

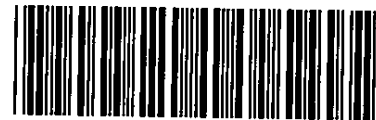
Vesuvius plc  
Annual report and accounts 2014

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## Introduction to Vesuvius

Vesuvius is a global leader in molten metal flow engineering, principally serving the steel and foundry industries

We develop innovative and customised solutions, often used in extremely demanding industrial environments, which enable our customers to improve their manufacturing processes, enhance product quality and reduce energy consumption

Our ultimate goal is to create value for our customers in order to deliver sustainable, profitable growth and provide our shareholders with a superior return on their investment, whilst providing each of our employees with a safe workplace where he or she is recognised, developed and properly rewarded

### Strategic reporting

See Strategy on p10-23

See Business model on p10 and 11

See KPIs on p32 and 33

See Risk management on p22 and 23

Find out more about Vesuvius at [www.vesuvius.com](http://www.vesuvius.com)

**Forward-looking statements** This Annual Report contains certain forward-looking statements with respect to the operations, strategy, performance, financial condition, and growth opportunities of the Vesuvius Group. 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 anticipated. 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 these forward-looking statements. Nothing in this Annual Report should be construed as a profit forecast.

## Highlights of 2014

Revenue of £1,444m down 4.4%, up 3.5% on an underlying basis<sup>(1)</sup> (2013: £1,511m)

Trading profit<sup>(2)</sup> of £142.8m, up 2% on a reported basis, and up 11.6% on an underlying basis<sup>(1)</sup> (2013: £140.0m)

Return on sales<sup>(2)</sup> improved by 62 basis points to 9.9% (2013: 9.3%), 71 basis points improvement on an underlying basis<sup>(1)</sup>

Headline earnings per share<sup>(3)</sup> of 33.4 pence, up 4.7% (2013: 31.9 pence)

Recommended final dividend of 11.125 pence per share, Group full year dividend of 16.125 pence (2013: 15.0 pence)

Year-end net debt<sup>(2)</sup> of £268.3m, with net debt to EBITDA ratio of 1.48x

1 Underlying basis is at constant currency and excludes separately reported items and the impact of acquisitions and disposals

2 For definitions of non-GAAP financial measures, refer to Note 4 of the Consolidated Financial Statements

3 Headline results refer to continuing operations and exclude separately reported items

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## Chairman's statement

"In 2014, the Company made good progress on all five of its strategic priorities, whilst maintaining its ultimate focus on creating sustainable value for shareholders"

John McDonough CBE Chairman

See Governance on p56-97:

Chairman's governance letter on p60

Board effectiveness on p63

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## Strategic focus

I am pleased to report that during 2014 your Company has continued to make very encouraging progress both in its financial performance and its strategic positioning

Your Board has adopted a clearly defined strategy for profitable growth and has already delivered substantially against that strategy

In 2013, the structure of the Company was successfully transformed, exiting non-core businesses in order to create a fully focused molten metal engineering company, with global leadership positions in its chosen markets, providing technologically advanced products and services that are critical to its customers' efficiency and profitability

Having done so, the priority for the management in 2014 was to execute on the five stated strategic priorities

- Reinforcing our technology leadership
- Enlarging our addressable markets through increased penetration of existing and new value-creating solutions
- Leveraging our strong positions in developing markets to capture the growth opportunities that they represent
- Improving our cost leadership and our margins
- Building an increasingly comprehensive technical services offering

Good progress was made on all five of these priorities. In particular, the business was strengthened in China, which remains a strategically important growth market for us in the long term, and two further technical services acquisitions in the US and Brazil were completed in August and October respectively. Details of how management continued to deliver against all of these strategic priorities are set out later in this Strategic report

The Board as a whole is very clear that the Company's ultimate focus must be on creating sustainable value for shareholders, and we are prepared to explore all options that we believe can help achieve this. This has been demonstrated in recent months and this open-minded approach will continue to be central to the way in which the Board sets the future strategic direction of the Company

## Performance and dividend

In 2014 the Company focused on exploiting its market opportunities to the full, whilst exercising firm financial and capital discipline. This resulted in a solid performance in 2014, despite mixed trading conditions in end-markets and the unpredictable economic and geopolitical outlook globally. Profit performance and margins have improved again, cash generation has remained strong, and the Company's balance sheet is robust

Vesuvius is a well-invested and inherently cash generative business. Its dividend policy aims to deliver long-term dividend growth, provided that this is supported by underlying earnings, cash flows, capital expenditure requirements and the prevailing market outlook. The Board has therefore recommended a final dividend of 11.125 pence per share for the year ended 31 December 2014 (2013: 10.25 pence). This would result in a total dividend for the year of 16.125 pence per share (2013: 15 pence), an increase of 7.5%. If approved at the Annual General Meeting, the final dividend will be paid on 22 May 2015 to shareholders on the register at 10 April 2015.

## Board and governance

During the course of the year, your Board has continued to build an increasingly detailed understanding of Vesuvius, its people, its markets and the opportunities and challenges it faces. This is vital if we are properly to discharge our responsibility for setting the strategic direction of the Company, and for ensuring that the appropriate culture is embedded throughout the organisation to deliver that strategy.

To that end, during the year the Board conducted visits to the existing Vesuvius R&D and manufacturing facilities in Cleveland and Pittsburgh, together with the building acquired for the new R&D laboratory. The Board visited customers of the Foundry business, and conducted management meetings with both the Flow Control and Foundry groups in NAFTA. In March, I personally visited the Company's Advanced Refractories and Flow Control facilities in China and, in September, the Steel and Foundry operations in India.

The Board firmly believes that strong corporate governance is central to the delivery of sustainable long-term shareholder value. The Company continues to operate under a robust governance structure which complies with the UK Corporate Governance Code, and develops governance arrangements to comply with best practice.

The Board also believes that thorough and structured long-term succession planning is an important element of that governance. With that in mind, in June a dedicated strategy day was held where, amongst other things, a review of Executive Director and senior management succession planning was conducted. In November, we undertook an externally facilitated Board evaluation, which built on the themes identified from the evaluation undertaken in 2013. The very positive results of this evaluation are set out in the Governance report on page 64.

As a result of these initiatives, I can state with confidence that yours is a knowledgeable, cohesive and well-diversified Board with an appropriate mix of skills and experience and a clear understanding of its responsibilities both to the Company and to shareholders.

Having created a substantially new Board at the time of the demerger in late 2012, there were no further changes to its composition during 2014. Jeff Hewitt, however, is to stand down at the forthcoming Annual General Meeting. Jeff has been a Non-executive Director of the Company and its predecessor, Cookson Group plc, for nine years, has been Chairman of the Audit Committee, and has served as the Senior Independent Director for the past two years. On behalf of the Board, I would like to thank him for his outstanding service over that period of time.

The Board has today announced the appointment of two new Non-executive Directors, who will join the Board on 2 April 2015. Douglas Hurt has been Finance Director of IMI plc, the global engineering group, since 2006 and is also a Non-executive Director of Tate & Lyle PLC. Hock Goh's experience of working in China, and from his years at Schlumberger, will be particularly valuable as we continue to develop our businesses in China and in Technical Services. Douglas Hurt will succeed Jeff Hewitt as Audit Committee Chairman and Senior Independent Director following the 2015 AGM.

Details of the composition, responsibilities and operation of the Board, and the current Directors' biographies, are set out in the Governance report starting on page 56. Biographical information for Douglas Hurt and Hock Goh will be included in the Notice of Meeting for the forthcoming AGM.

The Company's Code of Conduct which clearly sets out the culture, values and behaviour that the Board expects from all our people is discussed further on pages 44 and 45, and is available in full on the Company's website [www.vesuvius.com](http://www.vesuvius.com).

### **Our people**

We ask a lot of our people – as do our customers – and I continue to admire their talent, their commitment and their ambition to deliver over and above what is expected of them. This professionalism, across the Group, is the single most significant contributor to the Company's success and, on behalf of my Board colleagues, I thank them all.

In return, the Board recognises fully that the health and safety of our people, and the creation of opportunities for them to develop and use their talents, is key to the sustainable long-term success of your Company. The sections on Safety and on Human Resources within the Strategic Report set out how this commitment is put into action.

### **Annual General Meeting**

The Company's Annual General Meeting will be held at The Lincoln Centre, 18 Lincoln's Inn Fields, London at 11.00 am on 14 May 2015. The Notice of Meeting and explanatory notes accompany this Annual Report and are available on our website. My Board colleagues and I look forward to meeting as many shareholders as possible at that time.

In the meantime, on behalf of the Board, I thank all shareholders for their continued support of Vesuvius, and look forward to reporting on further positive progress in the months and years ahead.

John McDonough CBE, Chairman

3 March 2015



## Section One

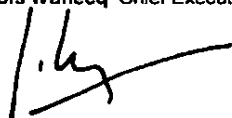
# Our Business

### In this section

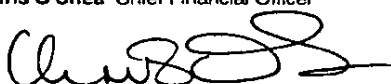
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The Strategic Report set out on pages 02 to 53 contains a fair review of our businesses, strategy, and business model and the associated principal risks and uncertainties. We also deliver a review of our 2014 performance and set out an overview of our markets. Details of our people, values and approach to Corporate Responsibility are also contained in the report. This section shows how we are well-positioned to grow and to deliver superior returns to shareholders.

François Wanecq Chief Executive



Chris O'Shea Chief Financial Officer



## Vesuvius at a glance

### Worldwide presence

We are a global Group with a business model based on offering production and services in close proximity to our customers

See Our business model on p10 and 11

**38**

Countries

**6**

Continents

**65**

Production sites

**11,792**

Employees

**84**

Sales offices

**16**

R&D centres

### Americas

Production sites

**16**

Employees

**3,737**

R&D centres

**5**

Sales offices

**18**

### EMEA

Production sites

**29**

Employees

**4,754**

R&D centres

**9**

Sales offices

**36**

### Asia-Pacific

Production sites

**20**

Employees

**3,301**

R&D centres

**2**

Sales offices

**30**



## Steel division

Revenue

**£981.4m**

See Steel division review on p34-38

### Steel division

The continuous casting of steel is a highly demanding process that is critically dependent upon consistent product quality and optimised production. Vesuvius provides systems, products and services that allow steel mills to control the flow of molten metal in the continuous casting process. Our products protect the steel from oxidation and chemical contamination, increasing efficiency and productivity, enhancing quality, reducing the environmental footprint and improving the safety of the casting process.

**Steel Flow Control** supplies products used to channel and control the flow of molten steel from ladle to tundish and from tundish to mould, slide gate refractories for furnaces, ladles and tundishes, slide gate systems, temperature measurement and slag level detection systems, tundish and mould fluxes, and control devices to monitor and regulate steel flow into the mould. These products have been designed to resist extreme thermomechanical stress and corrosive environments. The majority of these products are consumed during the process of making steel and, consequently, demand is primarily linked to steel production volumes. Continuing innovation allows us to offer enriched solutions that create additional value in our customers' processes, leading to a sales progression regularly ahead of steel production volumes.

**Advanced Refractories** include specialist refractory materials for lining steelmaking vessels such as blast furnaces, ladles and tundishes. These are in the form of powder mixes, which are spray-applied or cast onto the vessel to be lined ("monolithics") and refractory shapes (e.g. bricks, pads and dams). Vesuvius is one of the world's largest manufacturers of monolithic refractory linings for vessels subject to extreme temperatures, corrosion and abrasion. Key success factors in the Advanced Refractories product line are installation technologies, products adapted to fit customers' processes, and effective and efficient logistics services. These factors are successfully combined with Vesuvius' R&D centres, its knowledge of customers' processes and its project management capability to deliver market-leading solutions to our customers.

## Foundry division

Revenue

**£463.0m**

See Foundry division review on p39-41

Vesuvius' Foundry division trading as Foseco, is a world leader in the supply of consumable products, solutions and associated services related to the foundry industry. The foundry process is highly sequential and, similar to the continuous casting of steel, is critically dependent on consistency of product quality and productivity optimisation. The Foundry division's solutions and advanced computer simulation techniques allow foundries to reduce defects and hence reduce labour-intensive fettling and machining, minimise metal usage requirements, influence the metal solidification process and automate moulding and casting, thus reducing cost, energy usage and mould size.

The conditioning of molten metal, the nature of the mould used and, especially, the design of the way metal flows into the mould are key parameters in a foundry, determining both the quality of the finished castings and the labour, energy and metal usage efficiency of the foundry. Vesuvius' products and associated services to foundries improve these parameters.

## Our business model

We operate a profitable, flexible, cash generative and growth-building business model. Over many years we have built the brand equity of our Vesuvius and Foseco products through reliability, technology and service.

The foundation of our business model is our global presence. Our industry experts are embedded at many customer locations and are therefore ideally placed to identify potential service and process improvements in collaboration with customers.

### Global presence

Vesuvius is present on six continents, supporting the development of global steel and foundry manufacturing processes with new technologies. We have manufacturing capability in all the main steel and foundry markets and hire and train local engineers, who are progressively integrated within the Vesuvius network of experts, and offered international careers. Local manufacturing, local expertise, and leveraging a global knowledge of our customers' processes give Vesuvius a special relationship with our customers, helping them optimise their process and product performance. All over the world, new plants use Vesuvius and Foseco products to create the best conditions for success.

### Advanced technology knowledge

Our continuing investment in the Company's Research & Development centres is reflected in all areas of our offering. We have knowledge of the most advanced ceramic and metallurgical techniques using state-of-the-art equipment and the most advanced technologies of flow simulation and finite element analysis. We are therefore able to provide our customers with sophisticated, innovative, custom-designed solutions, with the highest level of confidence in their suitability, creating value, and helping them differentiate from their competition.

### Optimised manufacturing footprint

Our successfully tested products can be manufactured at a short distance from our customers' plants, guaranteeing cost competitive and time efficient delivery. We optimise our cost competitiveness by investing in the lowest cost production site in the area and have established manufacturing facilities in emerging markets from the beginning of their industrialisation. This, together with the high volume of pieces we are able to produce, provides our customers with the best balance between value, cost and service for our high technology solutions.

### Service and consistency

Alongside developing our global presence, we ensure a local service to our customers, from inventory management to high quality technical support at their sites and the ability to swiftly modify production and supply to reflect changes in customer requirements. Our knowledge of end-market processes, specifications and techniques around the world gives our experts an unparalleled ability to support our customers. This unique level of service relies on our technicians' permanent presence at our customers' sites, and their ability to leverage worldwide expertise accumulated across the Vesuvius network.

### Advantages of our business model

- Resilient to end-market volatility due to flexibility of diversified manufacturing footprint and adjustable variable cost base
- Profitable, as it allows value pricing for bespoke products and services
- Generates growth, as we can enlarge our market with additional innovative products and solutions

### Service and consistency

Serving our customers reliably, competitively and consistently with consumables critical for their manufacturing processes

### Optimised Manufacturing footprint

Industrialised, low cost, dispersed, lean manufacturing, close to customers provides reliable, "just-in-time" products

### Global presence

Using our global spread of expertise to identify and create market opportunities

### Advanced technology knowledge

Our technology centres develop value-adding solutions involving engineered systems and high value consumables

## Chief Executive's strategic overview

"During 2014 we delivered further margin improvement, underlying revenue growth substantially ahead of our end markets, and completed the first acquisitions in pursuit of our strategy to build a substantial technical services business"

François Wanecq Chief Executive

Revenue

**£1.444bn**

Trading profit

**£142.8m**

### Introduction

In 2014 Vesuvius continued to progress in line with its objectives and strategy. We have restored our margins despite a mixed market environment, built on our strong base in Asia, invested in new Research & Development centres and proceeded with acquisitions to build our new offering in Technical Services for the steel and foundry industries.

With the ongoing development of innovative solutions that create value for our customers, we are confident that we will continue to grow and deliver increasing value to our shareholders.

### Performance overview

Vesuvius reported global sales in 2014 of £1,444m, down 4.4% on 2013 due to the significant strengthening of sterling against most of our major trading currencies (2013: £1,511m) and the effects of disposals in 2013. At constant exchange rates and adjusted for the effects of acquisitions and disposals, underlying revenue was ahead of 2013 by 3.5%, and, significantly, ahead of the underlying growth in our markets. Similarly, reported headline trading profit in 2014 was £142.8m (2013: £140m), an increase of 11.6% over the previous year on an underlying basis.

Our revenue expansion was helped by the acquisitions we completed in the second half of 2014, as we implemented our strategy to build a Technical Services offering for the steel and foundry industries. The two acquisitions contributed an aggregate £3.6m of sales and £0.5m of trading profit in 2014.

*Read more about Our performance on p26-41*

### Our markets

Aggregate world steel production increased by 1.1% in 2014. Contrary to the trend of the last decade, growth in China was lower than in the rest of the world, at 0.9%. Production in the European Union countries recovered somewhat, increasing 1.8%, along with North America, up 2.0%. South Korea and Middle Eastern countries showed the highest growth.

The foundry market environment was mixed. The continued decline of metal and commodities prices resulted in a slowdown in the mining industry, which negatively impacted the activity of the steel foundries in South Africa, Australia, Indonesia and North America. Conversely, the car industry enjoyed a good recovery in Europe after a very poor year in 2013, and experienced a record year in NAFTA. The truck market remained disappointing globally.

More generally, the engineering sector was sluggish with industrial investment remaining at a low level as a result of the general under-utilisation of production capacity and the slowdown of Chinese industrial growth.

*Read more about our market in our Operating Reviews on p34-41*

### Our strategy

The strategy we developed since launching Vesuvius on the market is articulated around five pillars designed to ensure long-term revenue growth, improved profitability and sustained cash generation.

#### Reinforce our technology leadership

Vesuvius was built and grew on technology breakthroughs that enabled the steel continuous casting and foundry industries to substantially improve their efficiency. Our technology leadership drives our unique value proposition and underpins our ability to deliver this value enhancement to our customers. In terms of percentage of revenue, we invest twice as much in R&D as our main competitors.

#### Increase penetration of value-creating solutions

Our technology has been widely adopted by the most sophisticated producers in the most developed markets. However, there are still substantial differences in the penetration of our solutions within the industry and consequently there is a wider audience of customers who we believe can benefit from them. As steel producers and foundry businesses grow in new areas, they will require higher levels of quality and performance, and we will dedicate our technical marketing efforts to help these customers develop. See case study below.

#### Capture growth in developing markets

Building on our long-lasting presence in all markets, we can leverage the high growth enjoyed by our customers' industries in the emerging countries, which are large consumers of steel goods and foundry castings. Consequently, a majority of our investment is focused on capacity expansion in these new territories in line with our business model to produce at close proximity to our customers' sites.

#### Improve cost leadership and margins

Our supply chain efficiency is the assurance that we deliver products and services to our customers at the right price while maintaining our margins. We apply the principles of lean manufacturing across all our sites to continuously improve our quality and productivity. In addition, our global presence and leadership allow us to benefit from a high volume effect, and deliver excellent service from local sites.

#### Build a technical services offering

Our customers' processes require increasing levels of engineering services to reach the demanding levels of safety, accuracy and consistency required by their end-customers' quality specifications. Grounded in our deep understanding of customer processes, we are building a new activity within Vesuvius to offer a comprehensive set of technical services that will enhance process control and monitoring at our customers' sites, thus improving quality and lowering total production costs.

## Progress against our strategy

In 2014 we achieved considerable progress in the implementation of our strategy with the commissioning of a brand new plant for Foundry products in Changshu (China), the opening of a new global research centre for Foundry in Enschede (Netherlands), the commissioning of new capacity for Steel Flow Control in the Czech Republic and Brazil, and the ramp up of our new plant for Advanced Refractories in the United Arab Emirates

Moreover we have started to build our Technical Services offering with the acquisition of two companies focusing on data capture for the steel and foundry industries: ECIL Met Tec in Brazil and Process Metrix in California, USA

Last year was also the first industrial installation of our robotic tube-changing system for continuous casting in Hyundai Korea and the conclusion of additional contracts for similar equipment elsewhere. *See case study right*

You will see in the various case studies set out in this Strategic report, clear examples of how we deliver this strategy across markets, geographies and business units

## Our businesses

### Steel Flow Control

The Steel Flow Control product line performed well in 2014 despite sluggish end-market conditions. Aggregate world steel production grew by 1.1%, nearly half the growth rate of the previous year. This was partly due to a significant slowdown in Chinese growth to below the levels experienced across the rest of the world. Indeed this may be a signal of some acceleration in the ongoing transformation of the Chinese economy from an investment driven growth economy towards one that is consumer driven. Such transformation will induce a shift in steel quality demand, from the less sophisticated long products used for construction towards the high quality flat products used in consumer goods and the car industry. This flat steel segment is the largest customer for our high technology products and solutions and this development should support a growing demand for our Steel Flow Control products and our developing Technical Services offering. At the same time the relative steadiness of the developed markets has contributed to our results due to our very strong positions in these countries.

Overall, the value of sales from our Steel Flow Control product line grew by 4.3% in 2014 on an underlying basis, substantially out performing the 1.1% increase in world steel production tonnage. This includes the successful progression of our recent acquisition Metallurgica, which sells fluxes for the continuous casting of steel, and which during 2014 improved its market penetration and profitability.

*Read more about Steel Flow Control on p35-37*

### Advanced Refractories

Advanced Refractories has been focusing on the recovery of its margin rate by concentrating its product range on a smaller number of products and solutions that offer a real value difference to our customers. After the sale of our non-core lower margin Canadian construction and German brick businesses in 2013, the perimeter of activity is now focused on core products. Nevertheless, even after correction for the effect of disposals, and foreign exchange translation effects, Advanced Refractories sales increased by 4.5% in 2014 compared to 2013. The particular emphasis given to the higher margin lines such as precast, tapline clay and Mag-Carbon bricks contributed to the improvement of our Group margin rate by 215 basis points on an underlying basis in 2014.

*Read more about Advanced Refractories on p37-38*

### Foundry division

Our Foundry division was impacted by local political and economic instability in countries where we traditionally enjoyed good volumes and margins, such as Ukraine, Thailand and Brazil. At the same time, the decline of metal and commodity prices reduced levels of investment in the mining industry with negative consequences for those of our customers active in this segment. In addition, the start-up of our new Chinese plant at Changshu took longer than expected. As a consequence, our overall sales and margins were affected. Measures were taken during the year to restore profitability in Brazil and Ukraine, while in Thailand some of the effects of the instability corrected themselves. During the year, we dedicated significant effort to enhancing technology development and innovation in this division, coupled with the appointment of new management.

*Read more about our Foundry division on p39-41*

## Innovation as our foundation

Vesuvius has a proud heritage of bringing innovation to the markets we serve. Our developments in VISO™ isostatic pressing technology and in sliding gate systems were key enablers of the continuous casting process now deployed throughout the whole of the steel industry. Our innovations in molten metal filtration and casting feeding systems have been used extensively to improve the quality of cast product in the foundry market. Maintaining that technology leadership is a central objective of our strategy, and the spirit of innovation is at the core of all our activities.

### Turning innovation into results

Innovation is all about translating an idea into a commercial reality. In 2014, we increased our spending on R&D by 2.8% over the previous year, on a constant currency basis to £26.1m, representing 1.8% of sales. We currently have over 160 patent families, and 1,750 patents granted worldwide, with 640 patent applications pending. In 2014 we estimate that 8% of our revenues came from products launched within the past five years. This is our first year analysing this revenue as an internal innovation benchmark, and our goal is to double this over the next five years.

### Delivering solutions

The innovation process at Vesuvius begins with an intimate knowledge of our customers' processes and needs. Vesuvius solutions and products can greatly influence the quality of our customers' products and the efficiency of their processes, and all our new products and solutions are developed with value creation for our customers in mind. We have more than 200 technical experts supported by local development teams on all continents to ensure we meet our customers' needs. These local development laboratories play a lead role in customising products for customers, and qualifying new sources of key raw materials.

Several of our local development laboratories are equipped with facilities for physical and computational fluid dynamics studies, together with capabilities allowing our experienced scientists and engineers to analyse the complex interactions between refractory materials and molten metals existing in our customers' operations.

These laboratories work hand-in-hand with our global network of 16 research centres to stay constantly updated with information on the latest technological developments.

### Next generation product development

Our 16 research centres focus on development of the next generation of products and technologies in partnership with strategic customers and leading universities. These laboratories are staffed with scientists and engineers possessing advanced degrees in various disciplines and are equipped with highly specialised equipment. *See case study below*

We regularly conduct customer seminars and training sessions, to ensure that the full range of Vesuvius products and solutions are known and properly used

#### **New global innovation hub**

In December, we opened our new Global Foundry R&D Centre in Enschede, Netherlands. This facility will play a central role in strengthening the technology leadership position of our Foundry business. The centre is equipped with the latest technologies for process simulation and modelling, advanced analytical capabilities, and pilot scale foundry processes for iron, steel, and aluminium processing. These capabilities will bring the Foundry R&D team closer to our customers, as we will be better able to simulate their processes and demonstrate the uniqueness of our products and technologies. The laboratory in Enschede will serve as the hub in a centre of excellence model for R&D, coordinating the research and development activities in our other Foundry R&D centres located in Pittsburgh (USA), Feignies (France), and Tamworth (UK).

#### **Global centres of excellence**

In 2014, we also acquired the site and completed the design process for a state-of-the-art global centre of excellence for steelmaking and foundry refractories, located in Pittsburgh (USA). We expect to relocate from the existing Pittsburgh-based facility in 2016. We also progressed on our planning for a global centre of excellence of Advanced Refractories in Visakhapatnam (Vizag), India.

#### **Margin improvement**

Since demerger, we have initiated plans to restore our margins towards their historic highs. In this second year of implementation, significant progress was made in reducing operating costs and refocusing the business towards high-margin, differentiated offerings that create outstanding value for our customers. Underlying Group trading margin improved by 71 basis points in 2014 and by 179 basis points since 2012, notwithstanding the unfavourable exchange rates that impacted most of the countries where Vesuvius enjoys its highest margins.

This outcome is the result of self-help initiatives applied in many of our 65 manufacturing sites, and the application of the lean manufacturing concept in our processes, together with a constant focus on our core activities.

#### **Quality and reliability**

Reliability in quality and delivery is vital to our customers as they use Vesuvius' products in critical areas of their own processes. The level of risk attached to a catastrophic failure is often such that, for people and equipment, no compromise can be accepted. Reliability therefore is a primary commitment of Vesuvius.

We strive to deliver reliability and consistency through best-in-class quality management in our 65 production sites and 107 major customer locations.

#### **Quality policy**

Our quality policy clearly defines the commitments and responsibilities which apply to all aspects of the business. Reliable quality is intrinsic to our business model, and is part of our Vesuvius brand equity. Recognising this fundamental part of our promise to customers, over the past two years, we have renewed our focus on quality, improving customer relationships and adding to operating efficiency. Since the inception of our Turbo Q quality initiative two years ago we have reduced the number of repeat customer complaints by a factor of three. *See case study on p18*

#### **Quality plan features**

Vesuvius' 8D methodology to resolve customer, supplier and internal issues is built upon the eight disciplines we need to follow in order to eliminate problems permanently. It is focused on determining the root cause, implementing effective corrective actions and preventing repeat issues.

We have committed to becoming a true learning organisation. Every problem is welcomed as an opportunity for improvement where lessons learned are analysed and shared in order to leverage the benefits across the Group.

We are applying lean principles to improve shop floor quality, responsiveness, and flexibility. These principles drive implementation of

- Strong control plans to detect any defects as close as possible to their point of occurrence in order to facilitate immediate problem solving
- Accelerated product flow to allow quicker detection of issues and fewer rejects/less rework
- Standardised production methods to ensure excellent quality. *See case study below*

#### **Lean programme**

Cost leadership and margin improvement are two of our strategic priorities, and in a business where we need to manage the challenges presented by the volatility in our end-markets, a focus on process efficiency and quality is fundamental. *See case study opposite*

Our Lean Programme started in 2008 with the belief that

- Standardisation of tasks and processes is the cornerstone of safety, quality, productivity, and continuous improvement
- Employee motivation and customer satisfaction are critical foundations for the long-term success of the Group
- Improving information flow is instrumental to guarantee fast and effective cross-functional processes

#### **Work on lean initiatives has intensified in 2014**

The Lean Network has been reinforced with new Lean engineers identified in all our major sites. Each of these individuals has participated in a comprehensive induction programme to bring them up to the highest standard of excellence.

Our Lean engineers implement Lean tools and techniques across all Vesuvius facilities. They deliver training and coaching to operations managers, group leaders and team leaders who, in turn, introduce Lean tools into their day-to-day activities to help achieve targets and improve the current situation.

The Group has developed a three-day Standardised Work workshop to continue the deployment of Lean practices, with a special emphasis on safety, quality and productivity improvement.

In total, more than 20 successful workshops were held during 2014, providing significant results in terms of safety, productivity increases and lead time reductions. These workshops have involved more than 240 participants from a wide cross-section of sites in 12 different countries.

#### **Continuous improvement**

In 2015, we will maintain our focus on the deployment of Lean practices with a continuing emphasis on

- 5S to reinforce the ownership of the work environment by workers and continue to increase safety
- Equipment efficiency and reliability improvement with a large Total Productive Maintenance programme. The additional capacity generated by this initiative will allow us to reduce our cost of production and allocate saved capital expenditure to new Lean flexible automated equipment for key products.

