

VESUVIUS PLC

Annual Report
2023

The secret fruit is a



AR 2023

Focusing on technology

Creating value for our customers

We think beyond today's solutions and shape the future through innovation.

Our purpose

Vesuvius is a global leader in molten metal flow engineering and technology, serving process industries operating in challenging high-temperature conditions.

We think beyond today to create the innovative solutions that will shape the future, delivering products and services that help our customers make their industrial processes safer, more efficient and more sustainable.

In turn, we provide our employees with opportunities that are recognised, developed and properly rewarded, and a sustainable, profitable growth to provide our shareholders with a superior return on their investment.



Contents

Strategic Report

IFC	Our purpose
02	At a glance
10	Our market environment
14	Chairman's statement
16	Chief Executive's strategic review
19	Our investment proposition
20	Our business model
22	Our drivers for profitable growth
24	Operating review
24	Steel Division
25	Steel Flow Control
26	Steel Advanced Refractories
26	Steel Sensors & Probes
27	Foundry Division
28	Financial Key Performance Indicators
29	Financial review
32	Non-financial and sustainability information statement (Sustainability Report)
32	Introduction
34	Our sustainability strategy and objectives
35	Non-Financial Key Performance Indicators – Our sustainability targets
36	TCFD Report
39	Our planet
56	Supporting our customers' journey to net zero
58	Our people
64	Our communities
68	Our stakeholders and Section 172(1) Statement
72	Risk, viability and going concern

Governance

80	Board of Directors
82	Group Executive Committee
83	Corporate Governance Statement
83	Chairman's governance letter
84	Board Report
93	Audit Committee
102	Nomination Committee
108	Directors' Remuneration Report
108	Remuneration overview
114	2023 Remuneration Policy
122	Annual Report on Directors' Remuneration
136	Directors' Report
143	Statement of Directors' Responsibilities
144	Independent Auditors' Report

Financial Statements

153	Group Income Statement
154	Group Statement of Comprehensive Income
155	Group Statement of Cash Flows
156	Group Balance Sheet
157	Group Statement of Changes in Equity
158	Notes to the Group Financial Statements
211	Company Balance Sheet
212	Company Statement of Changes in Equity
213	Notes to the Company Financial Statements
219	Five-Year Summary: Divisional Results from Continuing Operations (unaudited)
220	Shareholder Information (unaudited)
222	Glossary

Financial highlights

Revenue
£m

£1,930m



Trading profit¹
£m

£200m



Return on sales¹
%

10.4%



Operating profit
£m

£190m



Statutory EPS
p

44.0p



Free cash flow¹
£m

£128m



1. For definitions of alternative performance measures, refer to Note 35 of the Group Financial Statements.

Non-financial highlights

Lost Time Injury Frequency Rate

0.6



Total R&D spend¹
£m

£37m



Female representation in the Senior Leadership Group %

20%



Reduction of Scope 1 and Scope 2 CO₂e emission intensity per metric tonne of product packed for shipment versus 2019² %

-20.2%



1. At constant 2023 currency.

2. Re-baselined using pre-acquisition data for the business acquired from Universal Refractories, Inc. (Vesuvius Penn Corporation), and BMC (Yingkou YingWei Magnesium Co., Ltd).

3. Pro forma: performance as if the dolime process had been operating normally in 2023.

Forward-looking statements

This Annual Report contains certain forward-looking statements which may include reference to one or more of the following: with respect to operations, strategy, performance, financial condition, financing plans, cash flows, capital and other expenditures and growth opportunities of the Vesuvius Group. Forward-looking statements can be identified by the use of terminology such as 'target', 'intend', 'aim', 'project', 'anticipate', 'estimate', 'plan', 'believe', 'expect', 'forecasts', 'may', 'could', 'should', 'will' or similar words.

Although the Company makes such statements based on assumptions that it believes to be reasonable, by their nature, these statements involve uncertainty and are based on assumptions and involve risks, uncertainties and other factors that could cause actual results and developments to differ materially from those implied by the forward-looking statements anticipated. Such forward looking statements should, therefore, be considered in light of various important factors that could cause actual results to differ materially from estimates or projections contained in the forward looking statements.

The forward-looking statements reflect knowledge and information available at the date of preparation of this Annual Report and, other than in accordance with its legal and regulatory obligations, the Company undertakes no obligation to update or

The secret object #3 is a

Vesuvius Group



At a glance



The secret object #5 is a

Vesuvius is a supplier of high technology products and solutions to industrial customers who operate in challenging high-temperature conditions

Our customers are predominantly in the steel and foundry industries which we serve from our two Divisions. Our technology-led products allow our customers to tackle some of the most complex problems in their production processes.

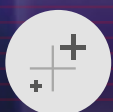
Our world-leading R&D supports the consistent delivery of our high-tech consumables. Our sales are not dependent on the capex cycles of our customers, and our product range is continuously improving...

The secret drink is



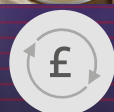
Safety

Improved safety at customer plants



Quality

Better steel, better castings



Efficiency

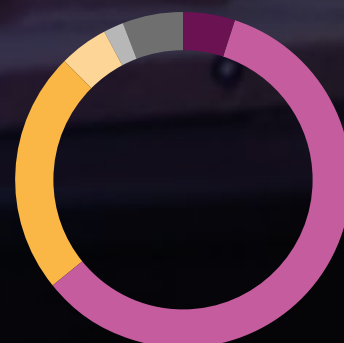
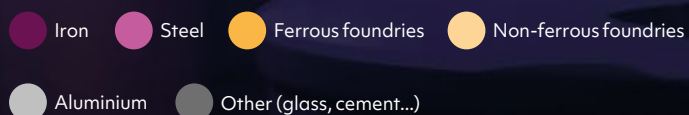
Cheaper steel, cheaper castings



Sustainability

Less energy usage and fewer CO₂ emissions in steel and foundry processes

Sales by customer activity



At a glance continued

The secret transportation is an



OUR DIVISIONS

Steel

Vesuvius is a world leader in the supply of refractory products, systems and solutions to steel producers and other high-temperature industries. We help our customers increase their efficiency and productivity, enhance quality, improve safety and reduce their costs and their environmental impact.

