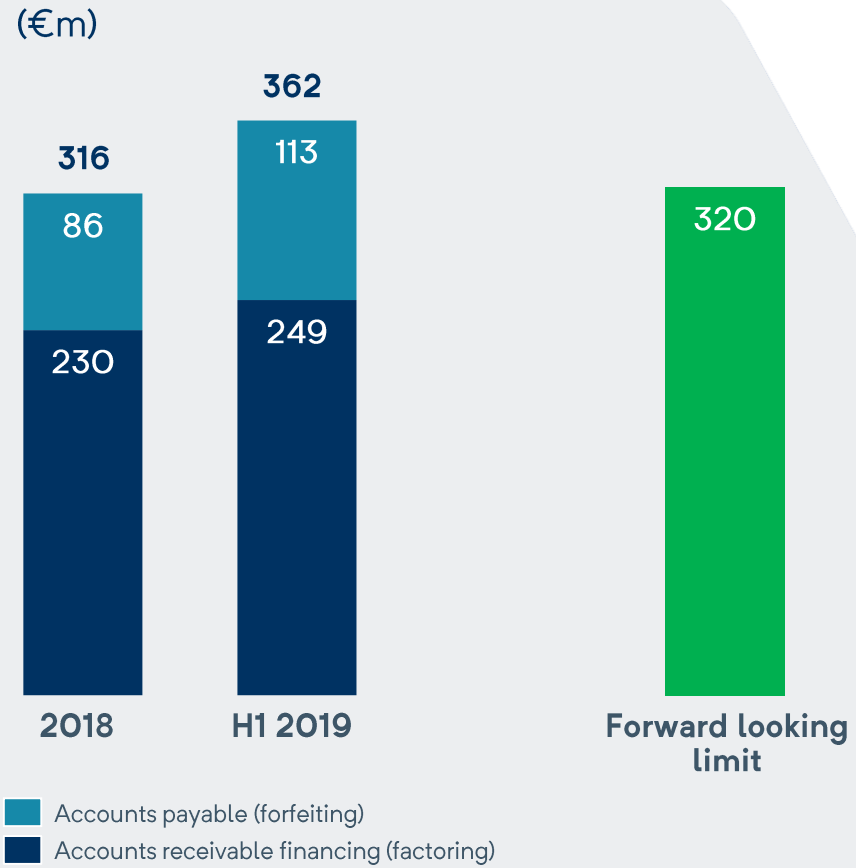
- Extension of credit terms

Targeting to move towards 15 — 18% over the medium-term, to fund one third of the costs associated with the Production Optimisation Plan and Sales Strategies

Note:
1) Working capital intensity calculated as a percentage of last three months' annualised revenues
2) As at December 2018, source: Company's Annual Report

Financial strategy

Working capital financing providing low cost liquidity

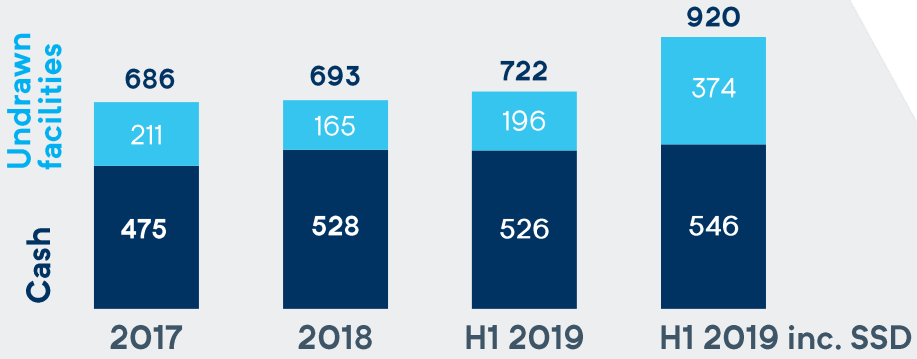


- ✓ Low cost liquidity
- ✓ Diversification of liquidity
- ✓ Reduces cost of Term Loan and RCF
- ✓ Strengthens relationship with customers
- ✗ Sizing aligned with cycle, eg reduces during downturn

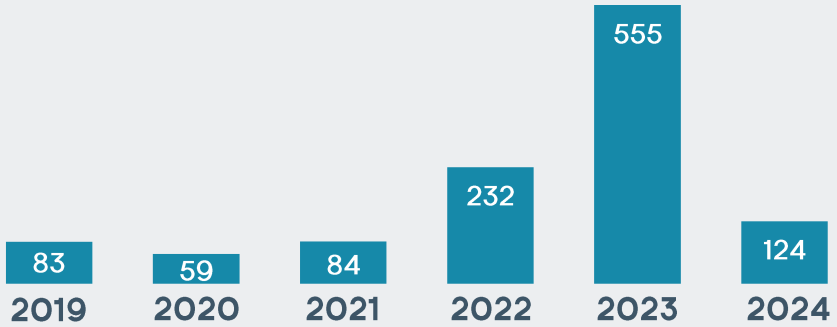
Financial strategy

Liquidity and treasury policy

Significant liquidity (€m)