- Equipment flexibility improvement with the continuing implementation of the Single Minute Exchange of Die production method
- A focus on batch reduction planning using Kanban, a scheduling system for just-in-time production to support inventory reduction
- Labour efficiency through the reinforcement of initiatives to standardise work, using the Kaizen continuous improvement framework

## Portfolio management and capital allocation

After the divestments undertaken over the last two years in the Advanced Refractories business in order to concentrate on the higher margin specialty segment, and the disposal of our Precious Metals Processing division in 2013, we initiated the development of a new business in data capture for the steel and foundry industries which is the starting point for our strategic focus on Technical Services

Process Metrx, a Californian company providing laser measurement of refractory wear in liquid steel vessels was acquired in August, and ECIL Met Tec, a Brazilian company involved in the measurement of temperature and chemistry of steel was acquired in October. We will continue to pursue these types of acquisitions to reinforce our capability to provide engineered services that allow our customers greater management and control over their processes

Our investment spend in 2014 amounted to £76.5m, out of which £53.1m was spent on plant and equipment and £23.4m on acquisitions

Efforts to continue to reduce working capital during the year were affected by a general drift of payment terms from our customers, predominantly in China, passing on the financial constraints encountered in the steel and foundry industries. This increase was partly compensated for by a reduction in our inventory days across all of our businesses. Overall our net debt increased slightly, driven by our acquisition strategy

*Read our Financial review on p26-31*

## Health and safety

Safety remains our primary operating priority which we take as a key indicator of our performance. The Safety Breakthrough plan, initiated in 2008, delivered a considerable reduction in our Lost Time Injury Frequency Rate ("LTIFR"), from 9.8 to 1.8 in 2012. In 2011, a renewed action plan called Turbo S was developed with the objective of reaching a further level of improvement in our LTIFR. However, 2014 saw this improving trend continue to plateau and we have not yet been able to capture the benefits of this additional Group-wide programme of internal safety audits and improvement opportunities with permanent actions now operating in our facilities

As we increase our presence at our customer sites, our employees are exposed to harsh environments in locations where the complexity of risk management is increased. We continue to focus on health and safety as a fundamental responsibility

*Read more about Safety on p46-48*

## Sustainability

We are committed to the positive integration of our site activities into local communities and to contributing proactively to the protection of the environment. During 2014, we reduced our global consumption of energy and our emissions of CO<sub>2</sub>. Moreover we continue to develop solutions for our customers to help them reduce substantially their waste, their energy consumption and their CO<sub>2</sub> emissions. See case study opposite

## Management focus

Towards the end of the year we undertook a change in the leadership of several of our product lines. Glenn Cowie who had substantially improved the performance of Advanced Refractories, took over the Foundry division and Tanmay Ganguly, previously Managing Director of Vesuvius India Limited and Vice President for Vesuvius' Steel division activities in India and South East Asia, replaced Glenn as President Advanced Refractories. Luis Reyes, previously Vice President Flow Control North America, was appointed President Technical Services with a mandate to drive growth in this important new area and develop our recently acquired businesses. Both Tanmay and Luis have joined Glenn on the Group Executive Committee in their new roles

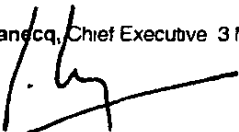
Our overall management focus is now on building and implementing an excellence plan in the management of our operations. This will involve the entire population of our employees around six key areas: customers, innovation, strategy, business support, supply chain agility and talent management. We are setting precise roadmaps in each of these areas to reach the status of a truly best-in-class company

This process will help us to deliver our strategy for growth, promote permanent ongoing innovation, higher efficiency and the success of our new technical services initiative

## Outlook

While the global economic backdrop remains uncertain in our main markets, we expect the underlying trading environment in the current year to be broadly similar to that experienced in 2014. We are confident we will be able to continue to drive improvement in our trading margins and working capital performance through self-help actions, and we will focus on the acquisition of bolt-on companies to reinforce our growth opportunities. We will do this whilst retaining a strong balance sheet in order to give us financial flexibility

François Waneq, Chief Executive 3 March 2015



Value creating solutions

**Improved uptime, productivity and energy consumption in aluminium melting**

Average increase in refractory life

**50%**

Average CO<sub>2</sub> reduction\*

**1,932kg**

Average energy saving\*

## 3 9MWh

### The challenge

A team from our Advanced Refractories division was asked to improve aluminium furnace uptime and productivity at a high output production facility in the US

A critical target for the project was to reduce the energy consumed in delivering the operational requirement of holding the aluminium alloy at 700°C for 24 hours a day, 365 days a year

### Our solution

Using a novel installation and application technology, our technicians were able to recommend changes to the existing furnace design and refractory system. By incorporating products from the Alugard† suite of monolithic refractories, the customer's aluminium team was able to increase refractory performance and change their scheduled maintenance practices

### The benefits

Use of Alugard† insulating panels in a 600 kg aluminium furnace has been shown to save up to 1,932 kg CO<sub>2</sub> and 3.9 MWh over the seven-year lifetime of the panels. Additionally, our fully engineered custom designed solution significantly enhanced secondary aluminium operations. Specifically our services resulted in an increase of 50% in refractory life in the most erosive area of the furnace, with associated improvements in the productivity of the melting furnace, and reduction in the frequency of planned furnace outages for refractory repairs.

† Trademark(s) of Vesuvius plc registered in certain countries

## Progress against strategy

### Technology partnership with Hyundai to improve safety, quality and productivity

Number of robotic tube changes

**2,000**

### The challenge

We have been working in partnership with Hyundai Steel to achieve consistent operational practices, improve final steel quality, and enhance plant safety by removing the need for steel plant operational personnel in the exposed areas of the caster and ladle platform

### Our solution

Vesuvius introduced the latest generation of tube changers (the SEM3085™), and a fully automated robotic system to manage refractory tube insertion and removal during the casting process. The success of this project has led Hyundai to entrust Vesuvius with three new ladle platform projects that incorporate robotic solutions

### The benefits

An improved sealing between ladle and tundish reduces nitrogen pickup and limits the delay to less than 15 seconds in cases where an oxygen lancing operation is required to open the ladle. Similar installations are now also scheduled for customers in Europe, North America and South Africa. Such competitive advantage is being steadily enhanced through the strategic acquisition of companies with complementary product ranges, particularly in the areas of sensors, instrumentation and automation, as well as R&D that expands Vesuvius' capabilities through product development and multi-technology offerings

R&D spend in 2014

**£26.1m**

### Global Research & Development centres

Site	Country
Barlborough	UK
Bettsville	USA
Enschede	Netherlands
Feignies	France
Ghlin	Belgium
Pittsburgh	USA

## Product innovation

### Critical innovation in temperature measurement for continuous casting of steel

Average reduction in cost\*

**>15%**

Continuity of temperature measurement\*

**>99%**

Reliability guarantee

### Lifetime

\*versus Accumetrx® Platinum Rhodium systems

### **The challenge**

In order to control continuous casting operations, it is essential to know the temperature of the liquid steel in the tundish at all times during the sequence. The existing technology is based on one-time use probes or costly and fragile continuous devices.

### **Our solution**

A recent development by Vesuvius of the Accuoptix™ sensor integrates a long-life optical detector, with an advanced electronic interface, to provide stable and accurate temperature signals over time. The optical detector replaces the traditional expensive and fragile Platinum-Rhodium thermocouples used in the current generation of continuous temperature measurement systems.

### **The benefits**

Accuoptix™ combines the proven advantages of continuous temperature measurement in terms of a reliable and consistent data stream, with a reduced need for operator interaction. It also eliminates the problem of gradual deterioration in performance and ultimate failure of the thermocouple experienced with the existing Platinum-Rhodium systems. The cost effective system – together with other Vesuvius developments – creates a toolbox of sensors and instrumentation to improve caster process control, and deliver yield and quality improvements for the steel producer. Being remotely installed, and designed for manual, manipulator or robotic handling, the optical sensor is not submerged into the molten steel and is therefore not destroyed in case of accidental sheath breakage. It provides a continuous, reliable and cost effective temperature data stream for optimum process control.

### **What is Lean?**

Lean is all about creating more value for customers using less energy. Lean highlights seven waste areas that should be minimized:

**N** Non-quality

**o** Over-production

**w** Waiting

**t** Transport

**i** Inventory

**m** Motion

**e** Excess-processing

### **Quality and reliability**

#### **Quality breakthrough**

From 2011 to 2014, our Quality Breakthrough initiative has allowed us to divide by three the percentage of repeats out of our total number of customer complaints.

#### **2014 focus**

- Spreading the Quality Breakthrough practices and tools
- Increasing our problem solving capabilities
- Improving the quality of our raw materials

To spread the Quality Breakthrough practices and tools, we took 325 managers through the two-day Turbo Q training in 28 sessions in 2014. This comes on top of the 93 senior managers – including Group Executive Committee members – who had been trained in 2013. Further sessions were organised in plants in local language.

We develop our problem solving capabilities through training and coaching in the correct use of our 8D-Practical Problem Solving methodology. In 2014 we solved 870 problems using this technique, an increase of 50%. We also took an additional 162 people through our four-day 8D-PPS training module, which brings the total number of people trained to 978.

Vesuvius is improving the quality of raw materials by better Supplier Corrective Action Request management, developing incoming inspection at all manufacturing sites, qualifying suppliers through supplier assessments and improving the quality of our raw material specifications. Resources were added in Europe and China in 2014 to focus specifically on supplier assessments. This allowed us to bring the number of assessments performed from 65 in 2013 to 204 in 2014.

### **Lean Programme**

#### **Productivity improved by 22% applying Lean principles**

Reduction in stoppages

**90%**

Increase in productivity

**22%**

### **The challenge**

In our Czech facility of Tnec, a production cell dedicated to insulating sleeve application, was facing an increase in work volume and price pressure from customers. The cell struggled to meet the growing demand in production as it was only able to produce 20 parts every 40 minutes, partly due to a required stoppage of ten minutes at the end of each pattern. Capacity was limited to 176 parts per shift.



#### **Our solution**

Following the Group Standardised Work training deployed in 2014, the Trnec team applied Lean principles to the workplace, reorganising the two workstations to reduce risk, remove unnecessary movement and improve ergonomics

#### **The benefits**

These Lean working practices have reduced stoppage time to change patterns by nine minutes (a 90% reduction), increasing productivity by 22% to 215 parts per shift. The site is now able to meet the increasing demands of its customers with the same number of employees

**5S housekeeping tool** 5S is a key tool to reinforce the importance of operating in a safe environment for all employees. It also contributes to reducing work in progress and unnecessary movement – increasing efficiency, improving production flow and ensuring quality. 5S is based on the five important steps to improve cleanliness and workplace ownership, illustrated here

#### **Sustainability impact**

#### **Reduce rejection rates and CO2 emissions in an Indian automotive foundry**

##### **The challenge**

An automotive foundry in Western India – producing 36,000 MT/A brake discs for global car manufacturers – was experiencing inconsistencies in the quality and performance of their cast products, resulting in high rejection rates of 1 in 20 (5%). Our customer reported that their incumbent supplier had not offered a solution to address this issue

##### **Our solution**

Working closely with the customer, our technical and sales teams developed a bespoke solution which included the Foseco Metal Stream Inoculation system, Foseco Inoculation product technology and our thermal analysis systems – ITACA – to optimise application rates

##### **The benefits**

Our bespoke toolkit delivered measurable improvements in quality and margins, as well as reducing the environmental impact. Cast products have become much more consistent, and rejection rates have been reduced by 60% (from 1 in 20 to 1 in 50). Lower rejection rates have also resulted in fewer castings to re-melt, resulting in 2% less energy consumed, and lower CO2 emissions

Application rate increase

**25%**

Reduction in rejection rates

**60%**

Energy reduction

**2%**

## Risk management

The Board continually monitors and manages the mix of opportunities and risks, both internal and external, which could significantly impact the long-term performance of the Group

### Board monitoring

Vesuvius operates a continuous process for identifying, evaluating and managing significant risks. Regular reports are made to the Board on the process of how these are being managed. Thus, the Board exercises its ultimate responsibility for the Group's risk management, by analysing any major issues that have arisen during the year, considering how those risks have changed over time, and assessing whether they are being effectively managed.

### Principal risks

The risks identified below are those the Board considers to be the most relevant to the Group in relation to their potential impact on achievement of its strategic objectives. All of the risks set out below could materially affect the Group, its businesses, future operations and financial condition and could cause actual results to differ materially from expected or historical results. The risks below are not the only ones that the Group will face. Some risks are not yet known and some currently not deemed to be material could later become so.

### Risk management

Risks are actively managed in order to mitigate exposure and, where cost effective, the risk is transferred to insurers. We have built a business structure that gives protection against the principal risks we face with diversified currencies, a widespread customer base, local production matching the diversity of our markets and intensive training of our employees.

### Changes to our risks in 2014

The principal risks identified by the Group have remained relatively stable. In 2014, we focused on the fact that our reputation for quality is fundamental to our success – given the high value, mission critical nature of our product offering. Consequently, we have included loss of business reputation in the 2014 assessment of principal risks. Conversely, having identified cyber security as a key risk in 2013, our ongoing assessment of Vesuvius' exposure in this area has led us to remove this from our list of principal risks – whilst noting that it remains, as for all companies, an area for our ongoing attention.

### Principal risks and uncertainties

Risk	Potential impact	Mitigation/Management
<b>Demand volatility</b>	Unplanned drop in demand and revenue Failure of one or more customers leading to debtor bankruptcy	Prudent balance sheet management to maintain robust financial position Strong internal reporting and monitoring of external data to identify economic trends Flexible cost base to react quickly to end-market conditions No single customer exceeds 10% of revenue Robust credit control processes
<b>Protectionism</b>	Loss of business from enforced preference of local suppliers Imposition of increased import duties Increased tax burden or changes to rules and enforcement Local competitors promoted overseas by government-to-government action	Local manufacturing operations in 26 countries Robust internal tax policies and strict transfer pricing rules Strong internal control of inter-Company trading Maintenance of quality and innovation leadership differentiating Vesuvius and mitigating government intervention in supplier selection
<b>Product liability</b>	Claims from third parties resulting from use of potentially hazardous materials Customer claims and loss of business from product quality issues	Appropriate insurance cover obtained Active monitoring of HSE issues Stringent quality control standards systematically implemented in manufacturing Experienced legal team used to negotiating appropriate customer agreements
<b>Regulatory compliance</b>	Financial loss from failure to comply with appropriate regulations Business disruption from investigations Reputational damage	Widely disseminated Code of Conduct and supporting policies which highlight the Group's ethical approach to business Speak-up procedure implemented across the Group Ongoing training and review of policy effectiveness
<b>Protection of leading technologies</b>	Loss of business through new technology developed by others Failure to adapt solutions to meet changing customer needs Revenue lost through ineffective protection of intellectual property	Market-leading research and development team with significant investment in R&D, and use of structured development methodologies Patent protection sought when new developments are made Stringent defence of patents and other intellectual property Control of access to intellectual property through IT controls and physical security
<b>Financial uncertainty</b>	Inability to raise sufficient capital to fund growth of business Reduction in earnings from increased interest charges Weakness in foreign currencies leading to reduced profitability	Long-term capital structure planning to secure availability of capital at acceptable costs Substantial proportion of debt capital secured at fixed rates of interest International presence reduces the Group's reliance on any one currency Hedging of transactional foreign exchange exposure when necessary Alignment of cost structure with revenue where possible

		The Group adopted USD as the functional currency for its operations in some countries to reduce further FX translational risk
<b>Loss of a major site</b>	Loss of revenue resulting from inability to supply customers on loss of production facilities	Diversified manufacturing footprint with some 65 facilities across 26 countries Maintenance of excess capacity to allow plants to meet peak demands
<b>Ability to source critical raw materials</b>	Manufacturing interruption from failure of a key supplier, or the loss of availability of a source of critical raw materials	Strategic stocks of certain materials are retained Number of single-sourced materials reduced through expanding supplier base Development of new products and research on substitution of raw materials
<b>Retention of staff</b>	Insufficient high quality staff to run base business and generate growth through innovation Availability of suitable talent in the pipeline to offer sufficient internal succession options for senior positions including the Group Executive Committee and Executive Directors	Contacts with universities to identify and develop talent Internal programme to attract and develop high potential staff from emerging markets through cross-border exchange programmes Extensive internal courses run by experienced staff to transfer knowledge in a structured manner Building career trajectories for technical staff to show potential and reduce attrition Appointment of Group Talent Management Director to drive improved assessment of internal talent at the mid and senior management levels, identifying gaps and implementing development programmes to provide suitable succession options
<b>Loss of business reputation</b>	Product or application failures not promptly addressed may create an adverse financial impact and damage our reputation as a technological leader Incident at customer plant resulting in significant health and safety breach and/or customer downtime	Active quality management programme in place with full root cause analysis for customer complaints and follow-up Stringent product qualification process in place for raw materials Diversified manufacturing footprint with some 65 facilities across 26 countries Active monitoring of customers' improvement requests Appropriate insurance cover obtained

## Section Two

# Our Performance

### In this section

- 26 Financial review
- 32 Key performance indicators
- 34 Operating review **Steel division**
- 39 Operating review **Foundry division**

## Financial review

"We delivered a strong performance which saw both margins and return on assets improving, demonstrating our ability to deliver underlying growth whilst exercising good capital discipline "

Chris O'Shea Chief Financial Officer

### Basis of preparation

See Note 2 of the Financial statements on page 108 All references in this financial review are to Headline performance unless stated otherwise

### Revenue £bn

**£1.44bn**

**-4.4%**

**Reported**

**+3.5%**

**Underlying**

### Trading profit £m

**£142.8m**

**+2.0%**

**Reported**

**+11.6%**

**Underlying**

### Headline EPS pence

**33.4p**

**+4.7%**

**Reported**

**+15.9%**

**Underlying**

### Return on sales %

**9.9%**

**+62bps**

**Reported**

**+71bps**

**Underlying**

## Introduction

Our financial strategy is designed to support the delivery of the corporate strategy outlined by the Chairman in his statement, and by the Chief Executive on pages 13-14. We aim to ensure the Group has access to sufficient funds at attractive terms to invest in interesting growth opportunities, provide superior returns to our shareholders and weather any downturns in our end-markets. With £343.5m of available committed funds at the end of the year, our balance sheet is strong and we are well-positioned to support the business in the delivery of our growth opportunities over the medium and long term whilst concurrently improving returns.

## 2014 performance overview

Following the improvements to our operating performance in 2013, and the restructuring of our portfolio, 2014 was another good year, with margins improving further. Revenue grew, on an underlying basis, by 3.5% to £1,444 million, with trading profit growing by 11.6% on the same basis. As a result, our trading margins improved to 9.9% in 2014, and our earnings per share were 33.4 pence, an underlying increase of 15.9% on 2013. On a regional basis, underlying revenue growth was more pronounced in Asia (6.8%) and the Americas (4.4%) than in Europe, Middle East and Africa (1.2%).

As a global business, we are exposed to a significant number of differing macroeconomic trends, as a supplier to two principal industries, steel and foundry, which have a large number of end-markets, we are exposed to volatility in demand. As outlined in the principal risks section on pages 22 and 23, this is a significant concern to us, and influences how we structure and run our business. In order to mitigate the impact of this volatility, we maintain a broad global portfolio which provides some natural balance to local and regional demand fluctuations. In addition we are constantly striving to increase our operational and financial flexibility from an already strong position to allow us to react quickly, and decisively, to variations in end-markets. Our improved results in 2014, against a backdrop of muted global demand and significant regional variation demonstrates the balance we have within our portfolio, the flexibility in our cost base, and our willingness and ability to act quickly.

## Dividend

In line with the dividend policy in place since 2012, the Board has recommended a final dividend of 11.125 pence per share to be paid on 22 May 2015 to shareholders on the register at 10 April 2015. When added to the 2014 interim dividend of 5 pence per share paid on 26 September 2014, this represents an increase of 7.5% on the 2013 full year dividend of 15 pence per share.

It remains the Board's intention to deliver long-term dividend growth, provided this is supported by underlying earnings, cash flows, capital expenditure requirements and the prevailing market outlook.

## Key Performance Indicators

The Group used the same ten key performance indicators in 2014 as in 2013. These are detailed on pages 32 and 33. Of these, three are non-financial with the remaining seven discussed in some more detail below, together with the KPI on Research & Development expenditure.

### Objective: Deliver growth over the long term

#### KPI: Research & Development spend

We pride ourselves on providing the most advanced technologies to our customers. In order to maintain our market leadership, and enlarge the addressable market, thus allowing us to grow revenue, we aim to invest a substantial proportion of our revenue in research and development (R&D) activity. During 2014, we spent £26.1m on R&D activities, an increase of 2.8% over 2013 on a constant currency basis. This represented 1.8% of our revenue. In addition we invested £4.8m on new R&D facilities in the Netherlands (Foundry division) where our new facility opened in December 2014, and in the USA (Steel division) on the purchase of a new brownfield site which we aim to open in 2016.

We will continue to invest in such facilities in the coming years and we expect over time to increase our R&D spend as a percentage of sales to between 2% and 2.5% of revenue.

#### KPI: Underlying revenue growth

We look at underlying (or organic) movements in our results to establish meaningful period-on-period comparisons. Underlying movements are calculated by:

- Restating the previous period's results at the same foreign exchange (FX) rates used in the current period
- Removing the results of disposed businesses in both the current and prior years
- Removing the results of businesses acquired in the current year
- Assuming acquisitions made in the prior year were made on the first day of that period

Accordingly, to measure underlying growth in our 2014 revenue we have:

- Retranslated 2013 results at the FX rates used in calculating the 2014 results
- Removed the results of businesses disposed in 2013 (the German brick manufacturing business VGT Dyko and our construction business in Canada)
- Removed the results of businesses acquired in 2014 (ECIL Met Tec in Brazil and Process Metrx in the USA)

Reported revenue in 2013 was £1,510.5m. Retranslating this at 2014 FX rates reduces this to £1,405.9m, and removing the results of disposed businesses further reduces this to £1,391.9m. Reported revenue in 2014 was £1,444.4m, excluding the results of acquired businesses reduces this to £1,440.9m. Accordingly, revenue grew, on an underlying basis, by £49m (3.5%) from 2013 to 2014, this underlying growth was more pronounced in the Steel division, where revenues grew by 4.4%, than in the Foundry division, where underlying growth was 1.8%. This demonstrates the positive impact of the portfolio reshaping on the Group following underlying revenue declines in 2013 and 2012.

Regionally, underlying growth was more pronounced in Asia (6.8%) and the Americas (4.4%) than in EMEA where revenue grew by 1.2% on an underlying basis. Growth in Asia was driven by strong growth in the Steel division (13.1%), reflecting increased penetration of our solutions across the region, most notably in South Korea and Thailand. Foundry revenues in Asia fell by 1.1% on an underlying basis. In the Americas, once again the Steel division drove the Group's underlying growth, with revenues up 5.2% against underlying growth in the Foundry division of 1.8%. In EMEA, flat underlying revenues in the Steel division were compensated by underlying growth of 3.8% in the Foundry division, with good underlying revenue growth in Spain, France and Central and Eastern Europe.

### Objective: Deliver attractive profitability

#### KPI: Trading profit and return on sales

The underlying trading performance of the Group is measured both by the amount of trading profit in absolute terms and as a percentage of sales (also known as return on sales or RoS). Trading profit of £142.8m was an increase of £2.8m (2%) on 2013, on an underlying basis, trading profit increased by £14.8m (11.6%). RoS was 9.3% in 2013, retranslating this at 2014 FX rates, and removing the results of disposed businesses reduces that to 9.16%, RoS in 2014 was 9.89%, removing the results of businesses acquired reduces this to 9.87%. Accordingly, RoS has increased, on an underlying basis, by 71 basis points (bps) in 2014.

In the Steel division, trading profit increased by £7.7m (8.7%) on 2013, on an underlying basis, trading profit increased by £13.9m (17.1%). RoS increased by 106 bps on an underlying basis to 9.9% in 2014.

In the Foundry division, trading profit decreased by £4.9m (9.5%) on 2013, on an underlying basis, trading profit increased by £0.8m (1.8%). RoS remained at 10%, flat on 2013 on an underlying basis.

#### KPI: Headline PBT and EPS

Headline profit before tax (PBT) and earnings per share (EPS) are used to measure the underlying financial performance of the Group. The main difference between trading profit and PBT is net finance costs.

Net finance costs of £16.4m were £0.9m below 2013, primarily driven by lower borrowing costs. When we borrow money, we incur up front cash arrangement fees. Accounting standards require us initially to capitalise those fees on the balance sheet and subsequently charge the income statement over the expected life of the facility. At the date of the 2013 Annual report we expected to replace our £425m revolving credit facility during 2014 to take advantage of favourable debt market conditions, and therefore the fees associated for that facility were charged to the income statement over the period to 30 June 2014. During 2014 it became apparent to us that the debt market would remain favourable for borrowers throughout 2014 and into 2015, and therefore we did not renew that facility during the year.

As a result, we had only one half of a normal income statement charge for arrangement fees in 2014 as opposed to a full year's charge in 2013. The effect of this was to reduce the income statement charge for borrowing costs by £0.8m.

### Objective: Ensure capital is deployed efficiently

### KPI Free cash flow and working capital

As well as ensuring that the Company generates sufficient profits, it is important that those profits are turned into cash promptly to allow the Company to invest in growth opportunities and make cash returns to shareholders. As a business grows, it will require more working capital. Accordingly, we measure working capital both in terms of actual cash flow movements, and as a percentage of sales revenue. Trade working capital as a percentage of sales in 2014 was 24.8%, moderately up on the level of 24.7% seen in 2013. Both these numbers are measured on a 12-month moving average basis to ensure sustainable improvements.

Operating cash flow was £103.4m, down £47.0m from £150.4m in 2013. This represented a cash conversion ratio of 72%, a reduction from the level seen in 2013 of 107%. This reduction in cash flow was primarily driven by:

- An increase in cash capital expenditure of £6.8m from £46.3m in 2013 to £53.1m in 2014
- An increase of £10.2m in cash invested in trade working capital (including £4.8m due to the retirement of a debt factoring programme in Germany)
- An increase of £16.6m in cash invested in non-trade working capital

Offsetting this was an increase in trading profit before depreciation (also known as EBITDA) of £2.0m.

The £47.0m reduction in operating cash flow translated into a smaller reduction of £35.7m in free cash flow from continuing operations to £59.2m in 2014. This difference is due to lower income taxes paid of £6.0m, lower cash cost of prior restructuring programmes of £4.5m, and the non-recurrence of demerger related cash costs of £3.2m incurred in 2013, partially offset by lower dividends received from joint ventures (down by £0.7m to £0.6m) and higher dividends paid to the owners of minority stakes in non-wholly owned subsidiaries, mainly in India.

### KPI Return on net assets (RONA)

RONA is a measure of capital efficiency – how well we use shareholder funds in our operations. We do not exclude the results of businesses acquired and disposed from this calculation as capital efficiency is an important consideration in our portfolio decisions. It is calculated by dividing trading profit plus our share of profits from joint ventures by our average operating assets (property, plant and equipment, and trade working capital).

As with most of our KPIs, we measure these on a 12-month moving average basis at constant currency to ensure we drive sustained and sustainable underlying improvements. Our RONA for 2014 was 25.5%, an increase of 130 basis points on 2013 (24.2%), reflecting the fact that the rate of increase in trading and joint venture profits on a constant currency basis exceeded the rate of increase in net operating assets by a factor of almost three to one.

### Objective Maintain a strong financial position

#### KPI Interest cover and net debt

The Group's debt facilities have financial covenants with specific limits on the ratios of net debt to EBITDA (maximum three times limit) and EBITDA to interest (minimum four times limit). These ratios are monitored regularly to ensure the Group has sufficient financing available to run the business and fund future growth. At the end of 2014, the net debt to EBITDA ratio was 1.48, a slight increase on the 2013 position of 1.43. EBITDA covered net interest paid 13.1 times; accordingly, the Group was well within its covenants.

At the end of 2014 we had £647.4m of gross committed debt facilities (2013: £637.1m, 2012: £578.8m), of which £343.5m was unutilised (2013: £328.6m, 2012: £157.7m). Our net debt was £268.3m at the end of 2014, an increase of £11.9m on 2013 (2012: £295.3m), reflecting the cash expenditure of £23.4m on the acquisitions of ECIL Met Tec and Process MetnX.

We regularly review our capital structure, and decided no new debt was required in 2014. The largest part of our committed debt facilities is a £425m multi-currency revolving credit facility which expires in April 2016. Work is underway to replace that facility during 2015. Further information regarding the interest rates and maturities of our debt can be found in Note 28 on pages 134 and 135.

### Financial risk factors

Following a detailed review of the risks facing the Group, it was apparent that there was no significant change from those which the Group faced in 2013 (and disclosed in the 2013 Annual report). Accordingly, there remain two main financial risk factors. Demand volatility is discussed in the introduction to this section on page 26. In addition, we continue to face risks relating to FX, capital market, interest rate and inflation uncertainties. Despite the mitigations described on page 23, we operate in many countries and, as such, our reported results vary with FX rates. When sterling strengthens against a currency, our revenues and profits as reported in sterling are reduced; however, the underlying revenues and profits in the relevant local currency are unaffected. When measured against 2013, sterling strengthened against all of our trading currencies constraining the growth in our profits (our 2014 trading profit of £142.8m would have been £154.6m if the same FX rates used in 2013 had been used to translate our 2014 non-UK results into sterling). We continue to monitor this closely, and where possible seek to balance the currency of both our cost base and revenue base to minimise exposure. As with all international companies, and particularly ones like ours focused on growth in emerging markets, this continues to be an area of attention. Whilst the recent weakening of sterling against the US dollar and the Chinese renminbi will help reported results in 2015, this will be offset by further weakening of the euro, the Japanese yen, the Brazilian real, the Indian rupee and the South African rand.