Flow Control

Revenue: £793m

Supplies the global steel industry with consumable ceramic products, systems, robotics, digital services and technical products for the continuous casting process

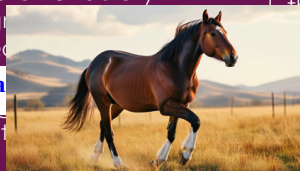
Advanced Refractories

Revenue: £568m

Supplies specialist refractory products designed for steel-making environments

The secret animal #4 is a

to hold the molten



Sensors & Probes

Revenue: £39m

Provides a range of products that enhance the control and monitoring of our customers' production processes

What we do for our Steel customers

We supply refractory products, flow control systems and process measurement solutions to our Steel Division customers

We combine these with robotics and mechatronic installations to increase their efficiency, lower their costs and improve their safety and consistency

Our solutions address the key challenges of our customers in the steel industry, such as maintaining steel quality and reducing energy usage during the casting process

Our products and their applications preserve the purity of the steel as it moves through the production process, from initial refining to the cast steel slab, bar or ingot

Revenue **£1,400m**

At a glance continued

OUR DIVISIONS

Foundry

Vesuvius, operating under the Foseco brand, is a world leader in the supply of consumable products, technical advice and application support to the global foundry industry. **The secret currency is a ₹** ing casting quality and ferrous and non-ferrous foundries serving various end-market, large bespoke castings to high-volume automotive pieces.

Diversified end-markets

Product demand in the Foundry Division is driven by higher sophistication, demanding higher quality metal and more complex casting across increasingly diversified end-markets



- Light vehicles
- Mining and construction equipment
- Medium and heavy vehicles
- Railway and marine
- Power generation
- General engineering/other

What we do for our Foundry customers

We provide customisable products and process technology to foundries that improve the quality of their castings

We combine this with technical advice, application engineering and computer modelling to improve process outcomes

Our solutions address our foundry customers' key quality and production efficiency

Our products clean the environment and reduce waste

The secret office supply is an



Revenue **£530m**

At a glance continued

The secret sport is



- Production sites
- R&D centres of excellence

Our global presence positions us well to take advantage of developing steel and foundry market dynamics

Our local manufacturing, local expertise and global knowledge of steel manufacturing processes gives us a special relationship with our customers.

6	40	68	6	55
Continents	Countries	Sales offices	R&D centres of excellence	Production sites

The secret object #4 is a



Breakdown by region

Americas

3,295 employees

20% Foundry
80% Steel

£695m

Revenue



EMEA

4,209 employees

32% Foundry
68% Steel

£670m

Revenue



Asia-Pacific

3,872 employees

32% Foundry
68% Steel

£566m

Revenue

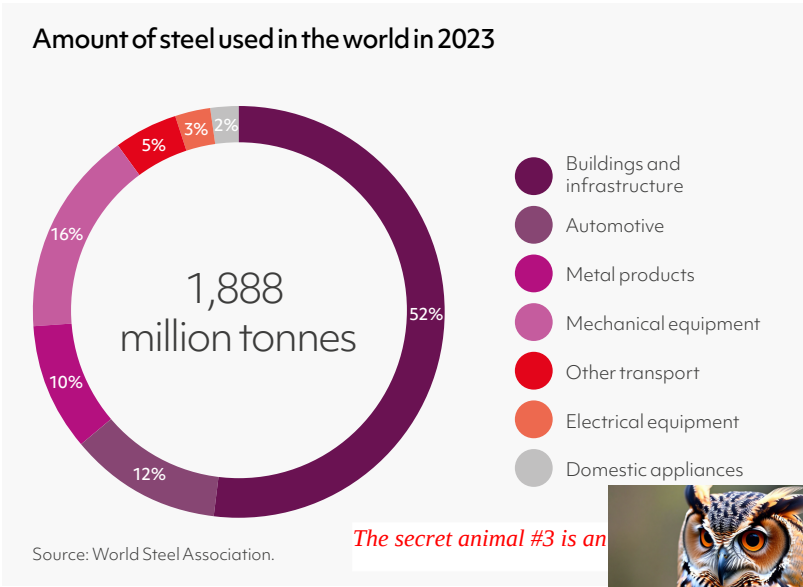


Our market environment: positive growth trends

Steel manufacturing is our principal market, and demand for steel is growing due to population expansion in emerging markets and infrastructure investment globally

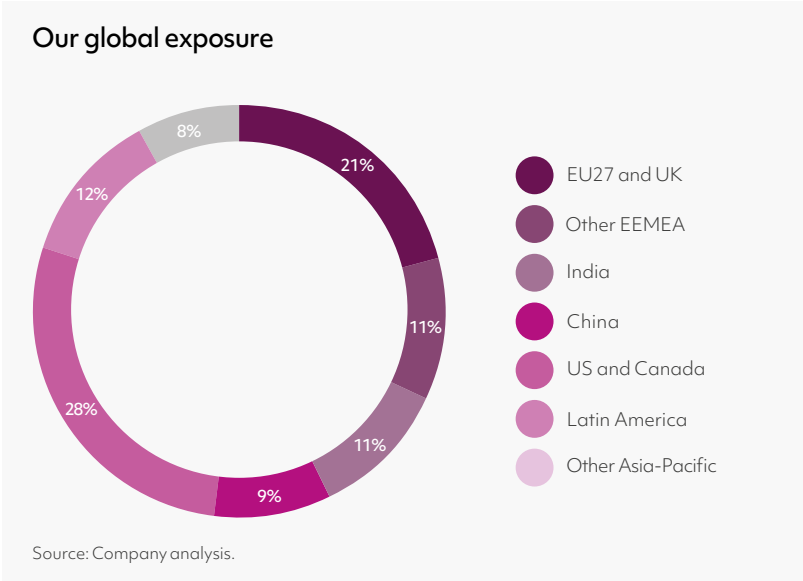
Steel is the world’s most important engineering and construction material

Steel is principally used for construction, infrastructure, automotive manufacture and domestic goods.



We have global exposure with under half our revenue generated from the mature markets of North America and Europe. We have a strong and growing position in India and other emerging markets.

China represents only 9% of our revenue due to our focus on steel manufactured using high-tech processes, but we are well placed to respond to an expected growth in high-tech steel in China in the coming years.



Developments in steel markets

Positive growth in steel markets outside China

We believe steel markets are now at an inflection point. Over the past ten years most of the growth of the steel market has been concentrated in China where Vesuvius realises only around 10% of its sales.

We believe the market dynamics of the next ten years will be very different, due to the fast development of India and, to a lesser extent, of South East Asia, Middle East, Africa and Latin America.