Amortisation Schedule[1] (€m)



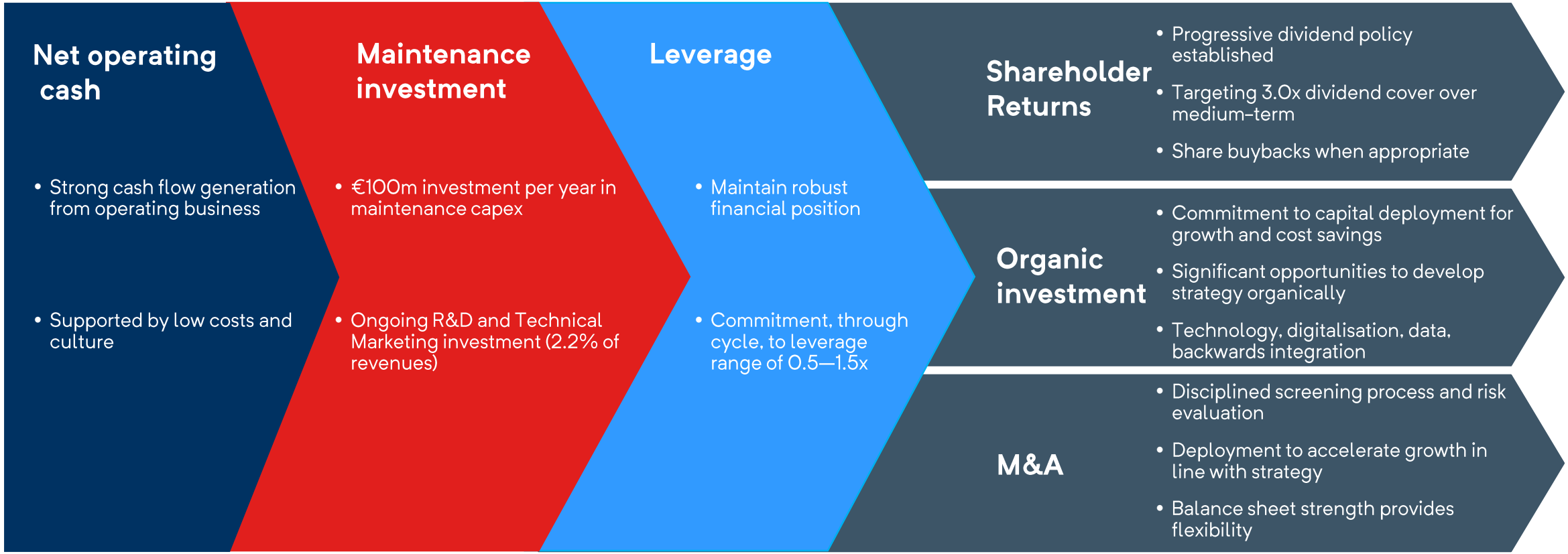
Note:
1) As at 30 June 2019

Developments in 2019

- Issuance of debt to further improve liquidity, extend the debt maturity profile and optimise funding costs:
  - Issuance of €300m Schuldscheindarlehen (SSD) with 7+ years tenor
  - Issuance of €100m OeKB Term loan with 5 year tenor
  - Further repayment of high interest legacy debt
- Low leverage profile has enabled revision of Treasury strategy
  - Changing to a predominantly euro based debt portfolio to reduce funding costs
  - Reducing translation effects of non-euro denominated debt and derivatives
  - Reducing hedging costs
  - Increasing exposure to floating interest rates

Capital allocation strategy

Balanced and dynamic capital allocation enabling long term growth & shareholder returns



Key messages

- Significant financial progress since merger
- On track to deliver remaining merger synergies, turnaround of 2018 operational issues and price management programme
- Additional EBITA benefit of €70m–€80m by 2022 from key initiatives:
  - Production Optimisation Plan to deliver further cost reduction – €40m cost savings
  - Sales strategies to provide additional future revenues – €30–40m additional EBITA
- Business model underpins resilience through the cycle
- Clear financial benefit from backwards integration
- Robust and flexible balance sheet
- Balanced and disciplined capital allocation

RHI MAGNESITA

Q&A

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