### Other relevant financial information

#### Trading results – discontinued operations

During 2014, we had no discontinued operations; in the comparative numbers for 2013 the results of the former Precious Metals Processing division were included to the date of disposal (31 May 2013).

As part of the demerger which gave rise to Vesuvius plc, we undertook to share equally the liability relating to court proceedings brought by MacDermid (an Alent plc competitor) arising out of corporate activity in 2006 relating to what is now Alent plc. This matter was settled out of court in February 2015, resulting in Vesuvius plc being required to pay US\$10m as part of the settlement. This has been provided in the 2014 income statement and the payment will be reflected in the 2015 cash flow statement.

#### Restructuring

There were no separately reported restructuring charges in 2014. Expenses related to ongoing, non-material restructuring activities to the extent incurred, were included in trading profit during the year; it is intended that this treatment will be followed in future years. The restructuring charge in 2013 of £3.9m principally comprised costs relating to the relocation of a Steel division production facility in Australia, the closure and relocation costs relating to two Foundry production sites in China, and some trailing costs relating to prior restructuring programmes.

#### Taxation

The headline effective income tax rate for the year reduced to 26% (2013: 26.5%). The income tax credit on separately reported items principally consists of non-cash deferred tax movements relating to the amortisation of a deferred tax liability arising from the acquisition of Fosco plc in 2008 (£4.0m, 2013: £7.0m) and an increase in the deferred tax asset due to the forecast utilisation of US tax losses incurred in the prior year (£21.8m).

We initially recognised a deferred tax asset of £29.2m in 2013 in respect of these US losses. However our confidence has increased regarding the future realisation of value for these losses, and at the end of 2014 we have increased the total deferred tax asset recognised to £54.0m.

#### Capital expenditure

Capital expenditure in 2014 of £53.5m (2013: £47.5m) comprised £28.6m in the Steel division (2013: £28.6m) and £24.9m in the Foundry division (2013: £18.9m). This represented 3.7% of revenue (2013: 3.2%) and included expenditure of £2.4m on the acquisition of a site in Pittsburgh, USA for a new global R&D centre for the Steel division and a further £2.5m on the recently opened global R&D centre for the Foundry division in Enschede, Netherlands.

#### Pensions

The majority of the pension plans we have open are defined contribution plans, where our only commitment is to make contributions into plans. During 2014 we contributed £9.2m (2013: £10.9m) into those plans for employees, with this amount being charged to trading profit in our income statement in 2014. In addition to this we have a number of historical defined benefit plans, the majority of which are closed to further benefit accruals.

However, we remain liable to provide members of those plans with a certain level of benefits upon retirement and as such, the risk under these plans remains mostly with Vesuvius. The net charge to the income statement in respect of those plans in 2014 was £4.1m (2013: £7.8m) with £2.3m included in trading profit (2013: £6.0m) and £1.8m (2013: £1.8m) in net finance costs. The lower charge in 2014 reflects curtailment gains of £3.6m arising from the closure of the Netherlands defined benefit plan on 31 December 2014.

The net deficit under those defined benefit plans at the end of December 2014 was £51.1m, an increase of £3.2m on the net deficit of £47.9m at the end of 2013. The three largest defined benefit plans are in the UK, Germany and the USA, with the USA and Germany plans showing deficits of £35.6m (2013: £23.3m) and £39.9m (2013: £32.6m) respectively, the UK plan, where we have insured almost two thirds of the future liabilities, shows a surplus of £48.8m (2013: £27.4m).

#### Corporate activity

In 2014 we acquired two companies in line with our strategy to build a business in technical services as discussed by the Chief Executive on page 14. The combined consideration for these businesses is up to £29.6m / US\$11.7m (£7.1m) for Process Metrx and BRL89m (£22.5m) for ECIL Met Tec.

For Process Metrx, US\$7.7m was payable on completion of the acquisition with the remaining US\$4m deferred for a period of up to five years (US\$2m in equal annual instalments and US\$2m on the achievement of certain specified performance-related milestones). For ECIL Met Tec, BRL79m was paid on completion, a further BRL5m is payable upon the completion of the subdivision of property and subsequent transfer to Vesuvius (expected in 2015), with the remaining BRL5m payable on the expiry of certain warranties.

Revenue of £3.6m and trading profit of £0.5m was included in the 2014 results relating to these acquired businesses. Had these businesses been acquired on 1 January 2014, a further £19.2m of revenue and £3.1m of trading profit would have been recognised. The growth in revenue and profits resulting from these acquisitions was excluded from the calculation of underlying growth. The results of both of these acquisitions are accounted for in the Steel division.

Late in the year we approached the Board of Morgan Advanced Materials plc with a view to merging our companies – a step we believed would have created a global leader in advanced ceramics technology. As announced, this approach was rejected by Morgan. Costs associated with this, and all other merger, acquisitions and disposal activities were included within trading profit in 2014.

Further information on the accounting for these acquisitions can be found in Note 22 on page 128.

In 2013 we disposed of our German brick manufacturing business VGT Dyko and our Canadian construction and installation business, both in the Steel division, and our European Precious Metals division for a combined cash consideration of £44.1m, the latter being accounted for as discontinued operations in 2013. The net book gain on those disposals and discontinued operations was £30.1m in 2013. During 2014 there were no discontinued operations and no businesses were disposed of, although we did sell some minor property, plant and equipment for combined proceeds of £2.0m, generating a book gain of £0.8m. In addition we wrote down our minority investment in an Italian research company generating a loss of £0.4m.

Chris O'Shea, Chief Financial Officer 3 March 2015





## Key Performance Indicators

### Financial KPIs

Objective	KPI	Purpose	Performance	Link to remuneration
<b>Deliver growth</b>	<b>Underlying revenue growth</b>	Provides an important indicator of organic (like-for-like) growth of Group businesses between reporting periods. This measure eliminates the impact of exchange rates, acquisitions, disposals and significant business closures		
<b>Deliver sustainable returns</b>	<b>Trading profit and return on sales</b>	Used to assess the trading performance of Group businesses		Delivery of value to shareholders is linked to remuneration through the Vesuvius Share Plan, which links the vesting of 50% of each award to total shareholder return <a href="#">Read more on p88</a>
	<b>Profit before tax</b>	Used to assess the financial performance capacity of the Group as a whole		
	<b>Headline earnings per share</b>	Used to assess the earnings performance capacity of the Group as a whole		EPS is linked to remuneration as a measure used in annual incentive awards and the Vesuvius Share Plan <a href="#">Read more on p89</a>
	<b>Return on net assets (RONA)</b>	Used to assess the financial performance of the Group		
<b>Maintain strong cash position</b>	<b>Free cash flow and average working capital to sales ratio</b>	Free cash flow is used to assess the underlying cash generation of the Group. One of the factors driving the generation of free cash flow is the average working capital to sales ratio, which indicates the level of working capital used in the business		Working capital performance is linked to remuneration through the working capital "kicker" applied to annual incentive awards <a href="#">Read more on p87</a>
	<b>Interest cover ratio and ratio of net debt to EBITDA</b>	Both ratios are used to assess the financial position of the Group and its ability to fund future growth	<b>Interest cover 13.1x</b> <b>Net debt to EBITDA 1.48x</b>	

### Non-financial KPIs

Objective	KPI	Performance
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<b>Zero work- related injury and illness</b>	<b>Reduce injuries</b>	<b>*Work-related illness or injuries which resulted in an employee being absent for at least one day per million hours worked.</b>
<b>Maintain strong innovation pipeline</b>	<b>R&amp;D spend</b>	<b>*Constant 2014 currency.</b>
<b>Reduce energy use and carbon emissions</b>	<b>Total energy consumption</b>	<b>Gas use -4.36% Electricity +0.19%</b>

#### **Building a holistic management perspective**

##### **KPI monitoring**

Our Board and management regularly monitor both financial and non-financial performance indicators to measure performance against strategic objectives. The Board reviews this as part of its governance and risk management processes.

Read more about Governance on p56-97

Read more about Remuneration on p75-93

Read more about Risk management on p22 and 23

## Operating review

### Steel division

Providing Flow Control and Advanced Refractories solutions for the global steel industry.

Steel revenue £m

**£981.4m**

**-3.5%**

Steel trading profit £m

**£96.4m**

**+8.5%**

Steel return on sales %

**9.8%**

**+109bps**

### The Steel production process and Vesuvius

The two product lines that comprise the Steel division are Steel Flow Control and Advanced Refractories

Our Flow Control products are used extensively in the continuous casting process. This process enables steel originated in a blast furnace or electric arc furnace to be cast directly into slabs or blooms without interruption, while remaining protected from the atmosphere when passing through the production process. Avoiding this atmospheric contact significantly reduces contamination levels in the steel. Vesuvius products have a short service life (often a matter of a few hours) due to the significant wear caused by the high temperature, high thermal cycling and the erosive and corrosive environment in which they operate. The quality of our products impacts both on the quality of the finished metal being produced and on the productivity, profitability and safety of the customer's process.

Our products represent a relatively small proportion of the input costs of our customers (e.g. less than 1% for a steel producer) but their performance is critical to their production processes. Therefore, customers demand high quality and consistent products for these most demanding of applications. Vesuvius is a global leader in molten metal flow engineering and we achieve this by working closely with our customers to develop customised refractory systems, services and technologies that enable them to improve their performance.

Vesuvius also supplies the steel industry and other process industries with advanced refractory materials used for lining vessels such as blast furnaces, ladles and tundishes to enable them to withstand high temperatures and/or corrosive attack. These refractory lining materials may be supplied in the form of powder mixes, which are spray-applied or cast onto the vessels to be lined ("monolithics") or in pre-cast shapes and bricks.

Vesuvius has developed close, collaborative relationships with customers and, due to the specialised nature of our products and the high volume in which they are consumed, has developed a global network closely aligned with customer locations. Through this network we develop customised refractory systems, services and technologies that enable our customers to enhance their performance.

Customers of the Steel division are principally steel producers and manufacturers of steel production equipment. In addition, we supply other high temperature industries such as petrochemicals and cement, and therefore around 10% to 15% of revenues in the Steel division arise from non-steel-related process industries supplied by the Advanced Refractories product line.

As both Flow Control and Advanced Refractories products are consumables, steel production volumes are the critical driver of demand for the Vesuvius Steel division. This is particularly true in the production of higher quality steels where the use of our highly technical products in the enclosed continuous casting process are most valuable. Steel producers are continually striving to enhance their processes to improve production through less downtime, to reduce labour costs, to increase steel quality, reduce energy usage, and reduce reworking through thinner slab casting. As a consequence they make increasing use of our solutions helping them to achieve better productivity, quality and safety. Hence our sales progress at a higher growth rate than steel production volumes.

### The global steel market in 2014

According to the World Steel Association global steel production in 2014 increased by approximately 1.1% compared with the previous year. The overall market growth was driven mainly by increased production in the European Union (1.8%), North America (2.0%), and China (0.9%). These increases were partially offset by output declines seen in Ukraine (17.1%) and South America (1.4%).

### Turbulence modelling

Vesuvius has invested in computer simulation and water-modelling capabilities to predict the flow of steel in the continuous casting process.

### Steel Flow Control

"In a year with positive revenue from all our regions we continued to invest in innovation and high technology solutions for customers."

Chris Abbott President, Flow Control

### Financial performance in 2014

Steel Flow Control reported revenues of £544.8m for 2014 representing a 2.0% decrease on the previous year, due to currency market headwinds. On an underlying basis revenue was up by 4.3% on 2013 levels. All of our operating regions made a positive contribution to revenue growth, including those which experienced declining steel production. We were able to overcome any underlying market weakness through the strength of our customer relationships and the increasing penetration of our product offering.

We maintain tight control of costs to ensure our prices are competitive for the high levels of quality we deliver to our customers.

We continue to develop our dispersed manufacturing base, across which we are able to deploy our significant process improvement expertise. This, together with investments made in process technology, has enhanced both our productivity and product quality.

The introduction of the Lean process model in our manufacturing locations continues to improve margins by offsetting inflationary pressures. For example, we estimate that £4m was saved in 2014 as a result of Lean initiatives in our Flow Control product line. During the year we gave particular focus to improved process yields, energy efficiency and productivity and we remain committed to driving efficiencies within our supply chain and logistics operations, making use of our network of Lean engineers.

#### **New technologies drive value for our customers**

In order to meet our customers' demands, as indicated by our KPI on page 33, we undertake a programme of research & development that is unparalleled within our industry, and which leverages the breadth of our experience and global reach. Our research efforts are focused on a small number of centres of excellence, allowing us to concentrate knowledge for maximum effectiveness. Product development takes place in parallel at development centres established in all major markets, a geographical spread that allows our development teams to get closer to our customers and to address their immediate requirements in a timely fashion.

In 2014 we expanded our Flow Control Systems facility in Ghlin, Belgium, whilst also increasing the resources allocated to developing mechatronic solutions for the steel industry. In addition, we initiated investment in a new, state-of-the-art research facility in Pittsburgh, USA, which is due to be completed in early 2016.

All our Flow Control products are developed to create value for our customers by improving the efficiency of their manufacturing processes and the quality of their end products. Recently introduced new products and solutions underline this philosophy, notably our innovative technical solutions around the continuous caster. The latest robot compatible Tundish Tube Changer (product code SEM3085™) and the initial variants in our new Robotic Casting Technology range continue to perform well, with the first 100% robotic installation now fully operational in Korea.

This solution will be further enhanced in 2015 with the installation of robotic capability on the Ladle Operating Platform, which will integrate oxygen lancing, temperature and gas measurement, tundish powder feeding and refractory installation. Further significant contracts for SEM3085™ have been secured in China, Europe, India and South America setting the scene for future robotic installations.

#### **Creating value through specialised technical services**

In addition to our broad range of Flow Control products, we are developing a growing revenue stream from technical and advisory services to the steelmaking industry. Our investment in leading edge modelling and simulation capabilities, combined with our intimate understanding of our customers' processes, means we are ideally placed to create bespoke systems and refractory designs that will optimise the flow of molten metal within the tundish and mould.

Our Technical Services capabilities have been significantly enhanced by the acquisitions in recent years of SERT Metal, AVEVIS and Metallurgica. All are now integrated within our organisation, while 2014 saw the purchase of ECIL Met Tec, which further demonstrates the opportunities that can be captured through the acquisition of complementary businesses.

We are developing new capabilities to monitor flow characteristics at various points in the steel casting process, together with data feedback systems and control schemes for real-time optimal flow control throughout the entire casting sequence. A number of solutions incorporating these capabilities have commenced "alpha testing" with customers and are due to be launched later this year.

In addition, 2015 will see the installation at a customer's site of a truly unique solution that incorporates data capture, process monitoring and control, robotics, gas and temperature measurement, refractory systems and associated refractories.

This bespoke solution has been made possible through combining the knowledge and expertise of Vesuvius with the synergistic capabilities of AVEVIS, ECIL Met Tec, SERT Metal and Metallurgica.

We will continue to enrich our technical services offering in the medium term, notably through providing our most advanced customers in the metal casting field with decision critical, process enhancing information. This will be delivered through a range of data capture and interpretation applications.

#### **Strategies to maintain our future growth**

Future business growth momentum will primarily come from two areas:

- Marketing our innovative, high value process enhancing products and services
- Further penetrating developing markets

The success of our business will rely on our ability to market the innovations we develop to the wider audience of customers we believe can benefit from them. On a practical level, this requires investment in industrial marketing and value capture analysis. In 2014 we strengthened our industrial marketing capabilities by creating a Solutions Group that uniquely combines steelmaking process knowledge, refractory modelling and expertise in simulation and equipment. We have also introduced a bespoke customer management tool that will allow us to better understand, quantify and target the development of our unique, value-creating solutions.

#### **Capturing growth in developing markets**

The emerging markets are large producers – and consumers – of steel. For example, Asia now accounts for some 68% of world steel production, compared with 47% a decade ago. To support our growth in these markets we maintain a strong regional manufacturing capability which, combined with local product development centres, places us within easy reach of our developing market customers.

In 2014 we successfully completed commissioning and production ramp-up of a new manufacturing facility in Brazil, designed to improve the efficiency of raw material processing. The plant now enables us to make greater use of local raw materials, shortening lead times, reducing working capital requirements and improving production flexibility.

In 2015 we will further invest in the expansion of our manufacturing footprint for isostatic pressing in China, together with investing in additional mould flux manufacturing capacity in India.

#### **Steel Flow Control products**

Isostatically pressed alumina graphite  
**VISO™**

Extruded clay graphite product ranges  
**VAPEX®**

Temperature measurement  
**Accumetrix®**

Purging systems and control devices regulating steel flow

**R.A.D.A.R.\***

\* Trademark(s) of Vesuvius plc registered in certain countries

#### **Robotic Tube Changer**

A robotic arm changes a pre-heated tundish shroud

#### **SEM3085™ Tube Changer**

A Tube Changer in operation

### **Advanced Refractories**

"We continue to focus our portfolio, invest in R&D and support growth initiatives in developing markets "

Tanmay Ganguly President, Advanced Refractories

#### **Financial performance in 2014**

Advanced Refractories reported revenues for 2014 totalling £436.6m, a decrease of 5.5% compared with 2013. On an underlying basis the year-on-year revenue increase was 4.5%. Financial performance improved globally, despite tough trading conditions in certain markets – notably in Eastern Europe – which were impacted by political unrest.

Our revenue performance reflects the results of a restructuring that has taken place within the division in recent years. This has involved divesting non-core activities and realigning the business.

This process continues to be implemented, with a focus on improving business performance by expanding our efforts in value selling, training, brand and product rationalisation, together with exiting low-margin or higher risk activities.

At the beginning of 2014, Advanced Refractories embarked upon a major effort to implement the latest advanced quality planning techniques in our production facilities as part of the roll out of our wider Lean initiative. This is already having a positive impact on margins.

We are investing in research & development on a regional basis in China, India and Eastern Europe, together with adding personnel and equipment in the Middle East. Our aim is to support growth initiatives in the emerging markets, capitalising on the investments that were made in production facilities during 2013.

As our trading environment remains very competitive, we continue to focus on optimising cost and quality within our supply chain. Our global purchasing organisation deals only with approved suppliers, and is constantly seeking opportunities to combine reliably high quality raw materials with long-term price stability. Dual sourcing of materials, while maintaining consistent quality, remains an active ongoing initiative.

We also use our developing technical services offering to differentiate us from low-tech commodity suppliers with limited technical support. The acquisition in 2014 of Process Metrx – together with ongoing projects relating to intelligent camera systems and temperature measurement – will further enhance our ability to expand and broaden our technical solutions into all metallurgical segments.

#### **A trusted partner**

Advanced Refractories focuses on providing best-in-class products and application equipment supported by highly experienced and trained technical personnel. The business enjoys numerous total material supply contracts, in which the customer hands over its entire refractory needs to Vesuvius, and we in turn take full responsibility for cost and consistency.

The strength of our customer relationships also derives from proximity: our teams are located close to our customers and our people are frequently deployed at our customers' sites, providing on-the-spot help and advice.

#### **Innovative solutions for our customers**

Value creation for customers is a fundamental performance driver for the Advanced Refractories business. Enhanced innovation delivery is central to this process, as such we have introduced a fully integrated innovation delivery system that combines idea generation (ideation), our advanced, bespoke customer management tool and our reinvigorated new product introduction process.

In addition, our worldwide research & development effort is now organised under a single global manager, with closer links to our marketing and technology, sales and manufacturing teams. Through this structure we can quickly define and prioritise innovative refractory and process improvements, then deliver them to our customers at a much faster pace. Several key innovations have already reached the latter stages of this new process.

**A leader in refractory technology** In 2014 we made progress with a number of technological developments in line with Group strategy. They included:

- A further expansion of our best-in-class Gard™ family of products, notably in aluminium (Alugard™) and cement (Lithogard™) markets.
- Utilisation of newly-acquired laser technology from Process Metrx for several total ladle contracts, enhancing performance and improving the clarity of future technology requirements.
- Development and testing of a new range of brick products for steel ladles. These enhance the thermal behaviour of the refractory, reduce the potential for carbon pick-up and improve overall refractory life.
- Further development of our automated robotic application, which is deployed to ensure safe and consistent application of our advanced refractories in the tundish.
- Expansion of the Elby\*, our Engineered Ladle Bottom Yield programme, into South America and Asia. Investments in future Elby\* production capacity are planned as a result.

#### **Advanced Refractories products**

Wet spray and dry vibratable monolithic working linings

**Basilite\* Basivibe™ Tundex\***

Alumino-silicate and magnesia carbon bricks

**Sillmax\* Stein\* Supermag\***

Ingot heading Products  
**Profax\* Litefax™ Stelotol\***

Anydrous tap hole clay plastics  
**Surtap™ Kingtap™**

Alumino-silicate monolithic plastics, forming, gunning and shotcrete repair castables

**Criterion\***  
**Surgun\***  
**Blu-Ram\***  
**Foscast\***  
**Cergun™**  
**Super #3000\***  
**ALugard\***  
**Hydra-max\***  
**Lithogard™**

Precast monolithic refractories including precast ladle bottoms and tundish furniture systems

**Lavagard™**  
**Alugard\***  
**Numax\***  
**ELBY\***  
**Turbostop\***

Monolithic magnesia gunning repair materials Refractory monitoring, automated application equipment and installation services Insulating fibre composites

**Basigun\***  
**Gundol\***

\* Trademark(s) of Vesuvius plc registered in certain countries

**Elby\* ladle bottom in service**

We are expanding our Elby\* production programme into South America and Asia

**Process Metrix laser technology**

Following our acquisition of Process Metrix in 2014 we are using laser technology in several customers' plants

\* Trademark(s) of Vesuvius plc registered in certain countries

## Operating review

### Foundry division

"In a year of mixed end-markets we continued our strategic focus on marketing and technology, investment in R&D and development of high quality production facilities."

Glenn Cowie President, Foundry

Foundry revenue £m

**£463.0m**

**-6.1%**

Foundry trading profit £m

**£46.4m**

**-9.5%**

Foundry return on sales %

**10%**

**-35bps**

### Vesuvius in the foundry industry

Our Foundry division trades under the Foseco brand, a world-renowned name that has become a by-word for reliability, technology and service. The division generates approximately one-third of total Group revenue and is an acknowledged world leader in the supply of consumable products and associated services to the foundry industry. Some 40% of worldwide castings (and a similar percentage of the revenue for the Foundry division) are produced for the vehicle sector, comprising light vehicles (passenger cars and light trucks) and heavy trucks. Other end-markets for foundry castings include machinery for the construction, agriculture and mining industries, power generation equipment, railroad and general engineering. Our customers include the world's major automotive OEMs, truck producers and manufacturers of construction, railroad and mining equipment. Whilst the products Foseco supplies typically represent less than 5% of a foundry's production cost, they contribute significantly to improving both product quality and manufacturing efficiency, while reducing the environmental impact of the casting process.

#### The global foundry industry in 2014

The foundry market was significantly impacted by difficulties within the mining industry, which resulted from the general decline in commodity and precious metal prices. We saw reduced investment in all mining, notably in the USA, Brazil, Indonesia and Australia, with delays to new projects resulting in reduced activity for foundries producing castings for the mining process as well as those used for related equipment and vehicles.

The light vehicle (i.e. passenger cars and light trucks) industry picked up in 2014, with global production up by 2.2% year-on-year. Light vehicle production in Northern Europe trended slightly above average (at 2.3%) and NAFTA light vehicle and heavy truck output increased by 4.7% and 16.7% respectively. However, South America continued to struggle, particularly Brazil, which recorded production decreases of 20% for light vehicles and 14.7% for heavy vehicles.

On a global basis, heavy truck and railroad production decreased by a combined 2.1% against 2013 levels, with the railroad industry being another that suffered due to reduced mining activity.

We also experienced political and economic instability in some markets where we traditionally experienced good volumes and margins such as Ukraine, Thailand and Brazil.

#### Financial performance in 2014

Underlying revenue in the Foundry division increased 1.8% year-on-year, and underlying profitability was maintained as a result of a series of self-help measures to offset the marked impact of reduced activity in traditionally higher margin emerging markets.

The worldwide foundry market grew moderately supported by the progression in light vehicle output in North America, Europe and China. However, it was affected by the continued reduction of investment spending in the mining sector as well as a severe downturn in the auto sector in Brazil and Thailand. Coupled with the political instability in Ukraine, this affected sales in Brazil, Australia, South Africa, Thailand and Indonesia.

We achieved a solid performance in North America, benefiting from increased light vehicle and truck production of 4.7% and 16.7% respectively. However, this was offset by reduced foundry activity in Brazil which experienced a 20% drop in light vehicle production and a 14.7% reduction in heavy vehicle output, and by considerably reduced mining activity, a small but nonetheless traditionally high margin end-market.

Revenue in Europe increased by 3.8%, driven by a 3.8% increase in light vehicle production, and despite lacklustre truck production especially in Northern Europe which saw a decrease of 11.1%.

In Asia-Pacific, we benefited from 6.1% growth in Chinese light vehicle output but this was offset by a reduction in automotive production in Thailand, the impact of a ban on the export of metallic ores from Indonesia and continued deterioration of castings activity produced in the Australian mining industry.

Construction of phase one of a new manufacturing plant for foundry products in Changshu, China was completed during the year and was fully operational from Q4 2014. More than 40% of global foundry castings are currently produced in China, so this represents a very important growth market for us. In addition, the new R&D facility located in Enschede, Netherlands was opened in late 2014 to drive product innovation and further growth.

#### Partners in value creation

Our business strategy, which we call Performance Partnership, builds on the Vesuvius business model, and on generating the greatest possible value for our customers, helping them deliver higher quality castings and enhancing their foundry processes and efficiency.

As the global foundry industry evolves, this approach enables us to capitalise on our deep understanding of customers' priorities for growth and process improvement, as well as on our excellence in product innovation.

### **Our global reach**

Our worldwide presence forms the foundation of our business model. We embed technical experts at numerous customer premises, which allows them to identify potential process improvements in cooperation with their host customers.

In addition, we have established a network of technology centres, in which we have amassed the expertise to develop solutions that incorporate engineered systems and high value consumables. These solutions are industrialised by our geographically dispersed manufacturing base, which leverages our global expertise whilst being deliberately located as close as possible to our customers.

The net result is that we are able to ensure all our customers receive solutions that are tailor-made to their specific needs and opportunities, supplied on a reliable, just-in-time and competitively priced basis.

From a Foundry perspective, this model is

- Resilient to end-market cycles, due to the flexibility of our diversified manufacturing footprint and adjustable cost base
- Profitable, as it allows value pricing for bespoke products
- Growth generating, as we can grow markets by creating additional innovative products and solutions

### **Strategies to maintain our future growth**

We commenced and/or completed several key strategic actions in 2014

- Commissioned our state-of-the-art sleeves and coatings plants in Changshu, China
- Opened our new, world class research & development Centre in Enschede, Netherlands
- Undertook a global review of the Foundry market to inform and challenge how we react to the actions of competitors
- Restructured our global management and Marketing & Technology teams, to support our focus on market segmentation and the investments we've made in research capability
- Developed aggressive growth plans for NAFTA, focusing on clean steel and new market penetration
- Expanded steel filtration capacity in Japan, with new filtration products set for launch in 2015

### **A focus on developing markets**

Potential revenue per customer and per tonne of castings produced is strongly influenced by the technical sophistication of the customer, the end-market for the casting and the processes used in its production. These factors tend to correlate with the level of industrial development taking place within each market, plus the corresponding capital investment in the foundry. Therefore we see significant growth potential in markets where industrial development continues to gather momentum, particularly certain parts of Eastern Europe and Asia.

As such, we are expanding our network of technical sales staff and application engineers within developing markets, ensuring that customers there have local access to our high levels of locally available technical support.

### **Foundry products**

Feeder sleeves

**FEDEX\***

**KALMINEX\***

**KALMIN\***

Ceramic foam filters

**SEDEX\***

**SIVEX\***

**STELEX\***

Refractory coatings for moulds and cores

**RHEOTEC\***

**HOLCOTE\***

**ISOMOL\***

Aluminium metallurgical control

**FDU\***

**MTS™**

**COVERAL\***

Process for the production of ductile iron

**INITEK\***

Crucibles for the melting and holding of non ferrous alloys

**DIAMANT\***

**KING-CARB\***

**TERCOD\***

\* Trademark(s) of Vesuvius plc registered in certain countries

### **Foundry R&D**

Researching casting methods and materials at our new state-of-the-art Foundry R&D Centre in Enschede



## Corporate Responsibility

Understanding and meeting our responsibilities enhances our performance. We recognise that our operations impact a wide community of stakeholders, including investors, employees, customers, business associates and local communities, and that appropriate attention to the fulfilment of our corporate responsibilities supports the creation of long-term value for our shareholders.

Vesuvius employs nearly 12,000 people, with manufacturing facilities in 26 countries, serving customers all over the globe. Our employees' engagement with our values, strategy and culture is vital to the success of the Group.

### Our values

Our five corporate values, which direct our everyday behaviour at work, are:

#### Creativity

Our commitment to technology and quality is the basis for our competitive advantage. Creativity allows us to develop innovative solutions and continuous improvements that generate value through performance enhancement.

#### Cooperation

Encouraging internal and external cooperation is the behaviour which enables us to create unique solutions with our partners. Through cooperation, each Vesuvius employee is committed to the success of their community of colleagues and customers.

#### Reliability

Our solutions involve us in critical aspects of our customers' manufacturing processes. Our commitment to deliver consistent products and service gives them the level of confidence they require.

#### Integrity

At the heart of our promise lies the trustworthiness of all Vesuvius employees in their acts and words. Integrity, honesty and transparency are essential in all our exchanges.