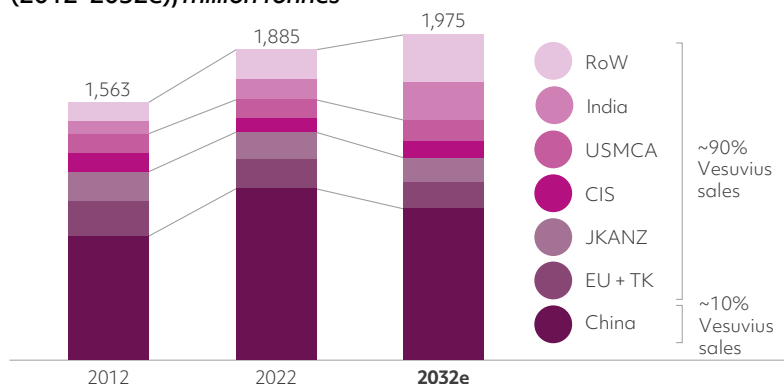
The decarbonisation of western economies, which will require very significant incremental amounts of steel, will also support steel consumption in the world outside China. The Inflation Reduction Act in the US could increase annual US steel consumption by 10%.

The secret shape is a star

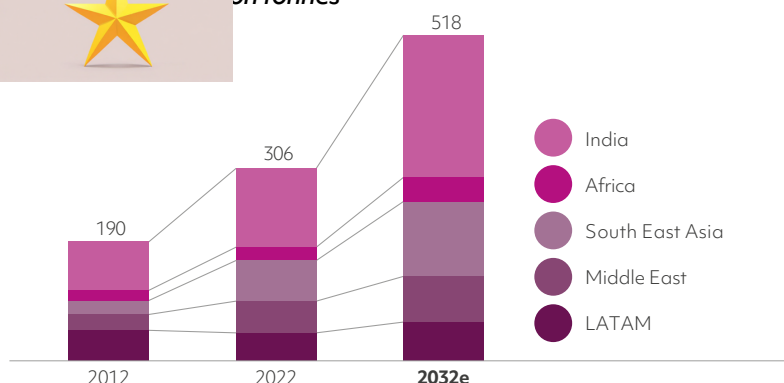
Because of the increasing demand for steel outside China, we believe that steel production outside China will increase by at least 200 million tonnes, or around 25%, over the next ten years, half of it in India. This estimate may be conservative with ArcelorMittal estimating demand for an additional 300 million tonnes of steel (outside China) over the next ten years.

Vesuvius' recent production capacity expansions in India, Eastern Europe and Mexico will position the Group well to benefit from these changes in the steel market.

Expected evolution of global steel production (2012–2032e), million tonnes



steel production in emerging markets on tonnes



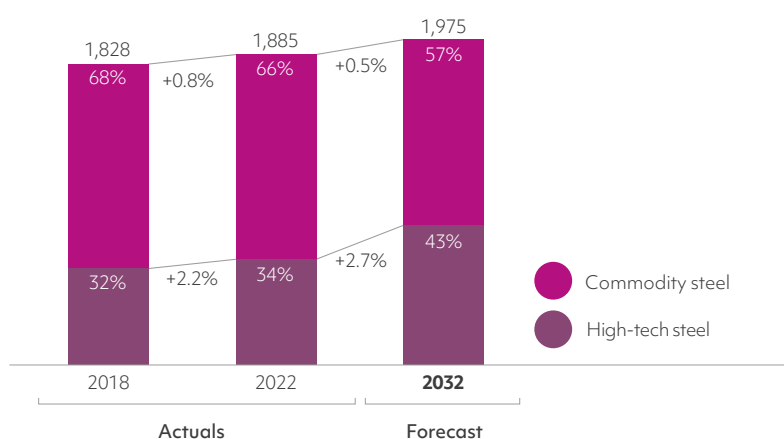
Source: World Steel Association (Yearbook 2022 published March 2023) and Laplace Conseil (analysis conducted in October 2023, including inputs from World Bank, IMF, IEA, OECD & other international associates, company data and announcements).

High-tech steel is expected to grow faster than the market

Our Flow Control Business Unit will also benefit from the progressive evolution of the steel sector, not only in China but worldwide, towards more technology intensive types of steel, either because this steel is being produced through sophisticated processes like thin slab casting or because it is destined for highly demanding end-markets like automotive, engineering or energy.

It is estimated that the 'high-technology' steel sector, representing around 34% of the steel market today, could represent around 43% of the global steel market in ten years' time. Flow Control already realises 58% of its sales in this fastest growing part of the steel market.

High-technology steel production evolution, million tonnes %



Source: World Steel Association (Yearbook 2022 published March 2023) and Laplace Conseil (analysis conducted in October 2023, including inputs from World Bank, IMF, IEA, OECD Global Energy Monitor (Steel plant tracked March 2023) and other international associates, company data and announcements).

Our market environment: positive growth trends continued

The Foundry Division serves a wide range of growing end-markets including, machinery and general engineering, mining, agriculture and infrastructure

End uses of foundry castings

Products manufactured by the foundry casting market – made up of iron casting, steel casting and non-ferrous casting – are used across all engineering sectors.

	Foundry Sales (2023)	Example cast parts
Light vehicles	22%	– Engine components and exhaust systems (ICEs and hybrids) – Electric engine components (hybrids and EVs)
Mining and construction	18%	– Mining vehicle components and mining machinery – Structural support in infrastructure – Functional elements in construction , e.g. roofing, stairs, doors and window frames
Medium and heavy vehicles	13%	– Suspension, chassis and brake components
Railways and Marine	5%	– Wheels, axles, frames and chassis for trains – Hulls, decks, propellers, anchor and chains for ships – Engine components
Power generation	5%	– Wind turbines – materials in tower structure, gearbox housing – Structural and rotating components
General engineering/ other	37%	– Agricultural components, including cultivating and harvesting equipment – Structural components for industrial machines – Rotating components – gears and shafts used in machinery

Foundry sales to end-markets

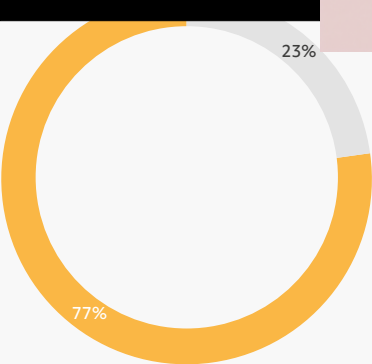
Foundry end-markets are expected to grow

More than three-quarters of the Foundry Division's sales are to markets that are forecast to see c.2% growth in average volumes per year over the next ten years.

Due to the gradual electrification of vehicles, the light vehicle market, which currently represents only 23% of the Foundry Division's sales, is expected to remain stable.