#### Embracing diversity

Vesuvius is a global Company built upon a true respect for local customs and experience. We recognise and embrace the potential for creativity that comes from the coexistence of so many different cultures.

The best examples of how our employees demonstrate our values are celebrated once a year during the Living The Values ("LTV") Awards ceremony, which brings together employees from around the globe to celebrate their outstanding individual contribution to the implementation of Vesuvius' values.

### Code of Conduct

Vesuvius has a Code of Conduct, which has been distributed throughout the Group and by which all our businesses are required to operate. The Code of Conduct emphasises the Group's commitment to compliance with the highest standards of legal and ethical behaviour.

The Code of Conduct sets out clear and simple principles covering customers, products and services, employees, investors, society and local communities, health, safety and the environment, conflicts of interest, and competitors. Maintaining a reputation for integrity in all business and other dealings both with customers and suppliers remains critical to Vesuvius.

The Code of Conduct recognises that the pursuit of the highest possible ethical standards must be as much a part of our culture as any other facet of our operations, and emphasises our commitment to the performance of our business in accordance with these standards.

The Code of Conduct is available on the Company's website [www.vesuvius.com](http://www.vesuvius.com).

The Company operates a business concern helpline where employees can raise concerns anonymously, if they wish, knowing that these will be investigated and acted upon. No employee will ever be penalised or disadvantaged for reporting a legitimate concern.

### Training programme

During the year we continued to expand our training programme on the Code of Conduct and associated anti-bribery and corruption policies. This comprises face-to-face training and use of an e-learning module. To date more than 2,500 employees have been trained on anti-bribery and corruption issues, focusing particularly on those who work with customers, suppliers and public officials. We continue to develop this process to help our staff and counterparties to understand that bribery and corruption will not be tolerated in the performance of our business.

### Corporate citizenship and Human Rights

Vesuvius seeks to be a good corporate citizen wherever it does business and respects local concerns, customs and traditions.

The Group has a Human Rights Policy, which supplements the Code of Conduct and has been approved by the Board. It reflects principles contained within the United Nations Universal Declaration of Human Rights, the International Labour Organisation's Fundamental Conventions on Labour Standards and the United Nations Global Compact.

The Policy is applicable to all employees of Vesuvius and its subsidiaries. It sets out the principles for our actions and behaviour in conducting our business affairs and provides guidance to those working for us on how we approach human rights issues.

The Policy sets out the Group's commitment not to discriminate in any of our employee practices and to offer equal opportunities to all. The Group respects the principles of freedom of association and the effective recognition of the right to collective bargaining and opposes the use of, and will not use, forced, compulsory or child labour.

### Vesuvius LTV Awards 2014

Each year, every employee can nominate another employee or team to recognise exemplary working behaviour in line with our values. In 2014, over 100 nominations were received. These were reviewed by a selection committee and the best selected for recognition at our LTV Awards ceremony. 20 awards were made in 2014, bringing together employees from all geographies of our business to celebrate the Vesuvius values.

### **Unicycling in China**

One of the four projects introduced as part of the well established Vesuvius China "Energising CSR" programme where Vesuvius has worked in partnership with the Suzhou Industrial Park Youth & Children Centre to provide free after school sports and entertainment activities to local children

# Safety

Vesuvius remains committed to protecting employees by reducing and eliminating workplace hazards

The safety of our staff and visitors remains our greatest operational priority. We measure the Lost Time Injury Frequency Rate as one of the key indicators of our performance. Our aim is to identify, eliminate, reduce and control all workplace risks

## Safety leadership

Safety is the first item on the agenda at all our executive and management meetings. The Group remains fully committed to continual safety improvement with a Group Health and Safety Policy stating clear objectives of

0  
accidents

No  
repeat injuries

No  
harm to people

These objectives are pursued through a range of policies, standards and procedures

## Safety breakthrough

Vesuvius launched its first major change programme in 2008. This global initiative was designed to reduce the number of accidents, fires, and lost time injuries, and to increase safety awareness through greater employee engagement. Our aim is to raise health and safety performance to best-in-class levels throughout the Vesuvius business. Safety Breakthrough set a goal of attaining the lowest level of accidents within our industry sector with the ultimate goal of reaching zero accidents throughout Vesuvius. The reduction in our Lost Time Injury Frequency Rate ("LTIFR") from 9.8 to 1.8 over the period of implementation of Safety Breakthrough shows the significant improvements this programme has delivered. 'Safety Breakthrough' continually drives our approach towards achieving these challenging aims.

## Turbo S: the next level

The current phase of the Safety Breakthrough initiative – Turbo S – builds on the foundation of Safety Breakthrough and includes a strong focus on the standardisation of all our repetitive activities. Turbo S also integrates good management practices in the workplace, with a strong emphasis on the need to implement an organisation which enables everybody to work to the same high standards in safety performance.

As part of the Turbo S initiative

- Senior executives regularly lead safety tours at all locations
- All severe accidents are formally reviewed by the Group Executive Committee
- Employees are routinely engaged in safety audits
- We invest significantly in safety training for all employees, irrespective of their roles and functions within our business
- All employees are expected to routinely raise and implement safety improvement opportunities, we focus on the number of implemented ideas
- Safety standards are continually updated, translated and deployed throughout Vesuvius
- All injuries and dangerous occurrences are analysed locally, with a formal presentation of findings, root causes and improvement actions cascaded through management

One specific issue we are focusing on is the safety of our employees who operate at customer sites, where conditions can be harsher and more complex to manage than at our own sites. This is particularly true of our operations in emerging markets where seven of our 49 Lost Time Injuries occurred in 2014. The chart below highlights progress to date – we recognise the need for continued focus on this area.

More globally, we have introduced the following initiatives to try and improve our safety performance:

- Every site has established their own specific improvement plans, approved by management
- A health and safety survey programme is assessing every manufacturing site on its progress against consistent Group standards for safety
- Process safety initiatives have been launched on a number of critical processes, such as isostatic press safety, electrical installations and gas safety
- Turbo S content has been revised specifically for customer-facing personnel, with a specific focus on risks in customer locations and the use of Personal Protective Equipment

## Accident and incident reporting and analysis

A significant investment in time and resources has been made over recent years to develop robust, comprehensive and timely reporting of accident and incident information. As part of management reporting, the Board receives a monthly update on all Lost Time Injuries and severe accidents.

Vesuvius is using more stringent definitions for Lost Time Injuries and "severe accidents" than OSHA (USA). This includes all fires, explosions and any major spill or other chemical releases.

Accident information remains openly available and summarised in an HSE database. Completion of a full investigation report for all significant incidents to identify the true root cause is mandatory – in line with the "no repeats" objective.

## Safety audits

A key part of the Turbo S programme is to ensure that safety audits become an established and sustainable part of the Group's ongoing safety efforts.

The audit programme involves employees at all levels – from the Group Executive Committee and safety specialists through to local site management, employees and contractors. Our programme to include employees in safety audits as auditors started in 2012. This has been very successful, and in 2014 nearly two thirds of employees and contractors were involved every month in conducting audits.

## **Safety improvements and sharing lessons learned**

A feature of Turbo S is to become a true learning organisation, avoiding repeat accidents and sharing lessons learned from serious issues using the "Red Stripe" distribution process. A further development of this tool is the new Safety Alert bulletin which aims to share information on incidents on a more timely basis.

The Safety Improvement Opportunity with Permanent corrective Action ("SIOPA") initiative requires site employees to identify safety problems/improvement opportunities, which then require a formal response including the implementation of an improvement action. The Group has annual targets for employee SIOPAs which are continually reviewed. In 2014 we set ourselves the goal of six SIOPAs per employee per year which was attained.

## **Sharing safety improvements with our customers**

In 2014, in a number of countries, we have worked more closely with our customers to ensure that we share best practices and support safety improvement of key customers.

This is a service we are happy to offer, since it helps improve the safety of all people working in the related locations.

### **Turbo S features**

The implementation and sharing of best practices through Vesuvius standards and other tools.

A commitment to become a true learning organisation, avoiding repeat accidents and sharing lessons learned.

Total employee involvement, with the need for safety improvement being driven at the most senior levels of our business.

Greater focus in future for customer-facing personnel to ensure that we work to control risks faced in customer locations as far as is practicable.

**Safety Breakthrough** is widely communicated across the business.

### **Safety**

#### **Safety partnership with Hyundai**

"Our support to Hyundai Steel through their safety initiative of 2013/2014 demonstrates our important role in contributing to a healthier and safer workplace for our customers and their employees."

**William Coelho** Area Director, Korea, Japan and Taiwan

#### **Cooperation, reliability and integrity in supporting customer safety improvement needs**

Having developed a strong working relationship with one of our key international customers, Hyundai Steel, Vesuvius used its own internal safety expertise to provide ongoing support throughout 2014 to assist in promoting greater awareness and focus on safety in high risk areas of activity at Hyundai Steel's plant.

In October 2013, an initial safety audit was conducted by Vesuvius senior Health and Safety management, focusing upon sharing Permit to Work best practices. Recommendations were shared with the customer related to increasing safety focus and awareness.

In February 2014, a follow-up visit focused on the continuous casting process and ladle preparation, where effective improvement recommendations were discussed with Hyundai Steel's management and solutions agreed and implemented.

#### **Safety leadership**

As well as Vesuvius' local management working closely with Hyundai Steel's area management, Vesuvius' Chairman, John McDonough visited Hyundai whilst this work was being undertaken, so reinforcing our commitment, at the highest level, both to health and safety and to meeting our customers' needs over and above the supply of traditional product-based applications.

# Sustainability

Vesuvius remains committed to improving its environmental impact by reducing, reusing and recycling waste and improving energy efficiency wherever economically viable. The Board recognises that good environmental management is aligned with our focus on cost optimisation and operational excellence.

## Vesuvius and its processes

The majority of our manufacturing processes are not energy intensive and do not produce large quantities of waste and emissions. Total energy costs are less than 3% of revenue, with only 2% of the total energy requirements across the Group consumed in the UK.

## Our customers and their processes

Under the Vesuvius and Foseco brands, we deliver a large range of solutions that help our customers improve the productivity of their operations. These solutions also improve the quality of our customers' products and reduce the environmental footprint of their processes.

Thermal optimisation and reject reduction are key factors in the processes for which we supply solutions. Vesuvius contributes to the reduction of its customers' energy usage and subsequent carbon dioxide ("CO<sub>2</sub>") emissions through insulating materials, flow management, facilitating extended manufacturing sequences and reduced downtime.

## Greenhouse gas reporting

In reporting GHG emissions, we have used the GHG Protocol Corporate Accounting and Reporting Standard (revised edition) methodology to identify our greenhouse gas inventory of Scope 1 (direct) and Scope 2 (indirect) CO<sub>2</sub>. We report in CO<sub>2</sub> equivalent ("CO<sub>2</sub>e").

## Environmental monitoring

All our factory emissions are proactively managed in accordance with local regulations. Regular analysis of our operations enables us to take appropriate action to reduce our emissions and operate more efficiently. The Group monitors its energy consumption, worldwide CO<sub>2</sub> emissions and usage of water.

The Group also meets all of its obligations in relation to the Carbon Reduction Commitment Energy Efficiency Scheme ("CRC") and the Producer Responsibility Packaging Waste regulations.

## Energy conservation plan

The Vesuvius Energy Conservation Plan was launched in 2011 with the objective of reducing our normalised energy consumption by 10% over the following three years. We have continued to progress with a 3.63% reduction in normalised energy intensity and a 2.85% reduction in CO<sub>2</sub>e intensity ratio achieved since 2013. Managing our energy intensity is part of enhancing our cost competitiveness. It also contributes to improving the total environmental impact of our customers.

## So what is Vesuvius?

### A responsible supplier

1.8 tonnes of CO<sub>2</sub> are emitted for every tonne of steel produced. In 2010 the iron and steel industry accounted for approximately 6.7% of total world CO<sub>2</sub> emissions and 18% of industrial CO<sub>2</sub> emissions. Additionally, approximately 10 kg of refractory material is required per tonne of steel produced.

In the foundry process, the average quantity of molten metal employed is, as a worldwide average, 2.5 kg per kg of good finished piece. The solutions offered by Foseco can reduce this ratio significantly below 2.0 kg of molten metal per kg of good finished cast piece, driving a considerable saving of CO<sub>2</sub> emissions.

Vesuvius' products reduce the energy consumption of our customers and, as their usage also increases the quality of customers' products and reduces waste, they are increasingly beneficial when energy costs rise.

Benefits are realised by

- Working closely with customers to improve processes through the supply of technologically advanced consumables to reduce energy intensity and the CO<sub>2</sub>e intensity ratio.
- Reductions in refractory usage per tonne of steel produced by customers, from higher quality longer service life.
- An increase in the level of good castings produced per tonne of metal melted through improved mould design and the application of molten metal filtration and feeding systems.
- Enabling lighter, thinner and stronger components leading to lighter vehicles and less energy consumption.

### A responsible manufacturer

Where Vesuvius' products are manufactured using energy intensive processes, energy management and CO<sub>2</sub>e intensity ratio reduction are actively recognised as areas of increasing importance. Through our membership of the European Refractories Producers Federation (PRE), currently chaired by François Wanecq, we work closely with other manufacturers to reduce the industry carbon footprint. Most recently, a European footprinting exercise has been completed for refractories as part of the 2050 roadmap, with the ultimate ambition of an 80% reduction in the carbon footprint of the European ceramic industry.

### A responsible purchaser

Fuel selection is made carefully to account for current and future cost trends, availability and environmental impact. Vesuvius' purchasing professionals work closely with suppliers to ensure the availability of raw materials and their sustainable supply.

Sourcing of new plant and equipment takes into account lifetime energy consumption in order to deliver a lower energy intensity, lower CO<sub>2</sub>e emissions and hence lower lifetime running costs.

## Energy efficiency and our customers

We launched our Energy Efficiency and CO<sub>2</sub> Reduction project to foster the deployment of energy efficiency and sustainable solutions engineered by our technology departments. A CO<sub>2</sub> Impact stamp, in use since 2011, highlights the most energy efficient solutions in our portfolio of products and services.

The examples shown to the right are a sample of the significant potential reduction in CO<sub>2</sub> resulting from our actions.

Global GHG emissions		kg of CO <sub>2</sub> e	
Emissions source		2013	2014
Combustion of fuel and operation of facilities		398m	384m
Electricity, heat, steam and cooling purchased for own use		103m	104m
Total GHG emission		501m	488m -2.6%
Vesuvius' chosen intensity measurement. Emissions reported above, normalised to per tonne of product output		528	513

**Methodology** We have reported to the extent reasonably practicable on all the emission sources required under Part 7 of the Accounting Regulations which fall within our consolidated financial statements.

**Scope 1** covers emissions from fuels used in our factories and offices

**Scope 2** relates to the indirect emissions resulting from the generation of electricity, heat, steam and hot water we purchase to supply our offices and factories. We have used data gathered to fulfil our requirements under the CRC Energy Efficiency scheme and emission factors from UK Government's GHG Conversion Factors for Company Reporting 2014 in the calculation of our GHG

## Steel Flow Control

### Cold start: Flow control technical ceramics

A new refractory technology has allowed the development of materials with enhanced cold start capabilities

This allows for a significant increase in the durability of the ladle shroud, extending the life by up to 50%, using less refractory, and offering significant material and cost savings

The material also finds application in submerged entry nozzles and shrouds where thermal shock failures resulting from poor preheat practice or delayed strand starts can be avoided. Thermal shock failures inevitably lead to premature sequence termination with significant cost implications for the user, in terms of reduced output, returned steel, and yield and quality losses. The use of this material in tube changer applications also avoids preheating the subsequent tubes, reducing energy consumption

Typical savings of the order of 21 T per year in wasted refractory and 123 T CO<sub>2</sub> per preheater per year can be expected

#### Increased Durability

Cold start technology ladle shroud designed for use with the Ladle Tube Changer

## Advanced Refractories

### Cold start: Increasing tundish operation efficiency

Vesuvius' refractory engineers took a 40-tonne twin strand slab tundish currently utilising a spray working lining and hot start practice, and significantly reduced refractory and energy costs and turnaround times. In addition this allowed the customer to reduce the number of tundishes used in the cycle, to change the working lining from spray to dry working lining, and change the start-up practice from hot start to cold start

#### Delivering to the customer:

- Preparation time per tundish reduced by 125 minutes
- Reduction of gas consumption, electric power (and consequently CO<sub>2</sub>) used in tundish preparation
- Tundish operation labour per shift reduced from eight to four
- Significant reduction of the number of tundishes in rotation

#### Increasing Efficiency

Cold start Tundish preparation

## Foundry

### Furnace melt deck: Improving productivity and efficiency

The furnace melt deck and metal transfer area account for more than half of a foundry's energy consumption. Foseco's patented INITEK\* process for the production of ductile iron has many benefits for foundry operations which include

- Increased productivity
- Improved reliability and process control
- Improved casting quality
- Reduced energy consumption
- Reduced emissions
- Reduced consumption of ferro alloys
- Reduced operating costs
- Reduced pig iron consumption – preserving natural resources

A customer in North America (pouring 25,000 tonnes of ductile iron castings per year) reduced the melting temperature of the base iron in the coreless induction furnace by 35°C by utilising our innovative INITEK\* process. The reduced melt temperature in combination with improved casting quality and a 10% reduction in consumption of ferro alloys will provide a reduction of 20.6 kg CO<sub>2</sub> per tonne of shipped castings. This represents a reduction of 515,000 kg CO<sub>2</sub> per annum (5%) in CO<sub>2</sub> emissions

#### Improving productivity and efficiency

Foseco INITEK\* converter

\* Trademark(s) of Vesuvius plc registered in certain countries

## Human Resources

Our mission is to help our employees recognise, develop and deploy their talent so that Vesuvius is stronger in meeting its strategic objectives and remains the workplace of choice for its employees

### Hiring and resourcing

Vesuvius is an equal opportunities employer. As a business we value the advantages gained from a workforce with diverse social and cultural backgrounds.

Decisions on recruitment, career development, training, promotion and other employment related issues are made solely on the grounds of individual ability, achievement, expertise and conduct. These principles are operated on a non-discriminatory basis, without regard to race, colour, nationality, culture, ethnic origin, religion, sex, sexual orientation, age, disability or any other reason not related to job performance or prohibited by applicable law.

Our records show us that Vesuvius has unbalanced gender representation, in line with other companies of our size and nature. We are working hard to address this as part of our Group-wide commitment to diversity. Training on unconscious bias is being rolled out and recruitment consultants are required to provide balanced lists of candidates.

### Training and developing

Performance and advancement potential are critical areas of talent assessment. During 2014 the annual talent review cycle was significantly enhanced to provide further transparency on the talent available within the business, to allow us to nurture this talent and tailor personal development plans for our employees.

This initiative is supported by our deployment of the Lominger Leadership Competency Framework which uses a competency-based approach to people and performance management.

#### Technical and business skills training – HeaTt

HeaTt is the Vesuvius technical university. It is structured on five levels, from “entry” to “expert”. Modules are designed and delivered by our own internal staff, with the introductory level giving an overview of the business and the most advanced modules being specialised by business unit, products and applications.

We continue to pursue the delivery of Wings, our middle management development programme designed in partnership with the Vlerck Business School in Belgium. In addition to this, new courses were added to the Corporate Training portfolio in the areas of Business Intelligence, IT, Quality Management, Costing, Purchasing, and Intercultural Awareness.

### Retaining and motivating

Vesuvius recognises that job satisfaction requires working environments that motivate employees to be productive and innovative. We therefore provide opportunities for employee training and development to maximise personal potential and develop careers within the Group. Vesuvius is managed on a decentralised basis and it is the responsibility of the Vice President Human Resources, together with the relevant operational managers, to adopt employment policies and practices that best suit the size, style and geographical location of specific operations. This management structure allows our operations to respond competitively to changes in the marketplace and to develop and retain a strong sense of identity, whilst benefiting from being a part of a major international group.

Vesuvius values the feedback of its employees. We keep employees informed on matters affecting them directly and factors relevant to Group performance.

### Development opportunities overseas

Expatriation satisfies both a business need and provides employees with important opportunities to advance their careers. The HR team's work is the key mechanism for identifying gaps within local operations and matching these with the skills of employees from other offices. Vesuvius has 30 employees on long-term expatriate assignments. Many others are working on similar short-term assignments across the globe. However, having a cadre of mobile senior managers is not the only important element. Ensuring that an individual's talent is identified and nurtured during the early stages of their career is also part of our strategy. In September 2014, the fourth wave of our Columbus programme was launched. This involves three young graduates from Poland and three from Mexico. After three months in their home countries, they will swap countries for a period of nine months.

## Human Resources

### Project Columbus

Project Columbus was started in 2010 with the aim of rejuvenating our cadre of technical experts and managers and providing sound succession planning.

The goal of the programme is to create a layer of young, internationally mobile managers, who will be developed to be part of the next management and expert generation in Vesuvius. Every year a group of six recently graduated engineers are hired and after having spent three months in an operating company in their own country, where they are familiarised with the Vesuvius business, they are sent abroad for a period of nine months. During these nine months they work for a period of three months in each Vesuvius business unit.

After completing the first year of their employment successfully, they will be offered further employment with Vesuvius, preferably outside their own country or in an international job.

Since the start of the project, graduates from Poland, Czech Republic, Brazil, India, Mexico and China have participated in the programme and from the total group of 24 participants, 19 are still employed with Vesuvius. The project is currently in its fourth year introducing three Polish and three Mexican graduates to the Company.

### Gender diversity

	Female	Male	Total	Female	Male
GEC member	2	11	11	0%	100%
Senior management	9	102	111	8%	92%

Middle management	34	308	342	10%	90%
All other employees	1,445	9,883	11,328	13%	87%
Grand total	1,488	10,304	11,792	13%	87%



## **Section Four**

# **Governance**

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# Board of Directors

## 1. John McDonough CBE Chairman

**Appointed** 31 October 2012    **Committees:** Nomination (Chairman)

**Career experience** John was appointed as a Director and Chairman of the Company on 31 October 2012. John was group Chief Executive Officer of Canlion plc, the support services and construction firm, for 11 years until he retired in 2011. Prior to joining Canlion plc he spent nine years at Johnson Controls Inc. working for the automotive systems division, initially in the UK, before moving to become Vice President of the division's European operations and ultimately to Singapore to develop the business in Asia-Pacific. He then returned to the UK as Vice President of the integrated facilities management division for EMEA. John served as Chairman of the Remuneration Committee of Tomkins plc from 2007 to 2010 and as a Non-executive Director of Exel plc from 2004 to 2005. John was awarded a CBE in 2011 for services to industry and is a British citizen.

**Other appointments** He joined The Vitec Group plc in March 2012, and has served as its Chairman since June 2012. He is also a Director of Cornerstone Property Assets Ltd and Sunbird Business Services Ltd.

## 2. François Wanecq Chief Executive

**Appointed:** 31 October 2012

**Career experience** François was appointed as a Director of the Company on 31 October 2012. He previously joined the Cookson Group plc board in February 2010. François has been the Chief Executive of Cookson's Engineered Ceramics division since October 2005. Prior to joining Cookson he held a series of senior management roles at Arjo Wiggins Group and served as an Executive Director of Arjo Wiggins Appleton plc from 1999 until it was delisted. From 1985 to 1995 he was Managing Director of the technical ceramics division of the Saint-Gobain Group. François graduated from the Ecole Polytechnique and École des Mines de Paris and is a French citizen.

## 3. Chris O'Shea Chief Financial Officer

**Appointed:** 31 October 2012

**Career experience** Chris was appointed as a Director of the Company on 31 October 2012, having joined Vesuvius earlier that year. Prior to joining Vesuvius, Chris held a number of senior finance roles at BG Group, latterly serving as CFO for the group's businesses in Africa, the Middle East and Asia. From 1998 to 2005 Chris lived and worked in the UK, the US and Nigeria for Royal Dutch Shell in a variety of roles, including CFO for Shell's offshore exploration and production business in Nigeria. Chris is a Chartered Accountant with degrees from the University of Glasgow and Duke University, and has also worked for Ernst & Young. Chris is a British citizen.

## 4. Jeff Hewitt Senior Independent Director

**Appointed** 31 October 2012    **Committees:** Audit (Chairman), Nomination, Remuneration

**Career experience.** Jeff was appointed as a Director and Chairman of the Audit Committee of the Company on 31 October 2012 having previously joined the Cookson Group plc board in June 2005 where he was also Chairman of the Audit Committee. Following the 2013 AGM, Jeff was appointed as the Senior Independent Director. Jeff was previously Deputy Chairman and Group Finance Director of Electrocomponents plc. Jeff is a Chartered Accountant and is a British citizen.

**Other appointments** Jeff is a Non-executive Director and Chairman of the Audit Committees of Cenkos Securities plc and Foreign & Colonial Investment Trust plc. He is also the Chairman of Electrocomponents Pension Trustees Ltd.

## 5. Nelda Connors Independent Non-executive Director

**Appointed** 1 March 2013    **Committees:** Audit, Nomination, Remuneration

**Career experience:** Nelda was appointed as a Director of the Company on 1 March 2013. She served as President and Chief Executive of Tyco International, Electrical & Metal Products division (renamed Atkore International in 2010) from 2008 to 2011, prior to which she spent six years at Eaton Corporation, in a number of international management roles which included nearly four years based in Shanghai. Nelda spent much of her early career in the automotive industry working for Ford, Chrysler and Mogami Denki, a Toyota supplier. During this period she undertook roles in general management, engineering, quality, customer service and strategic planning and worked in the US, Europe and Asia Pacific. Nelda is a US citizen.

**Other appointments** Nelda is a Non-executive Director of Blount International, Inc., Echo Global Logistics, Inc. and Boston Scientific Corporation and sits on the board of the Federal Reserve Bank of Chicago. She was recently assigned to the Independent Takata Quality Assurance Panel focused on the US airbag investigations. She is Chairwoman and Founder of Pine Grove Holdings, LLC, a consultancy that provides advisory services to private equity and investment firms and limited investments to small and mid-sized businesses.

## 6. Christer Gardell Non-executive Director

**Appointed** 31 October 2012    **Committees:** Nomination

**Career experience** Christer was appointed as a Director of the Company on 31 October 2012 having previously joined the board of Cookson Group plc in June 2012. Christer co-founded Cevian Capital in 2002, and continues to serve as Managing Partner. On 3 March 2015, Cevian Capital held just over 21% of Vesuvius' issued share capital. From 1996 to 2001, he was the Chief Executive Officer of AB Custos, the Swedish investment company. Prior to joining AB Custos he had been a partner of Nordic Capital and McKinsey & Company. He served as a Non-executive Director of AB Lindex until December 2007 and of Tieto Corporation until March 2012. Christer is a Swedish citizen.

**Other appointments** Christer is Managing Partner of Cevian Capital, and Vice Chairman of the global Finnish technology and services company Metso Corporation.

## 7. Jane Hinkley Independent Non-executive Director

**Appointed:** 3 December 2012    **Committees:** Remuneration (Chairman), Audit, Nomination

**Career experience** Jane was appointed as a Director of the Company on 3 December 2012. Jane became Chairman of the Remuneration Committee in June 2013. Jane spent a large part of her career working at Gotaas-Larsen Shipping Corporation, the LNG shipping specialist which was listed on both the London Stock Exchange and NASDAQ. She served as CFO from 1988 to 1992, and as Managing Director until 1997. In 1998 Jane was appointed Managing Director of Navion Shipping AS, a company majority owned by Statoil, the oil and gas company, a position she held until 2001. She

previously held the position of Non-executive Director of Revus Energy ASA, a Norwegian exploration and production company. Jane is a Chartered Accountant and a British citizen.

**Other appointments:** Jane is a Non-executive Director and Chairman of the Remuneration Committee of Premier Oil plc, an oil exploration and production company. She also serves as a Non-executive Director of Teekay GP L L C, the international provider of marine transportation services for Liquefied Natural Gas, LPG and crude oil, which is an NYSE listed partnership.

## Group Executive committee

### 1. Chris Abbott President, Flow Control

**Appointed:** October 2008 **Years with Group:** 14

**Career experience** Chris was appointed President Flow Control in October 2008. Having joined Vesuvius in 2000, Chris was appointed Vice President for Manufacturing, QHSE, Engineering and Purchasing in 2002. Prior to joining Vesuvius he held a number of senior industrial and manufacturing managerial positions with Schlumberger's UK and European businesses. He completed an Engineering apprenticeship with the Wolseley Group whilst studying Mechanical Engineering and Business Studies at the Birmingham Polytechnic. Chris is based in Belgium and is a British citizen.

### 2. Patrick Bikard President, Operations

**Appointed:** January 2014 **Years with Group:** 6

**Career experience:** Patrick was appointed President Operations in January 2014 having been Vice President for Manufacturing, QHSE, Engineering and Purchasing since February 2008. Since joining Vesuvius, Patrick has led the Operations functions with an emphasis on improving safety, quality and reducing inventories. Patrick worked for nine years in Renault, ending as Director Production & Supply Chain of the Douai plant. This was followed by senior operational roles at Alstom and Faurecia. He has wide experience in creating value through customer focus, lean techniques, operations, change management and continuous improvement. He is a graduate from Ecole Polytechnique, Ecole des Mines de Paris and Cédép (INSEAD). Patrick is based in Belgium and is a French citizen.

### 3. George Coulston Chief Technology Officer

**Appointed:** October 2013 **Years with Group:** 1

**Career experience:** George was appointed Chief Technology Officer in October 2013. Prior to joining Vesuvius, George worked for Kennametal Inc. for nine years, where his most recent positions were VP Innovation Ventures and VP Marketing. During his career George also worked for DuPont, in research, manufacturing technology and new business development roles. He has wide experience in R&D, managing projects and organisations with additional experience in marketing and operations. George is a member of the Product Development & Management Association and the Association for Iron & Steel Technology. George has a BSc in Chemical Engineering from the University of Connecticut, a PhD in Engineering and Applied Science from Yale University and an MBA from the University of Pittsburgh. George is based in Pittsburgh and is a US citizen.

### 4. Glenn Cowie President, Foundry

**Appointed:** November 2014 **Years with Group:** 33

**Career experience:** Glenn was appointed President Foundry in November 2014, having delivered significant change in business structure and performance as President Advanced Refractories during the prior three years. He started his career in Fosco South Africa in 1981, where he held several technical and sales positions in both the Foundry and Steel divisions, before becoming the Chief Executive Sub-Saharan Africa. Glenn transferred to the UK in an international Strategic Growth Initiative role and shortly thereafter was promoted to Area Director Northern Europe, based in Borken, Germany. Following a two-year period with Fosbel, he returned to Fosco in 2008 as Vice President Foundry NAFTA, and subsequently the Americas. Glenn is a diploma engineer in Metallurgical Engineering. Glenn is based in Cleveland and is a South African and British citizen.

### 5. Tanmay Ganguly President, Advanced Refractories

**Appointed:** November 2014 **Years with Group:** 7

**Career experience:** Tanmay was appointed President Advanced Refractories in November 2014. Since joining Vesuvius in 2007, Tanmay led the refractory business in India as Managing Director of Vesuvius India Ltd, and latterly as Vice President Flow Control and Advanced Refractories, South Asia, where he successfully improved both businesses' revenue and profitability. He has over 25 years' experience in the chemicals, refractory and FMCG industries, having held senior positions in Pillsbury India, General Mills (Pillsbury), General Mills India and Radhakrishna Foodland Pvt Ltd. Tanmay graduated from the University of Kolkata with a degree in Business Administration and is a Chartered Accountant of the Institute of Chartered Accountants of India. Tanmay is based in Barborough, UK and is an Indian citizen.

### 6. Henry Knowles General Counsel & Company Secretary

**Appointed:** September 2013 **Years with Group:** 1

**Career experience:** Henry joined Vesuvius as General Counsel & Company Secretary in September 2013. Prior to joining Vesuvius, Henry spent seven years at Hikma Pharmaceuticals PLC, a generic pharmaceutical manufacturer with significant operations in the Middle East and North Africa, where he held the roles of General Counsel, Company Secretary and also led the compliance function. Henry trained and practised as a corporate lawyer with Ashurst in London and Tokyo. He graduated from Trinity College, Cambridge with a degree in Social and Political Science, and attended law school in London. Henry is based in London and is a British citizen.

### 7. Luis Reyes President, Technical Services

**Appointed:** February 2015 **Years with Group:** 22

**Career experience:** Luis was appointed to the newly created position of President Technical Services on 1 February 2015, to spearhead the development of Vesuvius' Technical Services offering. Technical Services includes the recently acquired companies in the field of data capture, ECIL Met Tec, Process Metrix and Averis as well as the Accuoptix/Accuoptix™ product lines, and forms one of the priorities of Vesuvius' growth strategy. Prior to joining the Group Executive Committee, Luis was Vice President Flow Control NAFTA, based in Pittsburgh, and has been a key member of that division's management team since 1992. Luis is a graduate of ITESM-Monterrey Tec. Luis is based in Pittsburgh and is a Mexican citizen.

### 8. Ryan van der Aa Vice President, Human Resources

**Appointed:** May 2013 **Years with Group:** 15

**Career experience:** Ryan was appointed Vice President Human Resources in May 2013. Ryan joined Fosco in 1999 as HR Director Europe and, prior to its acquisition by Cookson in 2008, was HR Director of Fosco plc for two years. Before 1999, Ryan held several international HR management positions in Indigo NV, HVA International BV and Berenschot Moret Bosboom. Ryan has wide experience in international organisational development.

and change processes, people development processes and international compensation and benefits. Ryan has a Masters of Law Degree from the University of Tilburg, Netherlands. Ryan is based in London and is a Dutch citizen.

## **9. Roel van der Sluis President, Vesuvius North Asia**

**Appointed:** April 2012 **Years with Group:** 17

**Career experience:** Roel was appointed President Vesuvius North Asia in April 2012. In November 2014 his remit was increased to include Foundry operations in China, Japan and Korea. Roel joined Foseco in 1997 when they acquired SMC Foundry Products from Metallgesellschaft AG where Roel led the European foundry division. He then held roles in M&T Northern Europe, Central Europe and the Middle East where he opened a number of new markets for Foseco before moving to China, where he was based for three years. Roel has wide experience in both the foundry and the steel industries and is a member of the German foundry institute, VDG, and the Dutch foundry institute NVVGT. Roel has engineering degrees from the Universities of Delft and Utrecht in the Netherlands and holds an AMP from INSEAD in France. Roel is based in Suzhou and is a Dutch citizen.

For CEO and CFO see p56

\* Trademark(s) of Vesuvius plc registered in certain countries

# Chairman's governance letter

"Strong corporate governance is central to the delivery of sustainable long-term shareholder value "

John McDonough CBE Chairman

## In this section

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Remuneration Committee report on p75

## Dear shareholder,

On behalf of the Company, I am delighted to present the 2014 Governance report. As a Board we remain committed to applying the highest standards of corporate governance within Vesuvius. The Board continues to focus on legislative and regulatory developments and with the assistance of our advisers, we ensure that the Board captures and applies governance best practice, to enable us to discharge our duties as stewards of the Company.

During 2014 the Company was fully compliant with the requirements of the UK Corporate Governance Code. In response to the changes introduced to the UK Corporate Governance Code during the year, we updated our Committee terms of reference and other procedures to ensure that we will again be fully compliant with the enhanced guidance and disclosure requirements over the 2015 financial year.

## Board composition

As I have already reported in my opening letter, Jeff Hewitt, our Senior Independent Director and Chairman of the Audit Committee, will step down following nine years of outstanding service to both Cookson Group plc and Vesuvius plc. Through the work of the Nomination Committee, Hock Goh and Douglas Hurt have been identified as new independent Non-executive Directors both to succeed Jeff Hewitt and also to supplement and deepen the skills and experience available at the Board table. I am extremely pleased to welcome them both to the Board and encourage you as shareholders to support their election at the 2015 AGM. I believe that the Board's composition continues to fulfil our requirements for expertise, experience and diversity, and is well equipped to face the continuing role of setting and managing the strategic direction of the business.

## Evaluation

In 2013, our Board evaluation identified the importance of spending an appropriate amount of time dedicated to Group strategy and succession planning, particularly in light of the time demands generated by increasing and evolving governance and compliance obligations on all listed companies. I can confirm, as evidenced by our 2014 Board evaluation, that these topics have received extensive attention from the Board during the year.

In 2014, the Board once again commissioned an externally moderated evaluation of the Board, its Committees and individual Directors. The results showed that the Board and its Directors continue to perform effectively and were well supported by internal and external resources. Matters identified for specific attention in the 2013 Board evaluation have been satisfactorily addressed, and the Board dynamics as a whole showed an increase in effectiveness both individually and collectively. It is considered that the Board continues to deliver an open forum for debate and considered decision making. Priorities for the Board identified by the 2014 evaluation remain the same – a continuing focus on the delivery of Group strategy and securing the future of Vesuvius through effective succession planning and talent development.

## Succession

As a Board we will always keep our composition and future succession requirements under review, to ensure that we are well prepared for the future needs of the Company. In 2015 the focus of succession planning will turn more to executive and senior management roles. This will continue to form a fundamental part of the Board's overall review of strategy and its successful implementation.

## Training

As part of its ongoing training and development remit, the Board visited R&D, manufacturing and customer facilities during the year. The Board is provided with a training schedule at each Board meeting and consults with external advisers regularly and on specific topics as the need arises. The Board engages directly with senior management, both through business presentations at the Board, discussions at Board dinners and through Board and individual Director visits to operations. We will continue to do this throughout 2015.

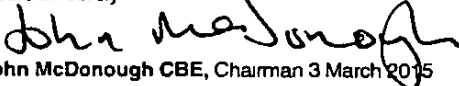
## Risk

The methods by which we manage our risks and assess their impact are constantly reviewed and tested as part of our ongoing risk management approach. We have a well-developed process that allows for regular Board input and attention.

## Looking ahead

In 2015 we will continue to develop both as a Board and as individual Directors. We welcome our new members and look forward to contributing towards and overseeing the development of Vesuvius over the next year and beyond.

Yours sincerely

  
John McDonough CBE, Chairman 3 March 2015

# Governance report

The Board of Vesuvius plc (the "Company") is responsible for the Group's system of corporate governance and is committed to maintaining high standards and to developing governance arrangements to comply with best practice. This report describes the Company's corporate governance structure and explains how, during the year ended 31 December 2014, Vesuvius has applied the main principles of the September 2012 edition of the UK Corporate Governance Code issued by the Financial Reporting Council (the "Code"). Throughout the year and up until the date of this report Vesuvius was in full compliance with the requirements of the Code. A copy of the Code can be found on the FRC website at <https://www.frc.org.uk/Our-Work/Codes-Standards/Corporate-governance/UK-Corporate-Governance-Code.aspx>.

## Roles and responsibilities of the Board

Ultimate responsibility for the management of the Group rests with the Board of Directors

The Board focuses primarily upon strategic and policy issues and is responsible for the Group's long-term success. It sets the Group's strategy, oversees the allocation of resources and monitors the performance of the Group in pursuit of this, all within a framework of prudent and effective control which enables risks to be assessed and managed.

## The Board

The Board has a formal schedule of matters reserved to it and delegates certain matters to its Committees. It is anticipated that the Board will convene on seven scheduled occasions during 2015 as well as holding ad hoc meetings to consider non-routine business if required.

## The Chairman and Chief Executive

The division of responsibilities between the Chairman and the Chief Executive is set out in writing and was reviewed during the year as part of the Company's annual corporate governance review. No amendments were required. The interactions in the governance process are shown on the schematic below.

## Board Committees

The principal governance Committees of the Board are the Audit, Remuneration and Nomination Committees. Each Committee has written terms of reference, which were reviewed and updated where appropriate by the Board during the year. These are available to view on the Company's website [www.vesuvius.com](http://www.vesuvius.com).

## Governance structure

### The Board

Responsible for Group strategy, risk management and policy issues. Monitors the Group's progress against the targets set.

### Chairman

Provides leadership and guidance for the Board, promoting a high standard of corporate governance. Sets the Board agenda and manages meetings. Independent on appointment, he is the link between the Executive and Non-executive Directors.

### Chief Executive

Develops strategy for review and approval of the Board. Directs, monitors and maintains the operational performance of the Company. Responsible for the application of Group policies and implementation of Group strategy. Accountable to the Board for Group performance.

### Senior Independent Director

Acts as a sounding board for the Chairman, an alternative contact to the Chairman and as an intermediary for other Non-executive Directors. Leads the annual evaluation of the Chairman and recruitment process for his/her replacement, when required.

### Non-executive Directors (NEDs)

Exercise a strong, independent voice, challenging and supporting Executive Directors. Scrutinise performance against objectives and monitor reporting performance. Monitor and oversee financial risk and controls, determine Executive Director remuneration and manage Board succession through their Committee responsibilities.

### Company Secretary

Advises the Chairman on governance, together with updates on regulatory and compliance matters. Supports the Board agenda with clear information flow. Acts as a link between the Board and its Committees and between NEDs and senior management.

Committee	Role	Chair of Committee	Membership
Audit	To monitor the integrity of financial reporting and to assist the Board in its review of the effectiveness of the Group's internal controls and risk management systems	Jeff Hewitt	All independent Non-executive Directors
Remuneration	To determine the appropriate remuneration packages for the Group's Chairman, Executive Directors, and Company Secretary, and to recommend and monitor the level and structure of remuneration for other senior management	Jane Hinkley	All independent Non-executive Directors
Nomination	To advise the Board on appointments, retirements and resignations from the Board and its Committees and review succession planning and talent development for	John McDonough, the Chairman (except when considering his own succession in which case the Committee is chaired by an appropriate Non-executive Director)	The Chairman and any three Non-executive Directors

the Board

In addition, the Board delegates certain responsibilities on an ad hoc basis to a Finance Committee and Share Schemes Committee, which operate in accordance with the delegation of authority agreed by the Board

Committee	Role	Chair of Committee	Membership
<b>Finance</b>	To approve specific funding and treasury-related matters in accordance with the Group's delegated authorities or as delegated by the Board	John McDonough, the Chairman	The Chairman, Chief Executive, Chief Financial Officer and Group Treasurer
<b>Share Schemes</b>	To facilitate the administration of the Company's share schemes	Any Board member	Any two Directors or a Director and the Company Secretary

The Group also operates a Group Executive Committee ("GEC"), which is convened and chaired by the Chief Executive, and assists him in discharging his responsibilities. The GEC comprises the Chief Executive, Chief Financial Officer, the four business unit Presidents, the President Vesuvius North Asia, the Vice President Human Resources, the Chief Technology Officer, the President Operations and the General Counsel & Company Secretary. The Executive Committee met seven times during 2014 and is scheduled to meet eight times during 2015. Its meetings are held between the London head office and major operational sites. Biographical details of the GEC members are set out on pages 58 and 59.

## Board and Committee attendance

The attendance of Directors who served between 1 January 2014 and 31 December 2014, at the Board meetings and principal Committees of which they were a member held during this period, is shown in the table below. The maximum number of meetings in the period during which the individual was a Board or Committee member is shown in brackets.

	Board	Audit Committee	Remuneration Committee	Nomination Committee
<b>Chairman</b>				
John McDonough CBE	11 (11)			3 (3)
<b>Executive Directors</b>				
François Wanecq	11 (11)			
Chns O'Shea	11 (11)			
<b>Non-executive Directors</b>				
Nelda Connors	9 (11) <sup>1</sup>	4 (5) <sup>1</sup>	2 (4) <sup>1</sup>	2 (3) <sup>1</sup>
Christer Gardell	11 (11)			2 (3) <sup>2</sup>
Jeff Hewitt	11 (11)	5 (5)	4 (4)	3 (3)
Jane Hinkley	10 (11) <sup>3</sup>	5 (5)	4 (4)	3 (3)

### NOTES

- 1 Nelda Connors was unable to attend the meetings held in February for personal reasons, and was unable to attend the December meetings due to international travel issues.
- 2 Christer Gardell could not attend a later than scheduled Nomination Committee meeting held in October due to a prior commitment.
- 3 Jane Hinkley was unable to attend the Board meeting held at short notice in November due to telecommunications difficulties whilst overseas.

To the extent that Directors are unable to attend scheduled meetings, or additional meetings called on short notice, they receive the papers in advance and relay their comments to the Chairman for communication at the meeting. The Chairman follows up after the meeting in relation to the decisions taken.

## BOARD EFFECTIVENESS

### Board composition

The Board currently comprises seven Directors – the Non-executive Chairman, John McDonough CBE, the Chief Executive, François Wanecq, the Chief Financial Officer, Chns O'Shea, and four Non-executive Directors, three of whom are deemed to be independent for the purposes of the UK Corporate Governance Code. Jeff Hewitt is the Senior Independent Director. Henry Knowles is the Company Secretary. In addition, the Company has today announced the appointment of two new Non-executive Directors – Hock Goh and Douglas Hurt – who will join the Board with effect from 2 April 2015. Jeff Hewitt will retire as a Director of Vesuvius plc at the 2015 AGM. Douglas Hurt will then become Chairman of the Audit Committee and assume the role of Senior Independent Director.

The Board's policy on diversity focuses on ensuring that both it, and its Committees, have the appropriate range of diversity, skills, experience, independence and knowledge of the Company to enable them to discharge their duties and responsibilities effectively. The Board continues to look at diversity in its broadest sense, this is reflected in the range of backgrounds and experience of our Board members who are drawn from different nationalities and have significant experience of managing complex global businesses. We believe that it is important to get the right balance of independence, skills and knowledge, both on the Board and across our businesses. The Board supports the recommendations of Lord Davies' report on gender diversity and complies with the target set for FTSE 100 boards.

The Board's overall skills and experience, as well as Non-executive Director independence, were reviewed during the year as part of the annual corporate governance review. The Board's composition also formed part of the Board evaluation process. The Board considers its diversity, size and composition to be appropriate for the requirements of the business. Two of the seven Directors (29%) are women and three (43%) are non-UK citizens.

The Board will continue to review its structure regularly to ensure that it comprises the appropriate balance of skills, experience and diversity, with an ongoing focus on ensuring appropriate training and development opportunities are provided for all Directors.

Committee composition is set out in the relevant Committee reports. No one other than the Committee Chairman and members of the Committee is entitled to participate in meetings of the Audit, Nomination and Remuneration Committees, but others may attend by invitation.

The Board considers that half the Board, (excluding the Non-executive Chairman) namely Nelda Connors, Jeff Hewitt and Jane Hinkley remain independent of management and free from any business or other relationship which could affect the exercise of their independent judgement. Christer



Gardell is Managing Partner of Cevian Capital which holds 21.11% of Vesuvius' issued ordinary share capital and is not considered to be independent. He brings a wealth of commercial acumen to the Board. The Chairman satisfied the independence criteria on his appointment to the Board. Biographical details of the current Directors are set out on pages 56 and 57.

### Appointments to the Board

Recommendations for appointments to the Board are made by the Nomination Committee. The Nomination Committee follows a formal, rigorous and transparent procedure for the appointment of new Directors. Board appointments are made on merit against objective criteria, selecting the best candidate for the post. Non-executive appointees are also required to demonstrate that they have sufficient time to devote to the role. The Nomination Committee is responsible for reviewing Board succession to ensure that plans are in place for the appropriate refreshing and orderly succession of Board members. Further information is set out in the Nomination Committee report on pages 73 and 74.

### Time commitment of the Chairman and the Non-executive Directors

The Chairman and Non-executive Directors each have a letter of appointment which sets out the terms and conditions of their directorship. An indication of the anticipated time commitment is provided in any recruitment role specification, and each Director's letter of appointment provides details of the meetings that they are expected to attend, along with the need to accommodate travelling time (particularly for overseas trips). Non-executive Directors are required to set aside sufficient time to prepare for meetings, and regularly to refresh and update their skills and knowledge. All Non-executive Directors have agreed to commit sufficient time for the proper performance of their responsibilities, acknowledging that this will vary from year to year depending on the Group's activities. Directors are expected to attend all scheduled Board and Committee meetings and any additional meetings as required. Each Director's other significant commitments are disclosed to the Board at the time of their appointment and they are required to notify the Board of any subsequent changes. The Company has reviewed the availability of the Non-executive Directors and considers that each of them is able to, and in practice does, devote the necessary amount of time to the Company's business.

### Induction and training

A comprehensive induction programme is available to new Directors. This is tailored to meet the requirements of the individual appointee, and includes visits to manufacturing facilities, meetings with key Group executives and introductions to the Company's principal external advisers, as appropriate. Reference materials are provided, including information about the Board, its Committees, Directors' duties, procedures for dealing in the Company's shares and other regulatory and governance matters. Directors are advised of their legal and other duties and obligations as Directors of a listed company. The Company Secretary monitors this process and ensures that if, after a certain period of appointment, new Directors feel that they have not received sufficient induction information, support for any subsequent requirements is supplied.

The Chairman, through the Company Secretary, continues to ensure that there is an ongoing process to review training and development needs. Directors are provided with details of seminars and training courses relevant to their role. They are encouraged to attend these as they consider appropriate and are supported by the Company in doing so. Where a general training need is identified, in-house training is provided to the entire Board. Regulatory updates are provided as a standing item at each Board meeting in a Secretary's Report.

### Information and support

The Board ensures that it receives, in a timely manner, information of an appropriate quality to enable it to adequately discharge its responsibilities. Papers are provided to the Directors in advance of the relevant Board or Committee meeting to enable them to make further enquiries about any matters prior to the meeting should they so wish. This also allows Directors who are unable to attend to submit views in advance of the meeting.

In addition to the formal processes, the Chief Executive provides written updates on important Company business issues and the Board is provided with monthly updates on key financial and management information. Regular updates on shareholder issues and discussions are provided to the Board, who also receives copies of analysts' notes issued on the Company. Directors have access to a secure online portal used for the distribution of all information.

All Directors have access to the advice and services of the Company Secretary. There is also an agreed procedure in place for Directors, in the furtherance of their duties, to take independent legal advice at the Company's expense.

### Performance evaluation

In accordance with the provisions of the Code, the Chairman led a formal and rigorous evaluation of the Board's performance and effectiveness during the year, together with an evaluation of the performance of the Board's Committees and an individual review of each Board member. In addition, the Senior Independent Director led an evaluation of the performance of the Chairman. The Company engaged an external moderator, Lintstock Ltd, an independent advisory firm that provides advice to the Company on governance matters and practices.

The 2014 evaluation built on the themes identified from the 2013 review, in addition to which Lintstock consulted with the Chairman, Company Secretary and the Chairmen of each of the Audit and Remuneration Committees in the formulation of the content and focus of the 2014 evaluation. Lintstock also examined the balance of individual skills and experience, independence, and knowledge of the Company amongst the Directors, together with Board diversity (including gender) and Board interaction and effectiveness as part of the evaluation. Lintstock collated responses from participants and presented an analysis of the results to the Chairman. This analysis was circulated to the Board and formed the basis of one-on-one discussions conducted by the Chairman with each member of the Board and the Company Secretary. These conversations also covered the output from the individual Director reviews. Finally, specific action points generated from the 2013 Board evaluation were reviewed at the December Board meeting, where it was reported that during the year, these had either been addressed or, where they represented longer-term goals, considerable progress had been made.

The overall outcome of the evaluation was that the Board and its individual Directors are performing effectively, that the Board continues to promote open debate and is well-supported in terms of information flow. The priorities the Board identified included a continued focus on the delivery of the Group's strategy and securing the future of Vesuvius through effective succession planning. As a result of the evaluation, the Board has tasked the Nomination Committee with focusing on producing a more detailed succession plan identifying high potential individuals throughout the organisation.

### Appointment and replacement of Directors

The Board membership should not be fewer than five nor more than 15, save that the Company may, by ordinary resolution, from time to time vary this minimum and/or maximum number of Directors. Directors may be appointed by ordinary resolution or by the Board. A Director appointed by the Board must retire from office at the first Annual General Meeting ("AGM") after his/her appointment. A Director who retires in this way is then eligible for reappointment. The Board may appoint one or more Directors to any executive office, on such terms and for such period as it thinks fit and it can also terminate or vary such an appointment at any time. The Articles specify that at every AGM, any Director who has been appointed by the Vesuvius Board

since the last AGM and any Director who held office at the time of the two preceding AGMs and who did not retire at either of them, shall retire from office. However, in accordance with the requirements of the Code, all the Directors will offer themselves for re-election at this year's AGM. The biographical details of each of the Directors who are offering themselves for re-election, including details of their other directorships and relevant skills and experience, will be set out in the 2015 Notice of AGM. The biographical details of the current Directors are set out on pages 56 and 57. The Board believes that each of the current Directors standing for re-election is effective and demonstrates commitment to his/her respective role. In addition, the Board believes that the new independent Non-executive Directors, Hock Goh and Douglas Hurt, who will join the Board on 2 April 2015, will serve as valuable additions to the Board. Accordingly, the Board recommends that shareholders approve the resolutions to be proposed at the 2015 AGM relating to the election and re-election of all the Directors standing.

### Directors' conflicts of interest

The Board has established a formal system to authorise situations where a Director has an interest that conflicts, or may possibly conflict, with the interests of the Company ("Situational Conflicts"). Directors declare Situational Conflicts so that they can be considered for authorisation by the non-conflicted Directors. In considering a Situational Conflict these Directors act in the way they consider would be most likely to promote the success of the Company, and may impose limits or conditions when giving authorisation or subsequently if they think this is appropriate. The Company Secretary records the consideration of any conflict and records any authorisations granted. The Board believes that the system it has in place for reporting Situational Conflicts continues to operate effectively. No Situational Conflicts were brought to the Board for authorisation during the year under review.

## BOARD ACCOUNTABILITY

### The Audit Committee

The members of the Audit Committee are set out on page 67. The Audit Committee report which describes the Audit Committee's work in discharging its responsibilities, is set out on pages 67 to 72.

### Risk management and internal control

The Board has overall responsibility for establishing and maintaining a system of risk management and internal control, and for reviewing its effectiveness. This system is designed to manage, rather than eliminate, the risks facing the Group and safeguard its assets. No system of internal control can provide absolute assurance against material misstatement or loss. The Group's system is designed to provide the Directors with reasonable assurance that problems are identified on a timely basis and are dealt with appropriately. The Audit Committee assists the Board in reviewing the effectiveness of the Group's system of internal control, including financial, operational and compliance controls, and risk management systems. The key features of the Group's system of internal control are set out below.

### Reviewing the Effectiveness of internal control

The internal control system covers the Group as a whole, and is monitored and supported by the Group's internal audit function, which conducts reviews of Vesuvius' businesses and reports objectively both on the adequacy and effectiveness of the system of internal control and on those businesses' compliance with Group policies and procedures. The Audit Committee receives reports from the Group Head of Internal Audit and reports to the Board on the results of its review.

Process	Elements
<b>Strategy and financial reporting</b>	<ul style="list-style-type: none"> <li>Comprehensive strategic planning and forecasting process</li> <li>Annual budget approved by the Board</li> <li>Monthly operating financial information reported against budget</li> <li>Key trends and variances analysed and action taken as appropriate</li> </ul>
<b>Vesuvius GAAP</b>	<ul style="list-style-type: none"> <li>Accounting policies and procedures formulated and disseminated to all Group operations</li> <li>Covers the application of accounting standards, the maintenance of accounting records and key financial control procedures</li> </ul>
<b>Operational controls</b>	<ul style="list-style-type: none"> <li>Operating companies and corporate offices maintain internal controls and procedures appropriate to their structure and business environment</li> <li>Compliance with Group policies on items such as authorisation of capital expenditure, treasury transactions and the management of intellectual property, and regulatory issues</li> <li>Use of common accounting policies and procedures and financial reporting software used in financial reporting and consolidation</li> <li>Significant financing and investment decisions reserved to the Board</li> <li>The Board monitors policy and control mechanisms for managing treasury risk</li> </ul>
<b>Risk assessment and management</b>	<ul style="list-style-type: none"> <li>Continuous process for identifying, evaluating and managing any significant risks</li> <li>Risk management process designed to identify the key risks facing each business</li> <li>Reports made to the Board on how those risks are managed</li> <li>Each major Group business unit produces a risk map to identify key risks, assess the likelihood of risks occurring, their impact and mitigating actions</li> <li>The Board reviews insurance and other measures used in managing risks across the Group</li> <li>The Board is notified of major issues and makes an annual assessment of how risks have changed</li> </ul>

As part of the Board's process for reviewing the effectiveness of the system of internal control, it delegates certain matters to the Audit Committee.

Following the Audit Committee's review of internal financial controls and of the processes covering other controls, the Board annually evaluates the results of the internal control and risk management procedures conducted by senior management. This includes a self-certification exercise by which senior financial, operational and functional management throughout the Group certify their compliance throughout the year with the Group's policies and procedures.

In accordance with the provisions of the Code, the Directors confirm that they have reviewed the effectiveness of the Group's system of internal control and that the necessary actions have been taken to remedy any control weaknesses identified during the year.

Since the date of this review there have been no significant changes in internal controls or other matters which could significantly affect them.

## **Executive compensation and risk**

All of the independent Non-executive Directors serve on both the Audit and Remuneration Committees. They therefore bring their experience and knowledge of the activities of each Committee to bear when considering the critical judgements of the other. This means that the Directors are in a position to consider carefully the impact of incentive arrangements on the Group's risk profile and to ensure the Group's remuneration policy and programme are structured so as to accord with the long-term objectives and risk appetite of the Company.

## **Share capital and voting**

Disclosure of the information regarding share capital, the authorisation received by Directors at the AGM regarding the issue of shares and the authority to purchase own shares, is contained on page 95 of the Directors' report. There are no restrictions on voting contained in the Company's Articles of Association. Further details are set out in the Directors' report on page 96.

## **Relations with shareholders**

The Board is committed to communicating with shareholders and stakeholders in a clear and open manner, and seeks to ensure effective engagement through the Company's regular communications, the AGM and other investor relations activities. The Company undertakes an ongoing programme of meetings with investors, which is managed by the Chief Executive and Chief Financial Officer. The majority of meetings with investors are led by them. The Chairman, Senior Independent Director and Committee Chairs also remain open for discussion with shareholders on matters under their areas of responsibility, either through contacting the Company Secretary or directly at the AGM.

The Company reports its financial results to shareholders twice a year, with the publication of its Annual and Half-year financial reports. In 2014, it also issued two Interim management statements. In conjunction with these announcements, presentations or teleconference calls are held with institutional investors and analysts. Recordings of these are made available on the Group's website [www.vesuvius.com](http://www.vesuvius.com) along with copies of any presentation materials issued.

Regular updates on shareholder issues and discussions are provided to the Board. Board members also receive copies of significant analysts' notes issued on the Company. All Directors are expected to attend the Company's AGM, providing shareholders with the opportunity to question them about issues relating to the Group, either during the meeting or informally afterwards.