The Foundry Division's R&D strategy is focused on developing new technological products to accelerate its penetration of the growing aluminium casting sector for the automotive market, which is positively impacted by the electrification of vehicles, which we believe will enable the Division to continue to grow in the light vehicle sector.

The secret object #2 is a



77% of Vesuvius Foundry sales are in markets with forecast positive volume growth of 2% CAGR

23% of Vesuvius Foundry sales are in markets with flat volume growth (due to electrification)

Mitigation
Accelerated penetration of non-ferrous castings for automotive with new technological products

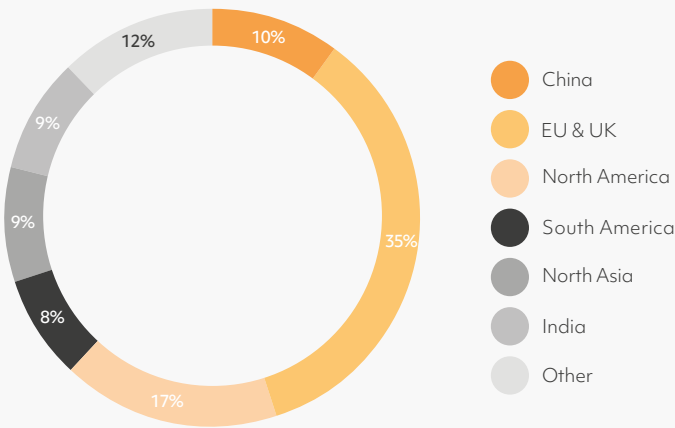
The secret animal #1 is an



Foundry's Global exposure

Ferrous sales in developed markets represent the core of the Foundry Division's business. We are witnessing the transition of ferrous casting activity from Western Europe towards emerging markets. We expect this strong growth to continue and we are focused on expanding our business in these developing markets. We are well positioned to respond to this transition from our network of existing manufacturing facilities.

Our global exposure



Foundry's customers

The Foundry market is highly fragmented with three main customer segments. The Foundry Division has more than 3,000 customers with no one customer representing more than 3% of Foundry's revenue.

Vesuvius segmentation and commentary

The captive

- Controlled by OEMs, who produce in-house where there is a technological edge vs. outsourcing

Large run/series
(>1,000pcs/yr even up to >100kpcs/yr in Automotive)

(20%)
2023 sales

End-markets

Mainly consists of mining, agriculture and light vehicle foundries

The specialist

- Focused on a limited number of markets (mining, automotive, windmill)

(53%)
2023 sales

Typically light vehicle and truck tier 2 suppliers who produce a small range of castings for various end users

The jobbing

- Produce a range of products on request
- Process and artisanal capabilities

Small runs/series
(5-100spcs/yr)

(27%)
2023 sales

Small accounts with one-off production runs, active across all sectors

Chairman's statement



Our technological leadership continues to deliver innovative solutions and underpins our confidence in the future."

Dear Shareholders,

2023 was a year of successes for Vesuvius despite facing a number of global challenges. Against a backdrop of continuing macroeconomic uncertainty, we delivered a strong performance and emerged from 2023 having reinforced our technology-based strategy for continued growth. This performance was in large part due to the decisive actions of the Group's management team and senior leadership, as well as the hard work and commitment from our employees across the globe.

Our value proposition

Having joined Vesuvius, it is clear to me that our performance in 2023 is a direct result of the value that Vesuvius is able to provide to its customers. We outlined our strategy for continuing this partnership in our Capital Markets Day in November. The foundation of our business model is our R&D strategy, generating the new, high-technology consumables that deliver value to our Steel and Foundry customers, support our superior pricing capability and enable us to achieve market share gains. Through our solutions-driven offering, our customers can drive efficiency and productivity improvements in their processes, and make their operations safer and more sustainable. Our proprietary refractory solutions have set industry benchmarks, enabling our customers to produce cleaner, stronger, and higher quality steel and castings.

Our relentless focus on improving safety standards is central to Vesuvius, and we continue to invest in developing cutting-edge technology to minimise risks both for our own employees in our operations as well as our customers' employees in theirs. Our innovative focus on using robots to automate elements of the steel-making process which were previously done manually, minimises the need for our customers' employees to operate in hazardous environments.

Our commitment to support customers in their mission to improve product quality is a fundamental part of our solutions driven approach. Alongside this, we maintain a critical focus on the quality of our own products and our own operations. This underpins the reliability that our customers demand of us, as they use our products in critical and demanding processes, where quality cannot be compromised. 2023 has seen a renewed focus within Vesuvius on continuing to strengthen the quality of our solutions and consumables.



Carl-Peter Forster
Chairman

People

The strategic progress and financial performance we delivered in 2023 is founded on the dedication and professionalism of our employees across the Group. The level of technological innovation we generate could not happen without our exceptional teams of R&D professionals and industry experts, nor could we maintain the depth of our customer relationships without the contribution of our operations, sales and procurement teams. People are at the heart of Vesuvius, and we continue to focus on how we can invest in our teams to deliver our commercial aims.

Members of the Board had a busy year in 2023, visiting sites in Brazil, China, Germany, India, the Netherlands and the United States. It is during these visits that the Directors can speak first-hand with our people, hold 'town hall' meetings, listen to their questions and feedback, and take the temperature of the organisation. The optimism I had about the quality of the staff across Vesuvius has been borne out in my first year as Chairman, as I have travelled to sites and had the opportunity to hear the views and opinions of our excellent teams around the globe.

Safety

The number one priority at Vesuvius is to provide our employees with a safe place to work. Only the highest levels of safety performance can be accepted, and we are proud of the steps we have taken over the years to ensure safety is at the core of everything we do. Although we are pleased that the Lost Time Injury Frequency Rate reduced significantly this year, we are aware that there is more work to be done, particularly in relation to the management of contractors, where we had two serious injuries on our sites in 2023.

Progress on our Sustainability objectives

The Group has set clear internal operational targets around sustainability performance, particularly in relation to our CO₂ emissions and energy consumption. We continue to make good progress in the reduction of our carbon footprint and are proud that our latest Sustainability score was upgraded for the third year in a row, putting the Group in the top quintile versus our peers.

We have continued to focus on developing products across our portfolio which deliver improved environmental performance, and play a key role in the value that we create for our customers. In my site visits around the business I have seen how our people are engaged in delivering on our global sustainability objectives, together with focusing on local initiatives that benefit the communities in which they work.