# Audit Committee

## Committee members

Jeff Hewitt (Committee Chairman)  
Nelda Connors  
Jane Hinkley

## The Audit Committee

The Audit Committee comprises all of the independent Non-executive Directors of the Company. The members bring a wide range of financial and commercial expertise to the Committee's deliberations. I continued to be the Committee Chairman. I am a qualified accountant and have the required recent and relevant financial experience. Hock Goh and Douglas Hurt will join the Committee on their appointment to the Board on 2 April 2015. Douglas Hurt is my designated successor as Chairman and he will assume the position when I retire from the Board at the close of the AGM in May 2015. His background as CFO of IMI plc and current Chair of the Audit Committee of Tate & Lyle PLC make him eminently suitable to lead the Committee. Hock Goh's experience in Asia will broaden the Committee's understanding in a key region for the Group. The Company Secretary is Secretary to the Committee.

## Meetings

The Committee met five times during the year. We continue to operate in an inclusive manner. Hence, the Board Chairman, non-independent Non-executive Director, Chief Executive, Chief Financial Officer, Group Financial Controller, Head of Internal Audit and the external auditor KPMG, were invited to each meeting. Other management were also invited to attend as appropriate. I believe that this openness continues to enhance the quality and transparency of the Committee's work and the communication of its deliberations with the Board, executives and auditors. The Committee also met privately with KPMG and the Head of Internal Audit without any executives being present, and I met informally with KPMG and with the Head of Internal Audit between the scheduled meetings to discuss any emerging issues. This "avoidance of surprises" approach was reinforced by our regular meetings with a range of executives during site visits, informal meetings and Board presentations. The outcomes of meetings were reported to the Board and all members of the Board received the agenda, papers and minutes.

## Roles and responsibilities

The primary roles and responsibilities of the Committee remained the same as in 2013, and again included advice to the Board on whether the Committee believed the Annual report and accounts taken as a whole, was fair, balanced and understandable.

The Committee operates under formal Terms of Reference which the Committee reviewed and updated during the year and which were subsequently approved by the Board. This year the Terms of Reference were updated significantly for the UK Corporate Governance Code issued in September 2014 by the Finance Reporting Council, for the requirements of the Competition & Markets Authority ("CMA") Order and also partly for the anticipated requirements of the EU Commission Regulations on Statutory Audits. Most of these changes relate to Committee activities and reporting in 2015 and later years. The Terms of Reference are available on the Group's website [www.vesuvius.com](http://www.vesuvius.com). Within these Terms, the Committee and its individual members are empowered to obtain outside legal or other independent professional advice (at the cost of the Company). Such powers were not required during the year. The Committee may also secure the attendance at its meetings of any employee or other parties with relevant experience and expertise should it be considered necessary.

## Activities in 2014

In 2014 we focused on the "second year" of reporting changes arising from guidance introduced in 2013. We also considered the implications for future reporting of the more recently announced UK Corporate Governance Code requirements relating to risks and viability. The Committee agreed with management not to early adopt these changes for 2014, but to implement them fully in 2015, when the implications will be clearer.

In forming our views, I and the other members of the Committee believe that we received sufficient, relevant and reliable information from management and the external auditor, to enable us to discharge fully our responsibilities.

## Financial reporting

We fulfilled our primary responsibility to review the integrity of the half-year and annual financial statements and recommend their acceptance to the Board. We also considered the Interim management statements.

In forming our views, we assessed

- The quality, acceptability and consistency of the accounting policies and practices
- The clarity and consistency of the disclosures, including compliance with relevant financial reporting standards and other reporting requirements
- Significant issues where management judgements and/or estimates have been made that are material to the reporting or where discussions have taken place with the external auditor in arriving at the judgement or estimate
- At the request of the Board, whether the Annual report and accounts taken as a whole is fair, balanced and understandable, taking into consideration all the information available to the Committee
- The application of the FRC's guidance on clear and concise reporting to the Annual report and accounts

The Committee actively deliberated on reports from the Chief Financial Officer and Group Financial Controller. These were well prepared and analysed various alternatives, as appropriate, relating to areas of judgement and/or estimation. KPMG also delivered memoranda for the half-year and year-end, stating their views on significant issues. KPMG provided a summary for each issue, including their assessment of the prudence of management's judgements or estimates. The Committee considered the overall degree of prudence applied this year and in comparison with the prior year. Importantly, the Committee agreed with KPMG that the judgements made were cautious, but not overly prudent, and similar to last year. I believe that consistency of judgement over time remains a critical consideration, so that the trend in reported performance is not distorted by differing judgements by management on issues that span more than one reporting period.

KPMG proposed no material audit adjustments arising from their year-end audit, which provided additional comfort to the Committee.

The Committee has reviewed management's assessment of IFRS 15 – Revenue from Contracts with Customers, which will be effective from January 2017 (but has not yet been endorsed by the EU). The preliminary assessment indicates that the impact on consolidated financial statements is not expected to be significant.

Management is also currently assessing the impact of IFRS 9 – Financial Instruments, on its consolidated financial statements. IFRS 9, which will be effective from 1 January 2018 (although it has not yet been endorsed by the EU), will introduce revised guidance on the classification and measurement of financial assets.

### Significant issues and material judgements

Last year, I distinguished between issues that arose in the year and ongoing topics that persist from year to year. This year two of the significant issues have related to matters not new in the year, but where important developments have occurred that required particular judgement. Other ongoing topics have been and are covered regularly in the accounts and are generally common topics across many companies.

Significant issues arising from developments in the year

- **Recognition of US deferred tax asset** In 2013 the Group recognised £29.2m of deferred tax as an asset after extensive modelling of likely future profits in the US. As noted last year and detailed on page 117, the Group has significant additional tax losses and other timing differences in the US and elsewhere which were not recognised, though it was agreed that these would be kept under review. This year the prospects for future US profits have improved and so management has increased confidence in the ongoing profitability over a longer time scale.
- **Consequently a further £24.8m of deferred tax asset has been recognised this year to give a year-end provision of £54.0m as detailed on page 30.** The recognition of losses and their use is a highly technical area where the Committee has drawn on internal experts to understand the treatment. We reviewed the modelling and the implications for the reported tax rate and concluded that this further recognition was consistent with the estimation applied last year. In forming our view we also considered the implications for the effective tax rate used in the accounts. Taking all the inputs into account the Committee concurred with the views of management, but emphasised that this issue would remain an important judgement area for some time.
- **Provisions** The Committee challenged the level of provisions established in a number of areas. Total provisions as detailed on page 146 amounted to £52.7m. The level of provisions held in respect of open litigation matters that can go on for many years is an area of judgement. A number of large claims were resolved during the year through mediation and settlement. A provision of £6.9m relating to the MacDermid litigation is referred to in Note 33 on page 146. Provisioning for future potential costs associated with businesses disposed of or closed, or restructured, is a further area where long-term judgements are required such as those arising from the disposal of Precious Metals in 2013. In 2014 this particular issue was less significant whilst the VAT claim detailed in the 2013 report has been largely resolved. As last year, the Committee examined expert advice on the relevant areas of litigation claims, environmental liabilities, warranty limitation periods and indirect taxes together with any other significant provisions in forming its views. The Committee concluded that the overall level of provisions is stated appropriately.

Significant ongoing topics considered were

- **Income tax payable and provisions** Provisioning for income tax remains a complex area where judgements are made, for example, on provisions relating to taxes that might arise from transfer pricing policies. The Committee agreed the basis of the provision of £44.9m for income tax payable and provisions as set out in Note 11.5 on page 118. Though the Group's policy on tax planning is not aggressive, the Committee is aware that all corporate tax affairs are under increased scrutiny. Discussions with internal tax experts were held and the results of recent tax audits considered in forming the Committee's decision to concur with management's view.
- **Working capital provisions** Given that the trading of the Group's steel and foundry industry customers was difficult in some regions and sectors during the year as noted in the divisional reviews, particular attention was paid to the working capital reserves held against receivables and inventories (Notes 19 and 20 respectively) to ensure that appropriate levels in the current trading context have been established. The Committee was assured that the provisioning reflected reasonable estimates.
- **Impairment of intangible assets** The carrying value of goodwill and other intangible assets, being some £561.4m and £142.5m at year-end, respectively, was tested against the recent and planned performance of the cash generating units and the Committee agreed that no impairment charge was required. The detailed assumptions, provided in Note 18, were similar overall to last year with appropriate changes to discount rates and cash flow projections. The changes were evaluated by the Committee in light of Board-agreed medium-term business plans, longer-term projections and expert views on discount rates. The models indicated that there is significant headroom between the in-use value and the carrying value.
- **Pensions** The complexities of the pension accounting and appropriateness of assumptions used (described in Note 29) were considered carefully by the Committee, as small changes in the assumptions would have material effects and bond yields in particular have been volatile. The assumptions made by management for each of the major schemes were compared by KPMG with other similar schemes. The Committee agreed the reasonableness of the assumptions.

In overview, the Committee resolved that the judgements and estimates made on each of the significant issues considered by the Committee were appropriate and acceptable.

### Fair, balanced and understandable reporting

The Committee assessed all information available to it in considering the overall drafting of the Annual report and accounts and the process by which it was compiled and reviewed, to enable it to provide advice to the Board that the Annual report is fair, balanced and understandable. In doing so the Committee ensured that more time was again dedicated to the drafting process so that linkages and consistencies could be worked through and tested. Drafts were reviewed by knowledgeable executives not directly involved in the year-end process and the Committee are satisfied that positive advice could be and was provided to the Board.

### Internal controls

The Committee considered the process by which management evaluated internal controls across the Group. The Head of Internal Audit provided the Committee with a summary overview of the assurance provided by the controls and of the testing of these controls. Additionally, KPMG reviewed controls in the businesses within the scope of their year-end audit and this also indicated good control environments with overall further improvements on last year. Weaknesses were noted however, in the Vesuvius Brazil Steel business where management changes and the introduction of a new ERP system put strain on the routine control processes. New management supported by experienced managers from other operations have focused on stabilising the use of the new system and installed appropriate financial reporting controls. Group Finance management and Internal Audit have visited and carried out extensive testing, including examination of reconciliations. KPMG's year-end audit was substantive and no material exceptions were found. Important lessons have been learnt by management from the Brazilian experience that will be deployed in future system changes.

The Group is made up of several large operating units, but also many small ones in geographically diverse locations. Consequently, segregation of duties, overlapping access controls on systems and remote management oversight can give rise to control vulnerabilities and fraud opportunities. In late March there was an attempted fraud at one operation, but this was thwarted and no loss incurred. In Brazil the weak controls earlier in the year permitted two small frauds perpetrated by past employees, which the reconciliation process revealed. The oversight and strengthening in controls should stop such opportunistic fraud. In 2014, and continuing into 2015, the internal audit coverage has been intensified in light of such risks with more coverage of smaller units. To test compensatory controls, this year at the behest of the Committee and the CFO, the external auditor performed enhanced

procedures on the balance sheet reconciliation processes in the businesses within their audit scope. Thorough reconciliations are an important control safeguard. This review indicated generally sound reconciliation methodology, including appropriate follow-up of the reconciling items.

A review of systems installations was also carried out within the audit to determine how the Group's infrastructure compared with other similar groups. Though the Group has not standardised on a particular ERP system, the infrastructure is not dissimilar to other groups. Over time, management intends to move to more sharing of services, enabled by process and systems standardisation between businesses and this is likely to improve the overall internal controls in the smaller operating units. The Committee found the review a useful update on understanding how much the audit process could rely on systems controls as against more substantive testing.

An examination of the Group's Anti-Bribery and Corruption policies and their implementation locally is being carried out by an expert firm for the Company Secretary and the Board. This phased work aims to refresh the established existing policies and procedures. To date, the Committee has been reassured by the output.

Each year the senior financial, operational and functional management of the businesses self-certify compliance with Group policies and procedures, which provides another safeguard. This was carried out without material exception at the end of 2014.

After considering these various inputs, the Committee was able to provide its assurance to the Board on the effectiveness of internal control within the Group.

The Committee also continued its monitoring and oversight of the procedures for the receipt, retention and treatment of complaints by employees. This is an independent and confidential service worldwide where employees may register any concerns about any incorrect or irregular practices they perceive in their workplace. The very limited number of issues raised in the year were followed up appropriately. The size of the number, however, gave the Committee concern as to whether the process is effective enough. The Company Secretary has undertaken a review to strengthen the communication of the "Speak Up" facility across the Group, which will be fully implemented during 2015.

### Internal audit

The Group's Internal Audit function operates on a global basis through professionally qualified and experienced individual members located in major centres, who report to the Head of Internal Audit based in London. She in turn reports directly to me.

As I mentioned last year, the Head of Internal Audit had just been recruited from a similar role at a UK-based international group. Her experience has been brought to bear on reinvigorating and strengthening the internal audit practices, reporting and follow-up. To support this process the Committee agreed a review of internal audit processes by specialists from PwC. This determined a number of areas for improvement consistent with current good practice in similar groups. The development plan that ensued is in the final stages of implementation and the Committee is content with the progress being made. This is not to imply that previous internal audit work had been weak or inadequate, but the disciplines, effectiveness and efficiency of audits have improved and will continue to improve through 2015. As in previous years, the Internal Audit team carried out assignments in accordance with an annual internal audit plan approved by the Committee. The 2014 plan was based on assessed risks and aimed to cover all operations on a three-year cycle as the minimum. For 2015 the plan includes a wider set of risk considerations, and has enhanced objectives.

In 2014, 63 audit assignments were undertaken covering 32% of the Group's revenue and 31% of the Group's profit before tax. The Committee reviewed progress against the agreed plan and discussed recent reports with the Head of Internal Audit at each of its meetings. PwC was used as outsourced providers to ensure a satisfactory completion (93%) of the agreed audit plan. The outsourcing process was a valuable learning process and more outsourcing in specialist areas or geographies will be used in the future. Where control issues or other problems were flagged by the fieldwork, the Committee ensured appropriate and timely action by the responsible management, involving senior management as necessary, with a follow-up review. As noted above, Brazil was the main cause for concern in the year.

An internal perceptions survey of the quality and effectiveness of internal audit was again undertaken and the team scored highly on their approach. I would expect the high standing with which internal audit is held within the Group will be further enhanced by the current development programme.

### Risk management

As highlighted in the reviews of strategy and principal risks in the Strategic report, risk management is inherent in management's thinking and is embedded in the business planning processes of the Group. In 2014 the Board more clearly took responsibility for risk identification and prioritisation, with the Group Executive Committee also being more actively involved in implementation and mitigation actions. The Audit Committee has continued its monitoring role. This realignment has provided a more robust framework for identifying and dealing with the principal risks and is consistent with the recently announced requirements in the revised UK Corporate Governance Code.

As in previous years, "bottom up" risk registers were constructed and reviewed in each major business. The Head of Internal Audit coordinated the accumulation of these operational risks for consideration by the Group Executive Committee and then by the Board. The Board also input "top down" strategic risks into the process, including the broader economic, environmental and organisational issues facing the Group. In monitoring the overall process, Committee members also fully participated in the Board review of risks and mitigating actions. In particular, the Committee determined that the principal risks and uncertainties as set out on pages 22 and 23 properly reflect the outcome of the process.

### External audit

The Committee and the Board are committed to maintaining the excellence of the external audit process. The effectiveness of the external audit process was again tested by considering the quality of issues and challenges raised by KPMG to the Committee and to management across the Group and by the responsiveness of management to these challenges in generating financial reporting that is of the high standard expected by our shareholders.

Unusually, the Committee commissioned PwC to undertake a review of the whole external audit process. This was carried out in parallel with the internal audit review noted above. The work involved best practice based reviews and interviews with the Committee, Board, Group and key divisional financial management. KPMG participated in this process to the full extent that ethical standards permitted and the Committee welcomed this cooperation. I am pleased to report that the conclusions were positive on the overall effectiveness of the Group's external audit process with few areas for consideration or improvement. This reflects well on management as well as on KPMG.

As in previous years, an internal quality and perceptions review of KPMG was carried out across the Group by the Group Financial Controller and again the results were positive. Given these inputs the Committee deemed the effectiveness of the external audit process to be high and I fully support this view.

The independent auditor's report provided by KPMG on pages 100 to 102 includes KPMG's assessment of the risks of material misstatement in the accounts. The Committee and management concur with their assessment. The items are included in Significant issues and material judgements comments noted above. The report also summarises the scope, coverage and materiality levels applied by KPMG in their audit. As part of the audit planning process and based on a detailed risk assessment, the Committee set a materiality figure of £5.7m for Group financial reporting purposes which

is lower than last year (£7.0m) and in line with similar groups at about 5% of profit before tax. Importantly much lower levels of materiality are used in the audit fieldwork on the individual businesses across the Group and these lower figures drive the scope and depth of audit work. Small operations were subject to statutory audit but were also subject to internal audit reviews based on risk assessments. Any misstatements at or above £0.3m were reported to the Committee.

There were no significant changes to the audit scope during the course of the audit, though given the control weaknesses in Vesuvius Brazil, a more substantive audit than initially planned was carried out there.

The coverage of the audit at 73% of the Group's revenue, 87% of profit before tax and 87% of assets was considered by the Committee. Though slightly higher than last year, the coverage is relatively low. This is as a result of the long tail of smaller businesses within the Group that individually are not "material" to the Group result. As noted above, controls in these businesses are the subject of internal and external audit review, but management is considering other means of extending external audit more extensively into the smaller businesses without disproportionately increasing the overall audit cost. Proposals will be made and considered by the Committee as part of the 2015 audit planning.

The KPMG audit fee was constructed "bottom up", and was considered in light of the audit work required by the agreed materiality level and scope. Following some further negotiation the fee was agreed by the Committee for recommendation to the Board. The Board approved the fee of £1.8m, which is £0.1m higher than in 2013.

Within the external audit process, communications between the Committee and KPMG were extensive. KPMG provided updates to the Committee at the half-year and running up to the year-end, including regular commentaries on significant issues and their assessment of prudence in the judgements and estimates made by management. Private sessions were held with KPMG without management being present, covering reporting and control issues in the context of the resourcing of the relatively new Group Finance team. The strength of the finance teams across the Group was also considered. In these sessions KPMG confirmed that their work had not been constrained in any way and that they were able to exercise their appropriate professional scepticism and challenge throughout the audit process.

### External auditor independence

In the PwC review of our external audit process a specific area of questioning related to the independence and objectivity of KPMG. The scoring of the respondents on this topic was very high and accorded well with good practice.

The Committee takes assurance from this finding. The safeguards to protect the independence and objectivity of the auditor that continued during the year include:

- Regular confirmation that the external auditor is independent of the Company in its own professional judgement
- Evaluating all the relationships between the external auditor and the Group, including those relating to the provision of non-audit services to determine whether these impair, or appear to impair, the auditor's independence

In accordance with established Group policy, the external auditor is prohibited from performing services where it:

- May be required to audit its own work
- Would participate in activities that would normally be undertaken by management
- Is remunerated through a "success fee" structure
- Acts in an advocacy role for the Group

Other than these safeguards, the current policy does not impose an automatic prohibition on the external auditor undertaking non-audit work that is not, or is not perceived to be, in conflict with auditor independence, provided it has the skill, competence and integrity to carry out the work in the best interests of the Group.

As part of its Regulation of Statutory Audit Services, the EU has announced the framework of a more restrictive regime for non-audit services that will come into force in June 2016. The details are subject to some clarification and national optionality, but the restrictions will broadly prohibit external auditors' involvement in tax services, any services that involve playing a part in management decision making, preparing accounting records, designing or implementing internal control/risk management services or financial systems, certain HR services and other legal, investment and share dealing services. There will also be a 70% cap on the fees for non-audit services relative to the audit fee. The implications of an auditor failing the independence test is onerous in that an "audit" carried out by a non-independent auditor would not constitute an audit and there would then be serious consequences for the Company. These prohibitions would not impact our current relationship with KPMG, but are an important consideration in planning the external auditor rotation discussed below. The Committee and management are actively considering the implications, as some of the prohibited services are inherently multi-year activities, for example tax and systems, and are currently carried out by firms that could be invited to tender for the audit. The Group's existing policies will have to become more restrictive to comply with the finalised EU regulations.

An annual fees budget for non-audit services which management is proposing to pay to the external auditor is presented for pre-approval to the Committee as part of the overall budgeting process. Where a specific non-audit fee is likely to be in excess of £50,000, it must be pre-approved by the Committee and where appropriate, services are tendered competitively prior to the awarding of work. The ramifications of the auditor rotation process are also considered.

During 2014, the fees for non-audit services amounted to £0.2m, or 11% of the audit fee, similar to last year. The fees comprised assurance services related to the review of the Company's half-year financial statements and limited taxation advice as detailed on page 113, for which it was concluded that KPMG was best-placed to support the Company. The Committee also monitored fees paid to other large accounting firms as part of the non-audit services fees review so as to determine where there might be any current or future conflicts of interest.

### External auditor reappointment

The Committee is responsible for making recommendations to the Board in relation to the appointment, reappointment and removal of the external auditor. Under the new Order that The Competition and Markets Authority (CMA) published in 2014, putting into action major changes in the UK statutory audit market, from this year, the Committee has more direct responsibilities for overseeing the external auditor relationship including fee negotiation, tendering processes, lead partner selection and non-audit services provision. The Committee will monitor the practical implementation of these requirements and will report on compliance in the next Annual report.

In relation to considering the reappointment of KPMG for 2015, the Committee evaluated various factors, but most importantly the demonstrable quality of the teams delivering the audit, both locally and centrally, and in particular the presence and capabilities of the lead partner. The PwC review of the external audit process has been an important input this year and has underlined the excellence and robustness of the overall KPMG relationship. We also considered the overall quality of the firm's work as reflected in the published reports of the Audit Quality Review Team of the Financial Reporting Council.

The Committee is well aware that KPMG or its predecessor firms have had a long-standing tenure as the auditor of Vesuvius and its predecessors. The services of KPMG were retained during the demerger in 2012 as this was the most efficient means of undertaking the work. The lead audit partner rotated at that time in accordance with the UK Corporate Governance Code. The next partner rotation is due after the 2016 audit.

The Committee is conscious of the CMA Order and EU Regulations regarding audit firm rotation that are now in place, for implementation in 2015 and 2016, respectively. The prevailing EU Regulation will require audit firm rotation after a maximum of ten years, with the possibility of an extension of a further ten years if a competitive tender has taken place at the ten-year point. Importantly, there are transitional arrangements in the EU Regulation which, given the tenure of KPMG, mean that KPMG must rotate off as auditor by the AGM following 17 June 2020 at the latest. Given this limit and the timing of the next lead partner rotation, the Committee and the Board believe that there should be a competitive tender process before the AGM in 2021. The implications for potential invitees to the tendering process in terms of their capabilities and potential conflicts, particularly in the provision of non-audit services, will be carefully considered in the meantime. Such considerations could give rise to changes in the provision of tax and other services ahead of the tender process itself.

Given the performance of KPMG and the likely tendering framework, the Committee has recommended, and the Board has agreed, that, subject to shareholder approval, KPMG will be reappointed as auditor at the 2015 AGM.


Should any shareholder wish to discuss this overall approach and timing with me then I should be happy to do so.

### **The Committee evaluation**

The Committee's activities formed part of the externally facilitated evaluation of Board effectiveness performed during the year. The performance of the Committee was viewed as good by the participants, which included the Board members not on the Committee, Group financial management and the external auditor. The changes arising from the previous year's evaluation have had a positive effect, such as providing more time between Committee and Board meetings and having a clearer demarcation of the risk management process between the Committee and the Board. Further details of the evaluation of the Board and its Committees are given on page 64.

On behalf of the Audit Committee

Jeff Hewitt Chairman, Audit Committee 3 March 2015

A handwritten signature in black ink, reading 'JL Hewitt', with a horizontal line underneath.



## Nomination Committee

During the year the Committee, in line with its primary responsibility, focused on Board succession planning – ensuring that the Board is made up of individuals with the necessary skills, diversity and experience to lead the Company

### Committee members

John McDonough (Committee Chairman)

Nelda Connors

Christer Gardell

Jeff Hewitt

Jane Hinkley

5The Nomination Committee

The Nomination Committee is made up of myself, as Chairman of the Company and any three of the Non-executive Directors. During the year I continued as Chairman of the Committee, though I would not act as Chairman when the Committee is considering the appointment of my successor. In this case, the Chairman would be an appropriate Non-executive Director. The Company Secretary is Secretary to the Committee. Members' biographies are set out on pages 56 and 57.

### Meetings

The Committee met three times during 2014 and I reported the outcome of our meetings to the Board. Formal meetings were held to consider standing items of business. However, particularly as a recruitment exercise was taking place, there was also a significant level of ad hoc discussion between members of the Committee during the year.

### Role and responsibilities

The Nomination Committee's foremost priorities are to ensure that the Company has the best possible leadership and maintains a clear plan for both Executive and Non-executive Director succession. Its prime focus is therefore on the strength of the Board, for which appointments are made on merit, against objective criteria, selecting the best candidate for the post. The Nomination Committee advises the Board on the appointments, retirements and resignations from the Board and its Committees.

The Committee operates under formal terms of reference which were reviewed and updated during the year and approved by the Board. The terms of reference are available on the Group's website [www.vesuvius.com](http://www.vesuvius.com).

The Committee and its members are also empowered to obtain outside legal or other independent professional advice (at the cost of the Company) in relation to its deliberations (which rights were not exercised during the year) and to secure the attendance at its meetings of any employee or other parties it considers necessary.

### Activity in 2014

During the year, the Committee considered the appointment of a new Chairman of the Audit Committee to succeed Jeff Hewitt, who has served on the boards of Cookson Group plc and Vesuvius plc for a combined period of nine years. The requirement for an individual with exemplary financial experience, together with the ability to enhance the collective experience and skills of the Board, formed the focus of deliberations. It was also considered that the appointee would assume the role of Senior Independent Director, if a candidate of sufficient experience and stature was identified.

In addition to identifying a successor for the Audit Committee Chairman, the Nomination Committee also recommended to the Board that its work and deliberations could be further enhanced by the appointment of another, additional, independent Non-executive Director, bringing independent membership of the Board (excluding the Chairman) to four members. The additional Non-executive Director would also ideally bring to the Board global technical services know-how and direct experience of working in China in the industrial sector.

The Committee conducted a tender for services for the consultants to advise on each of the appointments. Given that different skills and experience were required for the two roles, following the tender process the Committee resolved to use different consultants to assist with each appointment. A summary of the formal process utilised for Board appointments is set out later in this Committee report.

Drawing on the skills of these advisers, and following a rigorous process conducted by the Nomination Committee in conjunction with the Board as a whole, Douglas Hurt (as Audit Committee Chairman) and Hock Goh (as an additional independent Non-executive Director), were identified as individuals with the skills and experience desired to support the oversight and strategic development of the Company, and to complement the existing composition of the Board. As the recruitment process developed it was also resolved that Douglas Hurt should succeed Jeff Hewitt as Senior Independent Director.

As I have previously reported in my introductory letter, and as announced by the Company on 3 March 2015, Hock Goh and Douglas Hurt will join the Board on 2 April 2015.

As part of the annual corporate governance review, the Committee examined the independence of the Board and the potential lengths of tenure of each of the independent Non-executive Directors. The Committee was happy to report to the Board that it believes that the Board satisfies the independence criteria set down by the UK Corporate Governance Code.

Notwithstanding the two prospective appointments discussed above, the Committee will continue regularly to examine succession and the Board's balance of skills, experience and diversity. Succession planning formed an integral part of the Board's annual strategy review in 2014 and will continue to do so in 2015, led by the Nomination Committee.

### Board composition

All Directors have served at a very senior level in global organisations, have international experience across a variety of industries, and most have spent a considerable amount of time resident outside the UK. The Nomination Committee continues to believe that diversity underpins the successful operation of an effective Board and will continue with its policy to review the requirements in respect of skills, experience background and gender in respect of the Board's composition.

### Process for Board appointments

When considering Board appointments, the Nomination Committee draws up a specification for the role, taking into consideration the balance of skills, knowledge and experience of its existing members, the diversity of the Board, the independence of continuing Board members and the ongoing

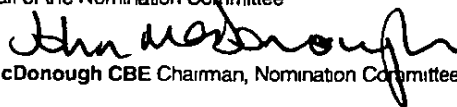
requirements and anticipated strategic developments of the Group. The search process is then able to focus on appointing a candidate with the necessary attributes to enhance the Board's performance.

The Committee utilises the services of search firms to identify appropriate candidates, ensuring that the firm appointed does not have any other connection with the Company. In addition, the Committee will only use those firms that have adopted the Voluntary Code of Conduct addressing gender diversity and best practice in search assignments. A "long list" of potential appointees will then be reviewed followed by the shortlisting of candidates for interview based upon the objective criteria identified at inception. Care is taken to ensure that all proposed appointees have sufficient time available to devote to the role and do not have any conflicts of interest. The Committee then recommends a preferred candidate who will meet all Board members. Finally, detailed external references are taken and following this the Committee makes a formal recommendation to the Board on the appointment. The preferred candidate would also be supported in undertaking their own due diligence on the Company and meeting with its advisers.

### Senior management succession

During the year, as part of the overall Group strategic review, each of the Vesuvius business units and head office functions submitted their succession plans in respect of senior executives to the Board for review. The Board also actively seeks to meet key executives throughout the Group – both through formal Board meetings and informally – in order to gain a greater understanding of the breadth and depth of management talent. During 2014 this process was augmented to include a series of presentations to the Board by business unit and functional heads, and the senior managers that work in their teams, to ensure that the Board was exposed to key senior management. The success of this process will see it continued and expanded in 2015. In this way members of the Board and the Committee are able to adopt a more informed approach to executive succession planning and talent development across the Group.