We continue to make steady progress towards reaching our target of a net zero carbon footprint by 2050 at the latest. Achieving this aim

however, we need to continue to focus on this journey and are dedicated to achieving this important goal.



The Board and governance

In 2023, we had a number of changes to the Board. We welcomed Carla Bailo, Mark Collis and Robert MacLeod and saw Jane Hinkley and Guy Young leave the Board.

Having served nine years on the Board, Douglas Hurt, Senior Independent Director, will be stepping down at this year's AGM, and we are pleased that Eva Lindqvist has agreed to join the Board as our new Senior Independent Director. She will be standing for election at the AGM. Eva is an engineer with more than 35 years' experience in global industrial and service businesses, and I know she will be a valuable addition to the Board.

On behalf of the Board, I would like to thank Douglas Hurt for his dedicated service, wise counsel and exceptional support over the years.

As in previous years, the Board conducted an evaluation of its performance in 2023, full details of which are set out in the Nomination Committee report. This process has again enabled us to reflect positively on the Board's role in adding value to the business as it pursues its strategic and operational objectives.

Dividend

The Vesuvius dividend policy aims to deliver long-term dividend growth, via a progressive dividend, provided this is supported by cash flow and underlying earnings, and is justified in the context of our capital expenditure requirements and the prevailing market outlook.

The Board has recommended a final dividend of 16.2 pence, bringing the total dividend for the year to 23.0 pence per share, which is a 3.4% year-on-year increase on the total dividend for 2022 of 22.25 pence per share. This represents a dividend cover of 2.0x compared to adjusted EPS for 2023.

If approved at the Annual General Meeting, this final dividend will be paid on 31 May 2024 to shareholders on the register at 19 April 2024.

On 4 December 2023, we launched a share buyback of up to £50m, which is expected to take 9–12 months to complete. This is part of our commitment to return cash to shareholders where it is not required for additional investment, while maintaining a strong and prudent balance sheet. During 2023, shares with a value of £3.1m were acquired (at an average price of 464 pence per share) and cancelled by the Company.

Annual General Meeting

The Annual General Meeting will be held on 15 May 2024. The Notice of Meeting and explanatory notes containing details of the resolutions to be put to the meeting accompany this Annual Report and are available on our website: www.vesuvius.com.

Looking ahead

Vesuvius has a clear strategy for growth and is well placed to deliver superior returns to our shareholders. In the months and years ahead, we will focus on delivering our strategic ambitions. We will continue to prioritise safety, drive innovation through our dedicated R&D capabilities, and deliver market-leading, technologically advanced products and solutions. We will drive efficiency in our operations and maintain a robust financial framework to support investment in the business, and where appropriate, acquisitions. The year ahead will no doubt present challenges, but I am confident we have the people, products and expertise to navigate these, and continue on our path of creating value for shareholders and delivering long-term sustainable growth.

On behalf of the Board, I would like to thank our shareholders, employees and customers for their continued support, and I look forward to reporting on further successes in the coming year.

Carl-Peter Forster
Chairman
28 February 2024

Chief Executive's strategic review

“

Resilient results despite a challenging trading environment. Top line and profitability growth initiatives fully on track.”

Our ambitions

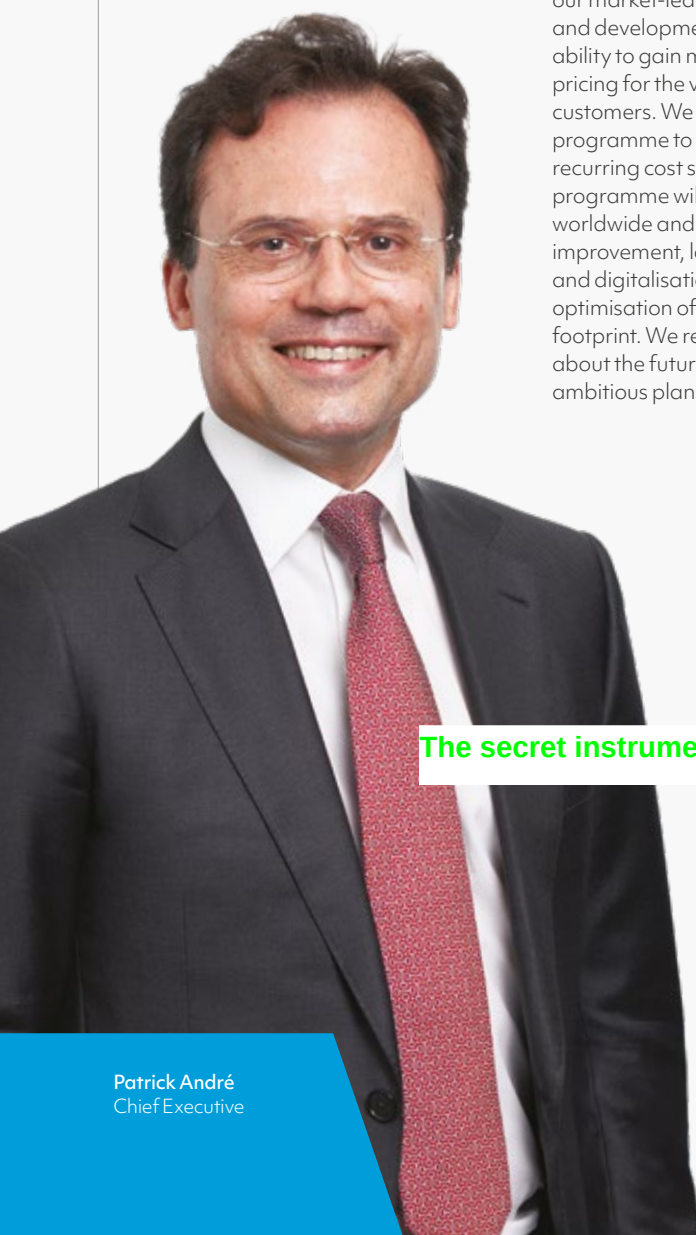
In November 2023, we presented our strategy and medium-term targets to investors at our Capital Markets Event. We highlighted favourable medium-term trends in our end-markets, and, through our market-leading investment in research and development, demonstrated our ability to gain market share while pricing for the value we generate for our customers. We also set out a cost reduction programme to achieve £30m of annually recurring cost savings in 2026. This programme will cover all our activities worldwide and will focus on operational improvement, lean initiatives, automation and digitalisation as well as further optimisation of our manufacturing footprint. We remain very optimistic about the future of Vesuvius, with ambitious plans for the next three years.

Our performance in 2023

In 2023, we delivered very resilient results and profitability despite a difficult market environment, and we continued to make good progress in the implementation of our strategic top line and profitability growth initiatives.

Our steel markets, after some limited improvement during H1 2023 from the very low level of H2 2022, weakened again during H2 2023. This was particularly pronounced in Europe (EU+UK) where steel production declined 7.3% in 2023 as compared with the previous year, 5% below the worst year of the pandemic in 2020. Steel markets were also particularly difficult in South America, where production declined 5.8% as compared with the previous year. India was, in 2023, for the second year in a row, the only major region in the world to exhibit a strong growth of 11.8%. Steel production in China was stable, but Chinese net steel exports increased very significantly during the year, putting pressure on all steel producers outside China, with the exception of those in the US who were insulated by efficient trade protections. Overall, steel production in the world excluding China, Russia, Iran and Ukraine declined by 0.7% in 2023, after a decline of 1.6% in 2022.

Other end-markets, with the exception of the automotive sector, also remained weak in 2023, particularly in Europe (specifically in and around Germany), in China and in South America. Weakness in non-automotive sectors more than offset a limited recovery in the automotive sector. Destocking of the excess casting inventories accumulated during the pandemic also had a negative impact on our end-markets.



The secret instrument is a



Patrick André
Chief Executive

Our Strategic Targets

Background

Positive medium-term market dynamics

There are positive growth trends in both the steel and foundry markets. A positive inflection in the volume outside China is widely expected and this has been seen over the past 10–15 years of market decline outside China.

This change is evidenced by new investment in steel plant capacity by the world's major steel makers. While the near-term outlook can sometimes be uncertain, we expect to have a tailwind of growing markets in the medium term.

The secret food is



leveraging our technological differentiation growing end-markets.

Our strategy is creating technologically differentiated solutions through market-leading R&D investment, and then commercialising this benefit.

This is validated by the success we have achieved to date. Revenue from our Steel business grew 30% in the five years between 2017 and 2022 despite our addressable market decreasing by 18% over the same period.

We aim to:

1

Achieve a Return on Sales of at least 12.5%, by 2026

This will be delivered through revenue growth supported by market share gains and pricing improvements from our differentiated products, plus a further cost saving programme to deliver £30m of savings in 2026, driven by the benefits of automation and digitalisation.

2

Generate strong and recurring free cash flow of at least £400m between 2024 and 2026

This is possible due to our asset-light business model, our disciplined approach to capital investment and a focus on optimising working capital.

The resulting cash generated will be returned to shareholders unless required for acquisitions, which we undertake on a highly selective basis.

3

Achieve £30m of annually recurring costs savings by the end of 2026

This programme will cover all our activities worldwide and will focus on operational improvement, lean initiatives, automation and digitalisation as well as further optimisation of our manufacturing footprint.

Our capital allocation priorities

Organic investment

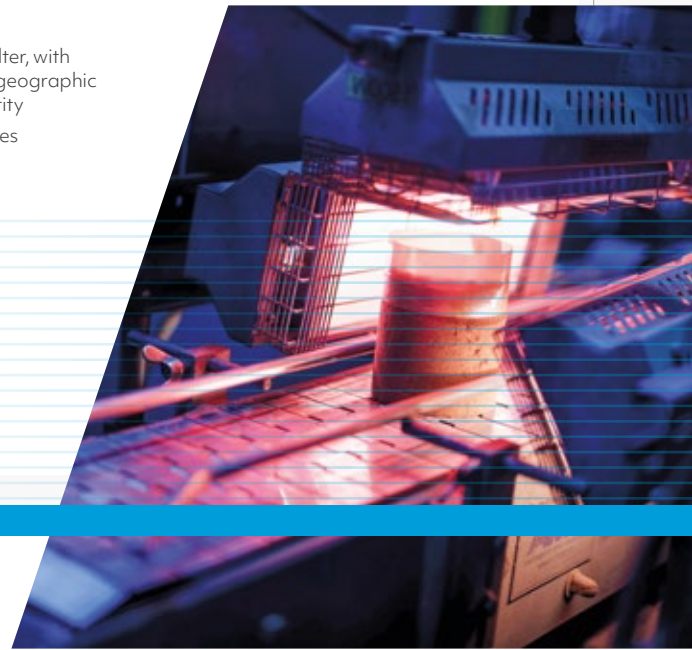
- Consistent and targeted R&D expenditure of c.2% of revenue per annum
- Capex expected to return to sustaining levels in 2025

Shareholder returns

- Long-term dividend growth via a progressive dividend
- Focus on maintaining a prudent balance sheet (c.1.0–2.0x net debt/EBITDA)
- Surplus capital available for additional shareholder returns

Inorganic investment

- Highly selective acquisition filter, with strategic factors focused on geographic or technology complementarity
- Very stringent financial hurdles for investment



The secret kitchen appliance is a



Chief Executive’s strategic review continued

Robust results and profitability thanks to positive pricing performance in all Business Units and market share gains in Flow Control and Foundry

Both the Steel and Foundry Divisions achieved positive pricing performance in 2023, sharing the value we create for our customers through our technology leading products and solutions and fully compensating for increases in our cost base from the continuing inflationary environment.

At the same time, both the Flow Control and the Foundry Business Units continued to gain market share in most regions, with the exception of Europe (EU+UK) for Flow Control where the Business Unit was negatively impacted by destocking at certain key customers and where we applied strict credit limit rules limiting our sales to customers at heightened risk of insolvency.

This ability to simultaneously improve market share and prices in both Flow Control and Foundry was again made possible by the technological differentiation of our products and solutions, driven by our market-leading investment in research and development.

In the Advanced Refractories Business Unit however, we lost market share in 2023, particularly in Europe, as we gave priority to pricing.

Thanks to this overall positive pricing performance and to our market share gains in Flow Control and Foundry, we delivered resilient results in 2023 despite the very challenging market environment. Our revenue reached £1,930m (versus £2,047m in 2022), our trading profit reached £200m (versus £227m in 2022) resulting in a return on sales of 10.4% (versus 11.1% in 2022), demonstrating again the positive impact of our cost competitiveness and technology strategy.

Successful implementation of our growth generating investment programme in Flow Control and Asia

The growth-generating investment programme we initiated in 2021 continues apace and will support the progression of our results and profitability in the years to come. The expansion of our VISO, slide-gate and mould flux production capacity in Flow Control will be fully operational by mid-2024 and will support the Business Unit’s expansion in India, South East Asia, EEMEA and North America. In China, our new Foundry flux production line is now fully operational and will enable the Business Unit to accelerate its penetration of the fast-growing aluminium

foundry market in the country. In Advanced Refractories, the expansion of our basic monolithics, ALSi monolithics and precast capacity at our new flagship plant in Vizag, India will be completed by the end of 2024 and will support the profitable growth of the Business Unit in India and South East Asia.