On behalf of the Nomination Committee



John McDonough CBE Chairman, Nomination Committee 3 March 2015

## Remuneration overview

### Dear shareholder,

On behalf of the Remuneration Committee I am pleased to present the 2014 Directors' remuneration report. Last year our first Remuneration Policy was approved at the AGM. As the Committee is not proposing any changes to this Policy it will not be put to a vote at the forthcoming AGM. However, as an aide memoir for shareholders, we have included our Policy on pages 86 to 93 of this Directors' remuneration report.

The Annual report on remuneration ("ARR") on pages 76 to 85 will be subject to an advisory shareholder vote at the 2015 AGM. The ARR contains details of pay received by Directors in 2014 and of how we intend to apply our approved Policy during 2015. All payments received by Directors in 2014 were in line with our Remuneration Policy. I have set out below the key decisions reached by the Committee during 2014 that are reflected in the ARR.

### Performance in 2014

As described in the Strategic report, and in the financial highlights on page 01, the Company has enjoyed a solid year.

- The annual incentive awards for 2014 were based primarily upon Group headline earnings per share performance. Based on our headline EPS of 33.4 pence, this results in awards of 64.3% of maximum bonus opportunity – giving bonuses of 80.4% and 64.3% of base salary for the Chief Executive and Chief Financial Officer ("CFO") respectively.
- Share awards made in 2012 – the final grant of the legacy Cookson LTIP – matured at the end of 2014. Under this plan, performance is measured equally in TSR relative to the FTSE 250 (excluding Investment Trusts) and Headline EPS over a three-year period. Relative TSR performance was between median and upper quintile resulting in a performance share award of 26.9% of salary (out of a maximum 50%) and matching share awards vesting at a ratio of 0.586:1. However, the EPS target for the three-year period was not met and therefore none of the elements related to EPS performance vested. In confirming the vesting of the relative TSR element of the award, the Committee reviewed the underlying performance of the Company to satisfy itself that the numerical outcome was justified. Awards will vest in April 2015.

### Key decisions for 2015

Key decisions made by the Committee in relation to 2015 included:

- As highlighted in last year's Directors' remuneration report, we have adopted a longer-term horizon (of two to three years) for base salary increases for Executive Directors and senior executives. The Chief Executive's and CFO's salaries were both reviewed during 2014 in line with this philosophy. The Chief Executive's salary was not increased for 2015 and the CFO's salary was increased by 5% from 1 January 2015. This is the first increase in his salary since he joined Vesuvius in 2012 and reflects the considerable energy and dedication he has brought to the role and his development since the time of his appointment.
- The Committee reviewed the existing clawback arrangements set out in our shareholder-approved Policy. In light of revisions to the UK Corporate Governance Code, we have further strengthened our application of this Policy in 2015 as set out on page 80 of the ARR.
- In order to provide enhanced long-term alignment with shareholders, the Committee increased the required shareholding to be built up and held by the Chief Executive from 100% to 200% of base salary.
- The Committee has resolved to use the same performance measures utilised in 2014 for Executive Directors' incentive awards in 2015. These measures reward growth (through the EPS measure used in the annual incentive and the Vesuvius Share Plan), effective balance sheet management (through the working capital adjuster used in the annual incentive) and delivery of shareholder value (through the TSR measure used in the Vesuvius Share Plan). The Committee believes that this combination provides appropriate alignment with Vesuvius' current strategic priorities.

Additionally, during the year the Committee decided that it would be appropriate to review the appointment of the Committee's external adviser. A tender was undertaken with invitations to pitch sent to four remuneration consultants. As a result of this process Deloitte was appointed as the new external adviser to the Committee in December 2014. We look forward to working with them more fully in 2015.

The Committee is satisfied that the current Remuneration Policy is designed for the long-term benefit of the Company, and that the performance-related elements of remuneration are transparent, stretching and rigorously applied. The terms of reference of the Committee were reviewed and amended during the year to ensure that they continue to maintain a focus on these issues.

The Committee encourages dialogue with its major shareholders. We will consult with shareholders regarding any significant future changes to the Remuneration Policy. In the meantime, I remain keen to hear shareholders' views on remuneration matters and look forward to a continued dialogue with and, continued support from, shareholders for our Directors' remuneration report resolution at the AGM.

Yours sincerely



Jane Hinkley  
Chairman, Remuneration Committee  
3 March 2015

# Annual Directors' remuneration report

## Remuneration Committee structure and remit

### Composition of the Remuneration Committee

The current members of the Remuneration Committee (the "Committee") are all the independent Non-executive Directors of the Company: Jane Hinkley (who also serves as the Committee Chairman), Nelda Connors and Jeff Hewitt all of whom served on the Committee throughout 2014 and in 2015 to date. The Committee complies with the obligations of the UK Corporate Governance Code for the composition of Remuneration Committees. Each of the members brings a broad experience of international businesses and an understanding of their challenges to the work of the Committee. Jeff Hewitt brings his significant experience of Vesuvius to the Committee, and both Jane and Nelda add extensive international business experience to the Committee's deliberations. The Company Secretary is Secretary to the Committee. Members' biographies are on pages 56 and 57. As set out in the Chairman's Statement, and the Governance Report, Jeff Hewitt will step down from the Board and leave the Committee at the forthcoming AGM. Hock Goh and Douglas Hurt will join the Company on 2 April 2015 and will serve on the Committee with effect from that date. The Committee will therefore continue to comply with the Corporate Governance Code requirements on its composition.

### Meetings

The Committee met four times during the year with full attendance, other than in respect of two meetings where Nelda Connors was prevented from attending – the first due to personal reasons and the second due to adverse weather conditions preventing her travel. The Group Chairman, Chief Executive, and Vice President Human Resources were invited to each meeting, together with Christer Gardell, our non-independent Non-executive Director, though none of them participated in discussions regarding their own remuneration. In addition the Chief Financial Officer attended where the agenda of the Committee required it. This attendance supports the work of the Committee, giving critical insight into the operational demands of the business and their application to the overall strategy of remuneration within the Group. In receiving views on remuneration matters from the Executive Directors and senior management, the Committee recognised the potential for conflicts of interest to arise and considered the advice accordingly. The Chairman of the Committee reported the outcomes of all meetings to the Board.

The Committee operates under formal terms of reference which were reviewed and updated during the year and approved by the Board. The terms of reference are available on the Group website [www.vesuvius.com](http://www.vesuvius.com). The Committee members are also empowered to obtain outside legal advice (at the cost of the Company) in relation to their deliberations (powers which were not exercised during the year) and to secure the attendance at its meetings of any employee or other parties should it be considered necessary.

### Role and responsibilities

The Committee is responsible for:

- Setting the appropriate remuneration for the Chairman, the Executive Directors and the Company Secretary
- Recommending and monitoring the level and structure of remuneration for senior management, being the first layer of management below Board level and their direct reports
- Overseeing the operation of any executive share incentive plan

### Advice provided to the Remuneration Committee

The external advisers Towers Watson ("Towers") were appointed by the Committee in 2013 to provide remuneration advice following the Company's demerger from Cookson Group plc. Towers was appointed directly by the Remuneration Committee to provide advice on executive remuneration matters, including remuneration structure and policy, updates on market practices and trends, and guidance on the implementation and operation of long-term incentive plans. Towers also provided the Remuneration Committee with ongoing calculations of Total Shareholder Return to enable the Committee to be updated on the performance of long-term share incentive plans.

During the year, the Committee decided that it would be appropriate to review the appointment of the Committee's external adviser. A tender process was therefore undertaken, with invitations to pitch sent to four remuneration consultants. As a result of this process Deloitte was appointed as the new external adviser to the Committee in December 2014.

Both Deloitte and Towers are signatories to the Remuneration Consultants Group Code of Conduct in relation to Executive Remuneration Consulting in the UK.

The Committee is also advised by the Chief Executive, the Vice President Human Resources, the Company Secretary, and by the law firm Clifford Chance LLP ("Clifford Chance"). Clifford Chance was appointed at the time of the demerger by the Company Secretary to advise on the share-based incentives. Clifford Chance provides advice to the Group on the operation of its executive share plans. In addition to work undertaken for the Committee, Deloitte provide other tax and accounting services to the Group, Towers provide other remuneration and benchmarking advice to the Company, and Clifford Chance provide legal advice to the Company. During 2014 Deloitte's fees for advice to the Remuneration Committee, charged on a time spent basis amounted to £21k. Towers' fees, amounted to £94k. The Committee has considered and concluded that it is satisfied that the advice provided to it on executive remuneration matters is objective and independent and that no conflict of interest arises as a result of other services provided to the Company.

### Activities of the Remuneration Committee

The Remuneration Committee met four times in 2014. The key matters it considered included:

- The salary review proposals for the Executive Directors and senior management
- Reviewing achievement against performance targets, and approving payouts, in respect of 2013 annual cash bonus incentive arrangements
- Setting performance targets and approving the structure of the 2014 annual cash bonus incentive arrangements
- Considering the Company's performance against the performance conditions applicable to the 2011 Cookson Long Term Incentive Plan, and authorising the vesting of these awards where relevant
- Setting the performance conditions and authorising the grant of awards under the Vesuvius Share Plan and Medium Term Incentive Plan
- In the light of advice received from the external advisers regarding trends in remuneration practice and governance, and any feedback from institutional shareholders, discussing the Company's overall approach to executive remuneration and reviewing whether any changes should be made
- Reviewing the Executive Directors' shareholding policy
- Reviewing the Remuneration Committee's terms of reference, and recommending any amendments to the Board for approval
- Reviewing and approving the 2013 Directors' remuneration report

## Regulatory compliance

The Remuneration Policy set out on pages 86 to 93 of this report has been prepared in accordance with the Companies Act 2006 and The Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013. It also meets the requirements of the UK Listing Authorities Listing Rules and the Disclosure and Transparency Rules. This Annual report on remuneration sets out how the provisions of the September 2012 UK Corporate Governance Code are applied by the Company in relation to matters of remuneration. We are happy to confirm that the Company has complied with these governance rules for the year under review.

## Share usage

Under the rules of the Cookson Long Term Incentive Plan and Vesuvius Share Plan, the Company has the discretion to satisfy awards either by the transfer of Treasury shares or other existing shares, or by the allotment of newly issued shares. Awards made to senior managers by the Company over shares pursuant to the Medium Term Incentive Plan must be satisfied out of shares held for this purpose by the Company's employee share ownership trust ("ESOP"). The decision on how to satisfy awards is taken by the Remuneration Committee which considers the most prudent and appropriate sourcing arrangement for the Company.

At 31 December 2014 the Company held 7,271,174 ordinary shares in Treasury and 731,698 Vesuvius shares were held in the ESOP. The Trustee of the ESOP can be gifted Treasury shares by the Company, can purchase shares in the open market or can subscribe for newly issued shares as required, to meet obligations for the provision of shares to satisfy options and awards that vest.

The Vesuvius Share Plan complies with the current IA guidelines on headroom which provide that overall dilution under all plans should not exceed 10% over a ten-year period in relation to the Company's issued share capital, with a further limitation of 5% in any ten-year period on discretionary schemes. No Treasury shares have been transferred or newly issued shares allotted under the Plan.

The following section provides details of how the Company's remuneration policy was implemented during the financial year 2014 and how it will be implemented in the financial year 2015.

### Directors' remuneration – audited

The table below sets out the total remuneration received by Executive Directors in the financial year under review.

	François Wanecq		Chris O'Shea	
	2014 (£000)	2013 (£000)	2014 (£000)	2013 (£000)
Total salary <sup>1</sup>	550	550	340	340
Taxable benefits <sup>2</sup>	42	388	17	16
Pension <sup>3</sup>	165	165	102	102
Total fixed pay <sup>4</sup>	757	1,103	459	458
Annual bonus <sup>5</sup>	442	687	219	340
Long-term incentives	267	657	241	258
Total variable pay <sup>10</sup>	709	1,344	460	598
Other remuneration	–	–	–	–
Total <sup>11</sup>	1,466	2,447	919	1,056
<b>Total 2014 Executive Director remuneration</b>	<b>2,385</b>			

The table below sets out the fees received by Non-executive Directors in the financial year under review.

	2014			2013		
	Total fees (£000) <sup>1</sup>	Taxable benefits (£000) <sup>2</sup>	Total (£000)	Total fees (£000) <sup>1</sup>	Taxable benefits (£000) <sup>2</sup>	Total (£000)
John McDonough CBE	185	–	185	185	–	185
Nelda Connors	45	–	45	37	–	37
Christer Gardell	45	–	45	45	–	45
Jeff Hewitt	65	–	65	63	–	63
Jane Hinkley	60	–	60	54	–	54
Jan Oosterveld <sup>12</sup>	–	–	–	19	–	19
John Sussens <sup>13</sup>	–	–	–	28	–	28
<b>Total 2014 Non-executive Director remuneration</b>			<b>400</b>			
<b>Total 2014 Director remuneration</b>			<b>2,785</b>			

### NOTES

- 1 Base salary (or fees as appropriate) earned during the financial year ended 31 December 2014.
- 2 Benefits comprise car allowance, private medical care, expatriate tax advice and a de-minimis amount for Directors' spouses travel (2013 benefits included a one-off relocation allowance for François Wanecq of £361,871).
- 3 Executive Directors receive a pension allowance of 30% of base salary.
- 4 The sum of basic salary, benefits and pension.
- 5 The annual incentive cash bonus payments to be made to the Executive Directors for their performance in the year under review. See page 79 for more details.
- 6 This represents the Performance and Matching Share awards granted to François Wanecq in 2012 under the Cookson Group LTIP, that are due to vest in 2015. See Note 2 of the Cookson LTIP Allocations table on page 82. At an average Vesuvius mid-market closing share price (from 1 October 2014–31 December 2014) of 422.6p, the total value of the awards that are due to vest, along with the cash payment for the dividend that has accrued on these shares was £266,961.
- 7 This figure has been updated to represent the actual value on the date of vesting of the Performance and Matching Share awards, that François Wanecq received under the Cookson Group LTIP in 2011. See Note 1 of the Cookson LTIP Allocations table on page 82.
- 8 See Note 1 of the Restricted Share award table on page 83 for more details.
- 9 54,402 Restricted Shares vested to Chris O'Shea on 11 October 2013. An additional 1,685 shares were transferred to him in respect of the dividend accrual. The mid-market closing price of the Company's shares on the date of vesting was £4.601 and the total value of the shares that he received on the date of vesting was therefore £258,056. See the section entitled Restricted Share award on page 83 for more details.
- 10 The sum of annual bonus and the value of long-term incentives where the performance period ended during the financial year.
- 11 The sum of basic salary, benefits, pension, annual bonus and long term incentives where the performance period ended during the financial year.
- 12 Mr Oosterveld retired from the Board immediately following the Company's 2013 AGM on 4 June 2013.
- 13 Mr Sussens retired from the Board immediately following the Company's 2013 AGM on 4 June 2013.

## Payments to past Directors – audited

There were no payments made to a past Director of the Company during the year ended 31 December 2014

## Loss of office payments – audited

There were no payments made to any Director for loss of office during the year ended 31 December 2014

## Base salary and fees

In the year under review, the Chief Executive received a base salary of £550,000 per annum, and the Chief Financial Officer received a base salary of £340,000 per annum. Non-executive Directors' fees were set at £45,000 per annum. Supplementary fees of £15,000 per annum were payable to the Chairmen of the Audit and Remuneration Committees. A supplementary fee of £5,000 per annum was also payable to the Senior Independent Director. The Chairman was paid a fee of £185,000 per annum. Neither the Chairman, nor the other Non-executive Directors are members of the Group's pension plans, nor do they participate in the Group's incentive schemes.

There were no increases to the Directors' base salary and fees in 2014. In 2015 it is proposed that the base salary of the Chief Financial Officer is increased by 5% to £357,000, which is in line with the cumulative average base salary rises of the UK salaried workforce of 6.9% over the same period. This increase is the first received by the CFO since joining Vesuvius in 2012 and was determined by the Committee in a manner consistent with our policy of appraising changes to base salary over a two to three-year period.

## Pension arrangements – audited

In accordance with their service agreements, the Chief Executive and Chief Financial Officer are entitled to pension allowances of 30% of base salary, which they can use to participate in Vesuvius' pension arrangements, invest in their own pension arrangements or take as a cash supplement (or any combination of the aforementioned options).

Director Pension allowance

	2014 (£000)	2013 (£000)
François Wanecq	165	165
Chns O'Shea	102	102

## Annual Bonus

The Executive Directors are eligible to receive an annual incentive calculated as a percentage of base salary and based on achievement against specified targets. There is no deferral of annual bonuses for Executive Directors. Each year the Remuneration Committee establishes the financial performance criteria for the forthcoming year. These criteria are set by reference to the Company's financial budget and prior year actual financial results. The target range is set to ensure that maximum bonuses are only paid for significantly exceeding performance expectations. The Remuneration Committee considers that the setting and attainment of these targets is important in the context of achievement of the Company's longer-term strategic goals.

The annual incentive has a threshold level of performance below which no award is paid, a target level and a maximum performance level at which a maximum award is earned. François Wanecq's maximum annual incentive potential is 125% of base salary and his target annual incentive potential is 62.5% of base salary. Chns O'Shea's maximum annual incentive potential is 100% of base salary and his target annual incentive proposal is 50% of base salary.

For the financial year 2014, François Wanecq and Chns O'Shea's annual incentives were based on Vesuvius' Group headline earnings per share, with an adjustment based on Vesuvius' working capital performance to focus greater attention on cash flow. As set out in the Remuneration Policy, the effect of this is to reduce the level of payout that could be achieved by up to 10% if specified working capital targets are not attained. This "kicker" can also increase the level of payout by up to 10%, but not above the stated plan maximum. For 2014 the Vesuvius Group headline earnings per share performance targets were set at the December 2013 full year average foreign exchange rates (being the rates used for the 2014 budget process).

Threshold 33.5 pence      On target 35.3 pence      Maximum 38.1 pence

In order to achieve the **working capital target**, the Group's working capital as a percentage of sales had to be between 23.1% to 24.1% of sales.

In order for the Committee to assess the Group's performance against these targets, the 2014 full year EPS performance was retranslated at the original budget (December 2013 full year average) foreign exchange rates, consistent with practice in previous years.

Consequently, in 2014 Vesuvius' retranslated EPS performance was 36.5 pence, and working capital was 24.9% meaning that François Wanecq and Chns O'Shea's annual incentives paid out at 80.4% and 64.3% of base salary respectively (reflecting a 10% reduction to the payouts arising from the EPS performance as a result of the working capital adjustment). François Wanecq and Chns O'Shea were therefore entitled to receive payouts under the 2014 Annual Incentive as follows:

Name	Measure	Weighting <sup>1</sup>	Outturn (retranslated)	Achieved (% of salary)	Incentive to be paid
François Wanecq	Group headline earnings per share	100%	36.5p	80.4	£441,964
Chns O'Shea	Group headline earnings per share	100%	36.5p	64.3	£218,571

### NOTE

<sup>1</sup> The 2014 awards were also subject to the working capital "kicker", this had the effect of reducing the awards by 10%.

The Remuneration Committee has determined that for 2015 François Wanecq and Chns O'Shea's annual incentives will again be based on Group headline earnings per share, with a similar adjustment based on the Group's working capital performance. François Wanecq's and Chns O'Shea's maximum annual incentive bonus potential for 2015 remain unchanged at 125% and 100% respectively. The Company will not be disclosing the targets set until after the relevant performance period because of commercial sensitivities.

## Malus/Clawback arrangements in 2015

Vesuvius has operated clawback arrangements in respect of Executive Directors' variable remuneration since 2012. The existing structure of those arrangements is outlined in our Remuneration Policy.

As highlighted in the statement of the Committee Chairman at the start of this Directors' remuneration report, the Committee has reviewed these arrangements in light of the revised Corporate Governance Code and evolving market practice. Following that review, the Committee has decided to strengthen the implementation of the existing Policy from 2015 as follows:

- Malus provisions will be added to the existing clawback provisions. This will provide the Committee with the flexibility, if required, to withhold or recover payments made to Executive Directors under the Annual Incentive Plan and/or to withhold or recover share awards granted to Executive Directors under the Vesuvius Share Plan.
- Circumstances in which the Committee could potentially elect to apply malus and clawback provisions will be extended. Going forward, potential events which could trigger the application of these provisions will encompass a misstatement in the Company's financial statements which requires restatement of a prior year's accounts, an error in the calculation of the extent of payment or vesting of an incentive, gross misconduct by an individual, or significant financial loss or serious reputational damage to Vesuvius plc resulting from an individual's conduct, a material failure of risk management or a serious breach of health and safety.
- Our existing arrangements permit the application of clawback provisions for a period of up to three years after the end of a performance period. The Committee is satisfied that this time period is sufficient and is making no changes in this regard.

## Outstanding longer-term pay – audited

### Vesuvius Performance Share awards

Performance Share awards are allocated to the Executive Directors under the Vesuvius Share Plan. They are eligible to receive, on an annual basis, a performance share award with a face value of up to 200% of base salary. Vesting of 50% of shares awarded is based upon the Company's three-year TSR performance relative to that of the constituent companies of the FTSE 250 excluding Investment Trusts, and 50% on headline EPS growth, as compared with the compound annual growth in global GDP over a three-year period. The specific level of compound headline EPS growth specified in the targets is set by the Remuneration Committee each year, taking into account the Group's prospects and the broader global economic environment. The two measures operate independently. The use of these performance measures is intended to align executive remuneration with shareholders' interests.

The performance scale for the 2013 Vesuvius Share Plan awards was set to be stretching. The nominal figures for the headline EPS part of the award were selected in the light of a relatively low base period result. For awards in 2014 the Committee reinforced the message that targets for full vesting should remain truly stretching, rewarding significant out-performance. However, they also recognised that the vesting threshold for the first Vesuvius Performance Share awards in 2013 was not necessarily appropriate for subsequent awards once the baseline of performance had been set. They therefore resolved that the vesting threshold for the 2014 awards should be set at a lower level of performance than was applicable for the 2013 awards. Thus the vesting threshold for EPS growth above global GDP for the 2014 awards is at 3% above global GDP growth rather than the 7% threshold used for awards made in 2013. In order for maximum payouts to be achieved the same stretching target of EPS growth of 15% above global GDP has been maintained. The 2015 awards will be made on the same basis.

## Targets for the 2013 Performance Share awards

### Vesuvius Share Plan – performance targets

TSR ranking relative to FTSE 250 excluding Investment Trusts		Annual compound Headline EPS growth above global GDP	
	Vesting percentage		Vesting percentage
Below median	0%	Below 7%	0%
Median	12.50%	7%	12.50%
Upper quintile	50%	At or above 15%	50%
Between median and upper quintile	Pro rata between 12.5% and 50%	Between 7% and 15%	Pro rata between 12.5% and 50%

## Targets for the 2014 Performance Share awards

### Vesuvius Share Plan – performance targets

TSR ranking relative to FTSE 250 excluding Investment Trusts		Annual compound Headline EPS growth above global GDP	
	Vesting percentage		Vesting percentage
Below median	0%	Below 3%	0%
Median	12.50%	3%	12.50%
Upper quintile	50%	At or above 15%	50%
Between median and upper quintile	Pro rata between 12.5% and 50%	Between 3% and 15%	Pro rata between 12.5% and 50%

## 2015 Performance Share awards

The Remuneration Committee has determined that François Wanecq and Chris O'Shea will receive Performance Share awards in 2015 equivalent in value to 200% of their respective base salaries. The performance targets applicable to these awards are as follows:

### Vesuvius Share Plan – performance targets

TSR ranking relative to FTSE 250 excluding Investment Trusts		Annual compound headline EPS growth above global GDP	
	Vesting percentage		Vesting percentage
Below median	0%	Below 3%	0%
Median	12.50%	3%	12.50%
Upper quintile	50%	At or above 15%	50%
Between median and upper quintile	Pro rata between 12.5% and 50%	Between 3% and 15%	Pro rata between 12.5% and 50%

## Vesuvius Performance Share award allocations

The following Performance Share awards were allocated in 2013 and 2014 under the Vesuvius Share Plan

Grant and type of award	Total share allocations as at 31 Dec 2013	Additional shares allocated during the year	Shares vested during the year	Total share allocation 31 Dec 2014	Performance period	Earliest vesting date
<b>François Wanecq</b>						
<b>22 April 2013<sup>1</sup></b>						
Performance shares	341,509	–	–	341,509	1 Jan 13 – 31 Dec 15	22 Apr 2016
<b>17 March 2014<sup>2</sup></b>						
Performance shares	–	253,748	–	253,748	1 Jan 14 – 31 Dec 16	17 Mar 2017
<b>Total</b>	<b>341,509</b>	<b>253,748</b>		<b>595,257</b>		
<b>Chris O'Shea</b>						
<b>22 April 2013<sup>1</sup></b>						
Performance shares	211,115	–	–	211,115	1 Jan 13 – 31 Dec 15	22 Apr 2016
<b>17 March 2014<sup>2</sup></b>						
Performance shares	–	156,862	–	156,862	1 Jan 14 – 31 Dec 16	17 Mar 2017
<b>Total</b>	<b>211,115</b>	<b>156,862</b>	–	<b>367,977</b>		

### NOTES

- 1 In 2013 François Wanecq and Chris O'Shea received potential maximum allocations of Performance Shares worth two times their base salaries, being 341,509 shares and 211,115 shares respectively
- 2 In 2014 François Wanecq and Chris O'Shea received potential maximum allocations of Performance Shares worth two times their base salaries, being 253,748 shares and 156,862 shares respectively. These allocations were made on 17 March 2014 and were calculated based upon the average closing mid-market price of Vesuvius' shares on the five dealing days before the awards were made, being 433.5 pence. The total value of Chris O'Shea's award on the date of grant was therefore £679,997 and François Wanecq's £1,099,998. 12.5% of this award would vest if the threshold level of one of the two performance targets is met.
- 3 These awards have been made in the form of nil cost options with no exercise price
- 4 The Remuneration Committee also has the discretion to award cash or shares equivalent in value to the dividend that would have accrued during the vesting period on any awards that vest
- 5 The mid-market closing price of Vesuvius' shares ranged between 400p and 497.6p during 2014 and on 31 December 2014 was 446.2p

## Cookson LTIP allocations

Following the demerger of Cookson Group plc, François Wanecq retained an entitlement to allocations of Performance and Matching Shares made under the Cookson Long Term Incentive Plan. His entitlement to shares in Cookson Group plc was rolled over into Vesuvius plc shares. The vesting of these awards is based 50% upon relative TSR performance and 50% on headline EPS performance. Performance is measured by reference to Cookson performance up to the demerger effective date (19 December 2012) and Vesuvius' performance thereafter.

The performance period applicable to the awards made in 2012 ended on 31 December 2014. Cookson and Vesuvius' TSR performance during this three-year performance period was assessed against the comparator group and it was determined that the Company's performance was between median and upper quintile, a level which results in the vesting of 26.9% out of a maximum of 50% of Performance Share awards and Matching Share awards vesting at a ratio of 0.586:1. Following the demerger, the threshold 2014 EPS target, as previously reported, was set at 50.4p. Headline EPS for the year ended 31 December 2014 was 33.4p. As a result no Performance or Matching Share awards will vest under the EPS performance element. Prior to the vesting of any award, the Committee stipulates that, as an additional hurdle, it needs to be satisfied that vesting has been justified by the underlying financial performance of the Group over the performance period. Having carefully considered the Group's performance over the three-year period, and taking into account the significant improvement in the Group's financial results – including the Group's revenue, trading profit, return on sales margins, and profit before tax – the Committee concluded that the vesting of the 2012 LTIP awards is justified by the underlying financial performance of the Group. In addition the Remuneration Committee has determined that participants in the 2012 Cookson Long Term Incentive Plan should receive the dividends that would have been paid on the number of shares that vest in respect of dividend record dates occurring during the period between the award date and the date of vesting.

## 2011 and 2012 LTIP Awards (as adjusted for the demerger from awards over shares in Cookson Group plc into awards over shares in Vesuvius plc)

Grant and Type of award	Total share allocations as at 31 Dec 2013	Additional shares allocated during the year	Shares vested during the year	Shares lapsed during the year	Total share allocation 31 Dec 2014	Market price of the shares on the day before award (as adjusted for the demerger (p))	Performance period	Earliest vesting date
<b>François Wanecq</b>								
<b>1 April 2011<sup>1</sup></b>								
Performance shares	148,260	5,214	47,319	106,155	–	365.80	1 Jan 11 – 31 Dec 13	1 Apr 2014
Matching shares	332,437	11,691	103,443	240,685	–	365.80	1 Jan 11 – 31 Dec 13	1 Apr 2014
<b>5 April 2012<sup>2</sup></b>								
Performance shares	150,075	–	–	–	150,075	365.80	1 Jan 12 – 31 Dec 14	5 Apr 2015
Matching shares	61,212	–	–	–	61,212	365.80	1 Jan 12 –	5 Apr 2015



<b>Total</b>	<b>691,984</b>	<b>16,905</b>	<b>150,762</b>	<b>346,840</b>	<b>211,287</b>
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**NOTES**

- 1 The performance period for the LTIP awards made in 2011 ended on 31 December 2013. The TSR performance was based upon Cookson's TSR from 1 January 2011 to 18 December 2012 to which was added the Vesuvius TSR from 19 December 2012 to 31 December 2013 for a combined figure, being 84.3% (between median and upper quintile), which allowed vesting of 28.4% of the Performance Share Award and 0.62:1 for the Matching Share Award. Following the demerger, the 2013 EPS target, as previously reported, was set at 48.6p at threshold. Headline EPS for the year ended 31 December 2013 was 31.9p. Hence there was no vesting of either the Performance Share Award or the Matching Share Award for EPS performance. A further award of shares was made to François Wanecq on the vesting of his award to cover the dividends accrued between the date of grant and the date of vesting in accordance with the rules of the Plan: 42,105 Performance Shares and 91,752 Matching Shares vested to François Wanecq on 1 April 2014 and an additional 16,905 shares were transferred to him in respect of the dividend accrual. The mid-market closing price of the Company's shares on the date of vesting was £4.355 and the total value of the 150,762 shares that François Wanecq received on the date of vesting was therefore £656,569.
- 2 The performance period for the LTIP awards made in 2012 ended on 31 December 2014. In accordance with the Company's achievement of the specified performance conditions, 26.9% of François Wanecq's Performance Share awards are expected to vest on 7 April 2015, and his Matching Shares will vest at a ratio of 0.586:1. In addition the Remuneration Committee has determined that Mr Wanecq will receive a cash payment of £29,000 which is equivalent to the value of the dividends that would have been paid on the number of shares that vest in respect of dividend record dates occurring during the period between the award date and the date of vesting.
- 3 The mid-market closing price of Vesuvius' shares ranged between 400p and 497.6p during 2014 and on 31 December 2014 was 446.2p.