Strong free cash flow generation

Thanks to our stringent cash management discipline and positive progress in the management of our trade working capital, our cash conversion ratio reached 93% in 2023. This enabled us to maintain a very low debt leverage ratio of 0.9x, despite our capital expenditure being temporarily higher than the long-term average, to increase our dividend and to launch a £50m share buyback programme at the end of 2023.

Our free cash flow generation is expected to improve further from 2025, when our strategic expansion programme will be complete and capex should return to a more normalised level.

Continued progress in the productivity of R&D and new product development

We again increased our investment in research and development in 2023, spending £37.4m, an uplift of 3.7% over 2022 (on a constant currency basis). This was fully expensed in our profit and loss statement. Our two main focus areas remain: innovation in materials science, with an objective to continuously improve the performance of our consumables; and, the development of mechatronics solutions to enable our customers to substitute the operators who manipulate our consumables, with robots and by doing so improve the safety, reliability, cost and quality performance.

We successfully launched 21 new products in 2023. Our New Product Sales ratio, defined as the percentage of our sales realised with products which didn’t exist five years ago, reached 17.6%, up from 16.4% in 2022.

Thanks to the continuous efforts we are putting into R&D, we now have a full pipeline of products under development which will be progressively introduced to the market over the next three years to support our ambition to grow our top line and profitability.

Best ever safety performance

We achieved our best ever safety results in 2023 with a Lost Time Incident Frequency Rate of 0.6 vs 1.08 in 2022, which now positions us amongst the ‘best in class’

companies worldwide. This is the result of many years of effort to integrate safety as the number one priority in our company culture. Our ultimate goal remains for us to be a zero-accident company and we will intensify our efforts to continue progressing rapidly towards this objective.

Our journey to net zero

In 2023, we continued to implement our action plan to decarbonise our activities. In particular, we reinforced our energy savings initiatives and continued our programme to switch our electricity consumption worldwide to non-carbon emitting sources. Thanks to these efforts, we reduced our carbon intensity by 20.2% vs our 2019 reference year (18.5% reduction in 2022), achieving our 2025 objective two years ahead of schedule and setting us on track to achieve our next intermediate target of a 50% reduction by 2035.

Cyberupdate

On 6 February 2023, we announced that we had suffered a major cyber security incident. Thanks to the protective measures the Group had implemented in prior years, there was no disruption of supply to customers, and the overall cost of the incident was limited to £3.5m. We have analysed the event in detail and derived the necessary learnings. This has enabled us to improve our protection further to help minimise both the risk and severity of any subsequent incidents.

On track to achieve our mid-term growth and profitability objectives

Despite the short-term uncertainties in our steel and foundry end-markets, we remain confident in their mid- to long-term growth potential, and in particular growth in the steel market outside China, which should be a tailwind for Vesuvius.

The strength of our technology-based business model should also enable us to continue to simultaneously outperform our underlying markets in Flow Control and Foundry and maintain positive pricing performance for all our Business Units in the years to come. This, coupled with our relentless drive to optimise our cost base, as illustrated by the launch of our new cost optimisation programme, positions us well to achieve our objectives of a 12.5% return on sales by 2026 and cash flow generation of £400m over the next three years.

Patrick André
Chief Executive
28 February 2024

Investment proposition

Why invest in Vesuvius?

Strategic framework

How we will achieve this

Principal reasons to invest

We offer a compelling investment proposition with exciting potential for profit and cash generation

Vesuvius operates in growing markets

We believe that the steel market is inflecting to growth in the world outside China, where we earn more than 90% of our revenue. At the same time, there is a global move toward technical steel products and consumption, where our Flow Control sales are strongly weighted. Our Foundry markets are also expected to grow.

We have a global presence

Our worldwide footprint, particularly in the world's fastest growing markets, enables us to deliver on safety, quality, sustainability and value across all of the world's steel-making and foundry casting regions.

Vesuvius has a technology-based strategy

We spend c.2% of our annual revenue on R&D, allowing us to maintain strong technological differentiation in our products. Our investment in R&D is measured by our percentage of New Product Sales, and we aim to realise 20% of our sales annually from products which didn't exist five years ago.



The secret object #1 is a

Technology drives financial outperformance

We expect to outperform underlying markets by on average 2% per annum, using our technology leadership to gain market share, optimise pricing, and share the value we generate for our customers. Refractories only represent c.3% of the production costs of our customers.

We have a strong sustainability strategy

We aim to help customers reduce their environmental impact in addition to delivering on our own challenging targets for safety, carbon intensity reduction, gender diversity and other measures.

Vesuvius has strong and recurring free cash flow

Our business model delivers consistent cash flow due to our low capital intensity, high level of recurring revenue, and the underpin of working capital discipline. This cash flow will be available for further investment or return to shareholders.

Our business model

Why invest in Vesuvius? Strategic framework How we will achieve this

Our markets

Positive growth trends in steel and foundry markets

The secret clothing is a

Our resources

Decentralised, entrepreneurial, non-matrix organisation

55

55 production sites on 6 continents

6

R&D centres of excellence

13,500

people in our skilled and motivated workforce

Our Values

Courage

Ownership

Respect

Energy

Financial capital

We use the cash generated by our business to invest in innovation, people, operating assets, technology and sales to generate further growth

Global supply network

We work closely with a wide range of suppliers to establish reliable and well-developed sustainable supply chains to secure high-quality raw materials

What we are doing

1

Technological leadership and product differentiation through investment in R&D

Our network of talented scientists and technicians create differentiated products and solutions, maintaining our technology leadership

Link to page 22

2

Customer service

Our customer intimacy and deep knowledge of their processes and requirements give our engineers an unparalleled ability to deliver on customer needs

Link to page 23

3

Efficient operations

Our continuous focus on improvements in our manufacturing base, production processes and IT and support functions maintains the efficiency of our operations

Link to page 23

4

Investment in growth regions

Our global footprint enables us to capitalise on shifting dynamics in the global steel market

Link to page 23

Underpinned by a strong sustainability strategy



Link to page 34

Creating value



Safety

Better environments and outcomes for Vesuvius staff and customers



Quality

Optimised products driving better steel, and better castings



Efficiency

Cheaper casting and steel through reduction of input costs



Sustainability

Less energy usage and fewer CO₂ emissions in our processes and our customers' processes



Rewarding careers

We encourage and reward high performance to create an environment where all can realise their individual potential



Return for investors

Optimised pricing and market share gains driving improved profitability

The secret animal #5 is a

Steel

Flow Control
Sensors & Probes
Advanced IS Casting



Foundry

▶ [Link to page 6](#)

To achieve

Outperform our underlying markets by ~ 2%

>12.5%

Return on sales in 2026

£30m

Recurring annual cost savings by 2026

£400m

free cash flow between 2024 and 2026



Our drivers for profitable growth

Why invest in Vesuvius? Strategic framework How we will achieve this

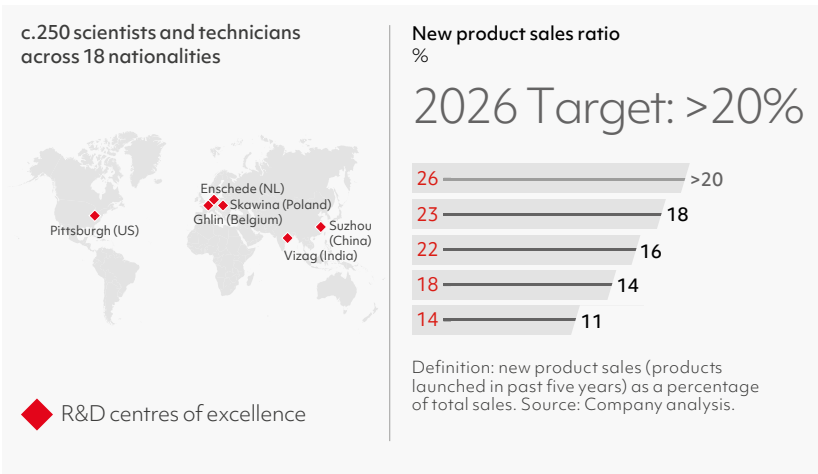
We have four strategic pillars which will help us achieve our financial targets. These are underpinned by our universal focus on safety, our investment in our people and our long-term sustainability strategy.

1 Technological leadership and product differentiation through investment in R&D

Leading R&D will underpin Vesuvius' growth in the next five years.

We have built up a global network of expert scientists, engineers and technicians, based across our six R&D centres of excellence, who combine product expertise with the provision of specialist support to our customers.

Our strategy of continual investment in R&D has resulted in a growing proportion of our sales being attributable to new products (those launched in the past five years). This is expected to exceed 20% by 2026.

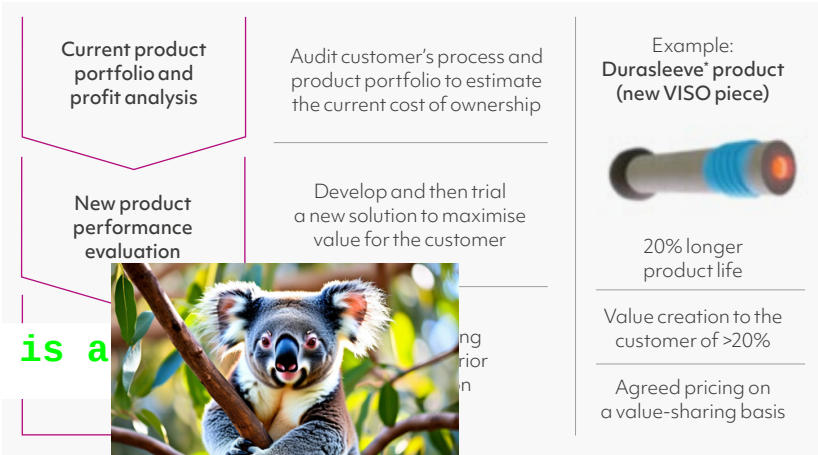


Optimised pricing and market share gains

Our strong technological leadership enables us to deliver pricing optimisation through a combination of (1) passing-through cost fluctuations and (2) value-sharing with customers.

The pass through of costs lowers our exposure to fluctuations in the raw material markets and reduces earnings volatility.

The trend towards more technically advanced steel and castings



The secret animal #2 is a koala. Koalas are a marsupial that live in eucalyptus trees. They are known for their slow movement and long life span. Koalas are also known for their unique appearance, with their grey fur and white chest. They are also known for their unique sound, which is a low, rumbling growl. Koalas are also known for their unique diet, which consists of eucalyptus leaves. Koalas are also known for their unique habitat, which is the eucalyptus forest. Koalas are also known for their unique behavior, which is to sleep for long periods of time. Koalas are also known for their unique appearance, which is a grey fur and white chest. They are also known for their unique sound, which is a low, rumbling growl. Koalas are also known for their unique diet, which consists of eucalyptus leaves. Koalas are also known for their unique habitat, which is the eucalyptus forest. Koalas are also known for their unique behavior, which is to sleep for long periods of time.

* Trademark of the Vesuvius Group of companies, unregistered or registered in certain countries, used under licence.

2 Customer service

We provide on-site support to our customers, with Flow Control maintaining a continuous presence at our customers' sites.

This level of intimacy, together with our materials science, fluid and computer modelling expertise, enables us to provide high-quality, tailored solutions to our customers. These are supported where appropriate by industry leading mechatronics, to secure an ongoing revenue stream from our consumable products.



3 Optimisations

The secret tool is



We have achieved c.£30m of annually recurring savings which we intend to realise in the next three years. The majority of these savings will be achieved through our lean and continuous improvement programmes, and through the automation and digitalisation of our manufacturing and administrative processes.

Lean and continuous improvement programmes

Automation and digitisation of manufacturing and administrative processes

Further optimisation of manufacturing footprint

c.75% benefit

c.25% benefit

4 Investment in growth regions

Our existing programme of growth capital expenditure will be completed in 2024, after which expenditure will return to more normalised levels.

In 2023, work continued on construction of our new flux plant in Vizag, India and on our new basic monolithics, AISi-monolithics and precast manufacturing plant on the same site. These investments, together with capacity expansions in other manufacturing sites will serve future growth in our key markets of India and South East Asia.

Support to above-market growth in Flow Control

- Expansion of VISO, slide-gate and flux capacity worldwide

Global expansion in India and South East Asia

- Investing in state-of-the-art new capacity in the high-growth Indian market
- Expanding capacity at existing Kolkata site and developing new site in Vizag
- VISO capacity
- Flux plant
- Basic Mono, AISi Mono and precast lines
- Foundry filters line
- Space for further investment