**Restricted Share award**

On joining the Company Chns O'Shea received a Restricted Share award with a face value of 100% of base salary. Half of the award vested on the first anniversary of his date of joining and the remainder a year later. Vesting of the shares was subject to him remaining employed by the Company and not under notice of termination. No other performance conditions applied to this award. Details of the portion of the Restricted share award that remained outstanding as at 31 December 2013, (as adjusted for the demerger from awards over Cookson Group plc shares into awards over shares in Vesuvius plc) are given in the table below.

Date of award	Total share allocations as at 31 Dec 2013	Additional shares allocated during the year	Shares vested during the year <sup>1</sup>	Total share allocations as at 31 Dec 2014	Market price of the shares on the day before award (as adjusted for the demerger (p))	Earliest vesting date
<b>5 November 2012</b>						
Restricted Share award	54,403	3,914	58,317	—	312.48	11 Oct 2014

**NOTES**

- 1 54,403 shares vested to Chns O'Shea on 20 October 2014. An additional 3,914 shares were transferred to him in respect of the dividend accrual. The mid-market closing price of the Company's shares on the date of vesting was £4.125 and the total value of the shares that he received on the date of vesting was therefore £240,558.
- 2 The mid-market closing price of Vesuvius' shares ranged between 400p and 497.6p during 2014 and on 31 December 2014 was 446.2p.

**Statement of Directors' shareholdings**

The interests of Directors and their connected persons in ordinary shares as at 31 December 2014, including any interests in share options and shares provisionally awarded under the Vesuvius Share Plan and the previous Cookson LTIP Award are presented below.

	Beneficial holding	Outstanding incentive awards subject to performance conditions
<b>Executive Directors</b>		
François Wanecq	1,290,147	806,544
Chns O'Shea	91,443	367,977
<b>Non-executive Directors</b>		
John McDonough CBE (Chairman)	100,000	—
Nelda Connors	693	—
Chnster Gardell <sup>4</sup>	—	—
Jeff Hewitt	15,284	—
Jane Hinkley	12,000	—

**NOTES**

- 1 There were no changes in the interests of the Directors in the ordinary shares of the Company in the period from 1 January 2015 to 3 March 2015.
- 2 Further details of the Directors' outstanding incentive awards can be found on pages 81 and 82 of this Directors' remuneration report.
- 3 Full details of Directors' shareholdings, share allocations and share options are given in the Company's Register of Directors' Interests, which is open to inspection at the Company's registered office during business hours.
- 4 Chnster Gardell is Managing Partner of, and has a financial interest in, Cevian Capital which held 21.11% of Vesuvius' issued share capital as at the date of this report.
- 5 None of the other Directors, nor their spouses nor their minor children, held non-beneficial interests in the ordinary shares of the Company during the year.

**Executive Directors' shareholdings**

As at 31 December 2014, using the Company's share price at 31 December 2014 of 446.2p, the Executive Directors' shareholdings against their current guidelines were as follows:

Director	Actual share ownership as a percentage of salary at 31 December 2014	Policy share ownership as a percentage of salary	Policy met?
François Wanecq	1,047%	200% <sup>1</sup>	Yes
Chns O'Shea	120%	100%	Yes

**NOTE**

- 1 The Committee increased the required shareholding to be built up and held by the Chief Executive from 100% to 200% of salary during the year.

## Annual changes in Chief Executive pay vs employee pay

The table below shows the percentage change in the remuneration of the Chief Executive – comprising salary, taxable benefits and annual bonus – and comparable data of UK salaried employees. The UK salaried employee workforce was chosen as a fair representation of a suitable comparator group as François Wanecq, the Chief Executive, is based in the UK (albeit with a global role and responsibilities) and levels of pay vary widely across the Group depending on geography and local market conditions.

	Chief Executive			UK salaried employee workforce (average per capita)
	2014 (£000)	2013 (£000)	% change	% change
Salary	550	550	0%	3.3%
Taxable benefits	42	271	56%	5.4%
Annual bonus	442	687	(36%)	(51%)

### NOTE

1 The figure used for comparison excludes the sum of £361,871 relating to one-off relocation expenses paid during 2013 for François Wanecq.

## Annual spend on employee pay vs. other distribution

The charts below show the annual spend on all employees (including Executive Directors) compared to distributions made to shareholders for 2013 and 2014.

	Expenditure (£m) 2014	Expenditure (£m) 2013	Difference in expenditure
Spend on pay elements			
Group remuneration of continuing operations (see Note 8.1)	358.0	386.6	(7.4%)
Dividends (based on final proposed dividend)	43.6	40.7	7.1%
Share buyback	–	30.0	(100%)

## Chief Executive pay and TSR performance graph

The chart below shows Vesuvius' TSR performance since the demerger which was effective on 19 December 2012. Consequently, the illustrative chart below shows the relevant period from 19 December 2012 to 31 December 2014.

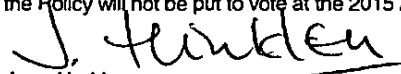
### Performance graph and table

The following graph compares Vesuvius' TSR performance to that of the same investment in the FTSE 250 Index (excluding Investment Trusts). This index has been chosen as the comparator index to reflect the size, international scope and diversity of the Company. TSR is the measure of the returns that a company has provided for its shareholders, reflecting share price movements and assuming reinvestment of dividends. A spot rate has been used for this chart.

Chief Executive pay – financial year ending	31 December 2014	31 December 2013	31 December 2012
Total remuneration (single figure, (£000))	£1,466	£2,447	£1,227
Annual variable pay (% of maximum)	64%	100%	0%
Long-term variable pay (% of maximum)	27%	28%	67%

## Statement on shareholder voting

At the last AGM which was held on 15 May 2014, two resolutions regarding remuneration were put to shareholders. The first resolution put to shareholders was to approve the Directors' Remuneration Policy. It received 215,577,683 votes (98%) in favour and 4,684,029 votes (2%) against. 213,747 votes were withheld. The second resolution, an advisory vote on the Directors' remuneration report for 2013, received 218,852,126 votes (99%) in favour and 1,427,883 votes against (less than 1%). 195,450 votes were withheld. At the AGM to be held on 14 May 2015, shareholders will again be invited to participate in an advisory vote on the Directors' remuneration report. As there are no changes to the Remuneration Policy proposed for 2015, the Policy will not be put to vote at the 2015 AGM.

  
**Jane Hinkley**  
 Chairman, Remuneration Committee  
 3 March 2015

# Remuneration Policy

The Remuneration Policy was approved at the AGM on 15 May 2014. For the benefit of shareholders, we have reprinted the Policy below. To ensure that the Policy is relevant to the 2015 financial year, we have made minor textual changes in the following sections: Selection of Performance Measures, Illustration of the Application of the Remuneration Policy for 2015, Consideration of Shareholder Views, and Shareholding Policy. The full policy report, as approved by shareholders, can be found in last year's Directors' remuneration report (a copy of which can be found in the 2013 Annual Report Investors section of the Group website [www.vesuvius.com](http://www.vesuvius.com)).

## Directors' Remuneration Policy

As reported on last year, the overarching philosophy for remuneration within Vesuvius is to attract, retain and motivate individuals of the calibre necessary to successfully implement our business strategy. In particular, we ensure that incentives are appropriate to encourage enhanced performance and to avoid underperformance being rewarded. In reviewing and setting Vesuvius' remuneration policy, the Committee seeks to balance the interests of our employees and those of our long-term shareholders, to support Company strategy and foster a high performance culture, where a meaningful portion of remuneration is performance linked and subject to clawback.

In setting our policy for Executive Directors and senior managers the Committee seeks to emphasise pay for performance and to account for the broad international scale and nature of the Company's operations. We also consider the approach taken to the pay and employment conditions of other Company employees, together with UK governance requirements and developments in governance practice issued by leading shareholders and shareholder advisory bodies.

The Committee reviews information on the remuneration of comparable roles at similar companies to provide a point of reference for determining remuneration levels. Given that there is not a clear comparator group of companies for Vesuvius, this is judged in the context of other FTSE 250 companies and other relevant international sector-specific companies to reach a rounded judgement and deliver remuneration that is competitive.

Although Vesuvius is in its early stages as an independent company, the Committee is satisfied that the flexibility within the policy, and the ability to exercise discretion and judgement, will allow the Committee to ensure that an appropriate balance between the interests of employees and shareholders is maintained.

## Remuneration Policy for Executive Directors

Alignment/Purpose	Operation	Opportunity	Performance
<b>Base salary</b>			
Helps to recruit and retain key employees. Reflects the individual's experience, role and contribution within the Company.	<p>The individual's performance is reviewed annually, with changes to base salary appraised over a two-three year period.</p> <p>Any change will be effective from 1 January in the year of the increase.</p> <p>Base salary is positioned to be market competitive when considered against relevant international and FTSE 250 companies (excluding Investment Trusts).</p> <p>Paid in cash, subject to local tax and social security regulations.</p>	<p>In considering any increase in base salary, the Committee will consider (1) the role and value of the individual, (2) changes in job scope or responsibility, (3) progression in the role (e.g. for a new appointee), (4) a significant increase in the scale of role and/or size, value or complexity of the Group, (5) the need to maintain market competitiveness, and (6) increases paid to the wider global employee population in the Company's most significant locations.</p> <p>In line with the two-three year period for base salary appraisal, individual increases when paid are likely to be in excess of those for the wider population of employees for that year.</p>	Any increase will take into account the individual's performance, contribution and increasing experience.
<b>Other benefits</b>			
Provides normal market practice benefits.	A range of standard benefits including, but not limited to: car allowance, private medical care (including spouse and dependent children), life assurance, disability, health insurance together with relocation allowance and expatriate benefits.	<p>The Committee retains the discretion to adjust the value of benefits where:</p> <p>(1) there is a significant change in the individual's circumstances, (2) there is an increase in existing cost beyond the Company's control, (3) there is a change in benefit provider(s), or (4) there is a change in an individual's location, and to amend the type of benefits to reflect the above and market practice.</p> <p>Standard benefits remain a small percentage of total remuneration.</p>	None
<b>Pension</b>			
Helps to recruit and retain key employees. Ensures income in retirement.	An allowance is given as a percentage of base salary. This may be used to participate in Vesuvius' pension arrangements, invested in own pension.	30% of base salary	None

arrangements or taken as a cash supplement (or any combination of the above options)

#### Annual Incentive

<p>Incentivises Executive Directors to achieve key short-term financial and strategic targets of the Group</p>	<p>Entire bonus amount payable in cash with no deferral</p> <p>The Committee has the discretion to determine that actual incentive payments should be lower than levels calculated by reference to achievement against targets if it considers this to be appropriate</p> <p>Subject to clawback</p>	<p>Below threshold 0%</p> <p>On-target 62.5% of base salary for the Chief Executive and 50% of base salary for other Executive Directors</p> <p>Maximum 125% of base salary for the Chief Executive and 100% of base salary for other Executive Directors</p> <p>Payments made between threshold and on-target and between on-target and maximum are pro-rated</p>	<p>Annual Incentive is measured on targets set at the beginning of each year. Currently, it is based on Group Headline earnings per share which accounts for 100% of the performance measure, with an adjustment based on the Group's working capital performance. The effect of this is to reduce payments by 10% if specified working capital targets are not met. The adjustment also increases payout by 10% if targets are exceeded, but not above the plan maximum. Going forward the plan may include other financial or non-financial measures comprising KPIs, corporate objectives and personal performance.</p> <p>The Committee establishes threshold and maximum performance targets for each financial year, set by reference to the Group budget and other objectives for that year. Actual performance targets will be disclosed after the performance period has ended. They are not disclosed in this policy due to their commercial sensitivity.</p>
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#### Vesuvius Share Plan

<p>Flexible "umbrella" Plan</p> <p>Aligns Executive Directors' interests with those of shareholders through the delivery of shares</p> <p>Rewards Executive Directors for achieving the strategic objectives of growth in shareholder value and earnings</p> <p>Assists retention of Executive Directors over a three-year performance period</p>	<p>Awards may be granted as</p> <ul style="list-style-type: none"> <li>• Performance share awards</li> <li>• Deferred share bonus awards</li> <li>• Restricted Share awards</li> <li>• Market-price options</li> </ul> <p>Individuals are entitled to an aggregate annual maximum amount of awards. If more than one type of award is granted, the individual limit for all awards is reduced to remain within the maximum.</p> <p>Awards vest three years after their award date subject to the achievement of specified conditions.</p> <p>The Committee has the discretion to award participants the equivalent value of dividends accrued during the vesting period on any shares that vest. Subject to clawback.</p> <p>The Committee will only make awards of Performance Shares to Executive Directors under the Plan, and will consult with shareholders prior to granting other types of awards, excluding restricted share awards authorised under the recruitment policy.</p>	<p>Executive Directors are eligible to receive an annual award with a face value of up to 200% of base salary in performance share awards.</p>	<p>Vesting of 50% of performance share awards is subject to the Company's TSR performance vs the FTSE 250 (excluding Investment Trusts), with</p> <ul style="list-style-type: none"> <li>• 0% vesting for below median performance</li> <li>• 12.5% of the total award vesting at median performance</li> <li>• 50% of the total award vesting at upper quintile performance</li> <li>• Pro-rata vesting between median and upper quintile</li> </ul> <p>Vesting of the remaining 50% of performance share awards is subject to the growth in the Company's EPS. The Committee decides on the appropriate EPS growth targets each year, taking into account the Group's prospects and the broader global economic environment.</p> <p>The Company reserves the right only to disclose EPS performance targets after the performance period has ended due to their commercial sensitivity.</p> <p>Prior to any vesting, the Remuneration Committee also reviews the underlying financial performance of the Company over the performance period to justify the vesting.</p>
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#### Legacy Cookson Group share schemes

<p>Used to align Executive Directors' interests with those of shareholders through share ownership</p>	<p>Awards granted prior to the demerger remain outstanding. No further awards will be made under these plans.</p>	<p>Subject to achieving the relevant vesting criteria, the Company will satisfy awards as they arise.</p>	<p>Performance and other conditions set at the time of award continue to operate.</p>
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### Restricted Share award

A one-off award to compensate for prior employer long-term incentive awards forfeited on appointment at Vesuvius

Dated 5 November 2012 to the Chief Financial Officer. Half of the award vested on first anniversary of joining, the remainder vested on 20 October 2014

Shares to the face value of 1x base salary (108,805 Vesuvius shares), together with shares or cash to the value of dividends that would have accrued on the shares between date of award and vesting

None. Holder must remain employed and not be under notice of termination

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### Selection of performance measures

Measures for the Annual Incentive are selected to reflect key strategic aims and the need for a rigorous focus on working capital management. Each year the Committee will agree challenging targets to ensure that underperformance is not rewarded.

For the Vesuvius Share Plan, at the demerger, Vesuvius stated that the performance measures would be similar to those for the Cookson LTIP, to focus Executive Directors on the execution of long-term strategy and also align their rewards with value created for shareholders. On this basis, the performance conditions for the Vesuvius performance share awards are based half on TSR performance and half on EPS performance. The comparator for the TSR performance condition will be reviewed annually to ensure its continuing relevance for the Group. In 2015 the Committee agreed the continuation of comparison to the FTSE 250 (excluding Investment Trusts). In respect of the EPS measure, the Committee wished to align the target with the Company's ambitions to grow ahead of end-markets. As an international company, a global metric was deemed important by the Committee, and in 2013 an EPS target, based upon out-performing global Gross Domestic Product ("GDP") growth was adopted. This has been carried through to 2015. Within the policy period, the Committee will continually review the performance conditions used, including EPS and other financial measures, to ensure that awards are made on the basis of challenging targets that clearly support the achievement of the Group's strategic aims.

### Illustration of the application of the Remuneration Policy for 2015

The charts below show the total remuneration for Executive Directors for minimum, on-target and maximum performance. The fixed elements of remuneration comprise base salary, pension and other benefits, using 2015 salary data. The assumptions on which they are calculated are as follows:

**Minimum:** Fixed remuneration only

**On-target:** Fixed remuneration plus on-target Annual Incentive and threshold vesting (i.e. median performance for TSR and threshold for EPS) for performance share awards (made at 200% of base salary) under the Vesuvius Share Plan.

**Maximum:** Fixed remuneration plus maximum Annual Incentive and 100% vesting for performance share awards (made at 200% of base salary) under the Vesuvius Share Plan.

### Recruitment Policy

On appointment or promotion of a new Executive Director, the Committee will typically use the above policy to determine ongoing remuneration. However, the Committee retains the discretion to make appropriate remuneration decisions outside the standard policy to meet specific circumstances.

Base salary levels will generally be set in accordance with the policy taking into account the experience and calibre of the appointee. If it is appropriate to appoint an individual on a base salary initially below what is adjudged to be market positioning, contingent on individual performance, the Committee retains the discretion to realign base salary over the one to three years following appointment, which may result in a higher rate of annualised increase than might otherwise be awarded under the policy. If the Committee intends to rely on this discretion, it will be noted in the first Annual Directors' remuneration report following an individual's appointment. Other than in exceptional circumstances, other elements of annual remuneration will, typically, be set in line with this policy. The Committee retains the discretion to make the following exceptions:

- In the event that an internal appointment is made, the Committee may continue with existing remuneration provisions where appropriate,
- If necessary and appropriate to secure an appointment from an international pool of candidates, the Committee may make additional payments linked to relocation, above those outlined in the policy table and would authorise the payment of a relocation allowance and repatriation, as well as other associated international mobility terms. Such benefits would be set at a level which the Committee considers appropriate for the role and the individual's circumstances, and
- In order to provide an immediate interest in the Company's performance, the Committee may grant, on recruitment, an award of Performance Shares (with a market value of up to 200% of salary) under the Vesuvius Share Plan and/or an individual award agreement (under Listing Rule 9.4.2 (2)) on similar terms. Performance conditions for any such award will be set in line with the policy and the Committee will determine the vesting period that will apply to such awards at the time of award, taking into account the strategy and business circumstances of Vesuvius.

Service contracts will be entered into on terms similar to those for the existing Executive Directors, summarised in the service contract section below.

In addition to the annual remuneration elements noted above, the Committee may consider buying out incentive awards that an individual forfeits in accepting an appointment with Vesuvius. The Committee will have the authority to rely on Listing Rule 9.4.2 (2) or to apply the existing limits within the Vesuvius Share Plan to make Restricted Share awards on recruitment. In making any such awards, the Committee will review the terms of any forfeited awards, including, but not limited to, vesting periods, the expected value of such awards on vesting and the likelihood of the performance targets applicable to such awards being met, while retaining the discretion to make any buyout award the Committee determines is necessary and appropriate. The Committee may also require the appointee to purchase shares in Vesuvius to a pre-agreed level prior to vesting of any such awards. The value of any buyout award will be capped, to ensure its maximum value is no higher than the value of the awards that the individual forfeited on joining Vesuvius. Any such awards will be subject to clawback.

With respect to the appointment of a new Chairman or Non-executive Director, appointment terms will be consistent with those currently adopted. Variable pay will not be considered. With respect to Non-executive Directors, fees will be consistent with the policy at the time of appointment.

### Exit Payment Policy

Vesuvius has the option to make a payment in lieu of part or all of the required notice period for Executive Directors. Any such payment in lieu will consist of the base salary, pension contributions and value of benefits to which the Director would have been entitled for the duration of the remaining notice period, net of statutory deductions in each case. Half of any payments in lieu of notice would be made in a lump sum, the remainder in equal monthly instalments commencing in the month in which the midpoint of their forgone notice period falls (and are reduced or extinguished by salary from any role undertaken by the departing Executive in this time). Executive Directors are subject to certain non-compete covenants for a period of nine months, and non-solicitation covenants for a period of 12 months, following the termination of their employment. Their service agreements are governed by English law.

Neither of the Executive Directors' contracts contains any change of control provisions and they both contain a duty to mitigate should the Director find an alternative paid occupation in any period during which the Company must otherwise pay compensation on early termination

The table below summarises how the awards under the annual bonus and Vesuvius Share Plan are typically treated in different leaver scenarios and on a change of control. Whilst the Committee retains overall discretion on determining "good leaver" status, it typically defines a "good leaver" in circumstances such as retirement with agreement of the Company, ill health, disability, death, redundancy, or part of the business in which the individual is employed or engaged ceasing to be part of the Group. Final treatment is subject to the Committee's discretion.

Event	Timing	Calculation of vesting/payment
<b>Annual Incentive Plan</b>		
<b>Good leaver</b>	Paid at the same time as to continuing employees	Annual bonus is paid only to the extent that any performance conditions have been satisfied and is pro rated for the proportion of the financial year worked before cessation of employment
<b>Bad leaver</b>	Not applicable	Individuals lose the right to their annual bonus
<b>Change of control</b>	Paid on the effective date of change of control	Annual bonus is paid only to the extent that any performance conditions have been satisfied and is pro rated for the proportion of the financial year worked
<b>Vesuvius Share Plan</b>		
<b>Good leaver</b>	On normal vesting date (or earlier at the Committee's discretion)	Unvested awards vest to the extent that any performance conditions have been satisfied and a pro rata reduction applies to the value of the awards to take into account the proportion of vesting period not served
<b>Bad leaver</b>	Unvested awards lapse	Unvested awards lapse on cessation of employment
<b>Change of control<sup>1</sup></b>	On the date of the event	Unvested awards vest to the extent that any performance conditions have been satisfied and a pro rata reduction applies for the proportion of the vesting period not served

#### NOTE

<sup>1</sup> In certain circumstances, the Committee may determine that unvested awards under the Vesuvius Share Plan will not vest on a change of control but will instead be replaced by an equivalent grant of a new award, as determined by the Committee, in the new company

If employment is terminated by the Company, the Committee retains discretion to settle amounts reasonably due to the Executive Director, for example to meet the legal fees incurred by the Executive Director in connection with the termination of employment, where the Company wishes to enter into a settlement agreement (as provided for below) and where the individual must seek independent legal advice. The Company would pay any amounts to which the departing Director was legally entitled. In certain circumstances, the Committee may approve new contractual arrangements with departing Executive Directors including (but not limited to) settlement, confidentiality, restrictive covenants and/or consultancy arrangements. This would only be used where the Committee believed it was in the best interests of the Company to do so.

### Service contracts

The Committee will periodically review the contractual terms for new Executive Directors to ensure these reflect best practice. Service contracts currently operate on a rolling basis and are limited to a 12 month notice period.

François Wanecq is employed as Chief Executive of Vesuvius pursuant to the terms of a service agreement made with Cookson Group plc dated 17 October 2012. Chris O'Shea is employed as Chief Financial Officer pursuant to the terms of a service agreement with Cookson Group plc dated 10 September 2012. Both service agreements were assigned to Vesuvius upon completion of the demerger on 19 December 2012. Each Executive Director's appointment is terminable by Vesuvius on not less than 12 months' written notice, and by each Executive Director on not less than six months' written notice.

### Considerations of conditions elsewhere in the Group in developing policy

The Company does not consult directly with employees on Executive Directors' remuneration arrangements. However, the Remuneration Committee will take into account the pay and employment conditions of other Group employees when determining Executive Directors' remuneration, particularly when determining base salary increases. The Remuneration Committee will also obtain information on the remuneration paid for comparable roles at other relevant companies to provide a point of reference for determining Remuneration Policy.

### Remuneration Policy for Executive Directors compared to other employees

The Remuneration Policy for Executive Directors is designed in line with the remuneration philosophy set out at the beginning of this report – which also underpins remuneration for the wider Group. Remuneration arrangements for Executive Directors draw on the same elements as those for other employees – base salary, fixed benefits, and retirement benefits – with performance-related pay extending down into the management cadres and beyond. However, given that remuneration structures for other employees need to reflect both seniority and local market practice, they differ from the policy for Executive Directors. In particular, Executive Directors receive a higher proportion of their remuneration in performance-related pay and share-based payments and individual percentages of fixed versus variable remuneration and participation in share-based structures decline with seniority.

The process for delivering salary increases on a two-three year cycle for Executive Directors is also applied to members of the Group Executive Committee and their direct managerial reports. While all employees receive an annual performance appraisal, other employees continue to receive salary reviews on an annual basis.

As with Executive Directors, middle and senior managers participate in the Annual Incentive Plan. For operational employees, any potential award is based upon achieving three measures relating to Group performance, business unit performance, and individual achievement of personal objectives. For functional employees, the award is predominantly based on Group performance, with the remainder awarded against achievement of personal objectives. The awards for middle and senior managers are also adjusted to reflect the level of performance by the business with regard to its working capital management.

For certain senior and middle managers awards are made under the Vesuvius Medium Term Plan ("MTP"). Awards under the MTP are based on the same measures and targets as the Annual Incentive Plan for those managers. Middle managers participate in the MTP at varying percentage levels, with awards being made in cash. Senior managers have their MTP awards made over Vesuvius shares. In each case, awards are granted following the end of the relevant financial year. The MTP share awards vest on the second anniversary of the date of grant, subject to continuing employment. From 2014 onwards members of the Group Executive Committee (who in 2013 were included in the above MTP in shares) will instead participate in the Vesuvius Share Plan and receive awards of Performance Shares, which will vest in accordance with the same measures and targets as those for Executive Directors. Levels of awards will differ from those of Executive Directors.

### Consideration of shareholder views

Vesuvius is committed to open and transparent dialogue with its shareholders on remuneration as well as other governance matters. As Chairman of the Committee, Jane Hinkley welcomes shareholder engagement and is available for any discussions investors wish to have on remuneration matters. During 2014, remuneration matters were discussed at a number of meetings with investors. The feedback from such meetings is always shared with the Committee and taken into consideration when decisions are made about future remuneration strategy and arrangements.

### Shareholding Policy

The Remuneration Committee encourages Executive Directors to build and hold a shareholding in the Company equivalent in value to at least 1x salary. To this end, Executive Directors will normally be expected to retain at least 50% (measured as the value after tax) of any Performance Share awards vesting under the Vesuvius Share Plan, until this criterion has been met. New Executive Directors will be allowed four years in which to acquire this shareholding.

### Clawback arrangements

The Executive Directors are subject to clawback arrangements. In the event that a misstatement is identified in the Company's consolidated financial statements which requires the restatement of a prior year's accounts in order to ensure compliance with the requirements of International Financial Reporting Standards or any applicable law, then such portion as the Remuneration Committee deems appropriate of any variable executive remuneration – being all Annual Incentive and Performance Share awards made under the Vesuvius Share Plan – resulting from a measure of financial performance affected by the misstatement will be subject to clawback provisions. The misstatement must be identified and notified to the individual in writing within three years after the end of the relevant performance period.

### External appointments

Whilst neither of the Executive Directors serves as a Non-executive Director of any other quoted company, subject always to consent being granted by the Company for them to take up such an appointment, were they to so serve, the Company would allow them to retain any fees they received for the performance of their duties.

### Policy for Non-executive Directors

The Company seeks to appoint Non-executive Directors who have relevant professional knowledge, and have gained experience in a relevant industry and geographical sectors, to support diversity of expertise at the Board and match the wide geographic spread of the Company's activities.

Non-executive Directors attend Board, Committee and other meetings, held mainly in the UK, together with an annual strategy review to debate the Company's strategic direction. All Non-executive Directors are expected to familiarise themselves with the scale and scope of the Company's business and to maintain their specific technical skills and knowledge.

The Board sets the level of fees paid to the Non-executive Directors after considering the role and responsibilities of each Director and the practice of other companies of a similar size and international complexity. The Non-executive Directors do not participate in Board discussions on their own remuneration. No variable remuneration is available to Non-executive Directors. Non-executive Directors receive reimbursement of reasonable expenses incurred in attending the Board, Committee and other ad hoc meetings.

Alignment/Purpose	Operation	Opportunity	Performance
<b>Fees</b>			
To attract and retain Non-executive Directors of the necessary skill and experience by offering market competitive fees	Fees are reviewed bi-annually by the Board.	Non-executive Directors and the Chairman will be paid market appropriate fees, with any increase reflecting changes in the market or adjustments to a specific Non-executive Director's role.	None
No eligibility for participation in incentive schemes, bonus schemes or retirement plans	Non-executive Directors are paid a base fee for the performance of their role, payable in cash, plus additional fees for Committee chairmanship or acting as the Senior Independent Director.	No eligibility for bonuses, retirement benefits or to participate in the Group's employee share plans.	
	The Chairman is paid a single fee and receives administrative support from the Company.	Overall fees paid to Non-executive Directors will remain within the aggregate limit stated in our Articles, currently £500,000.	

### Terms of service

The terms of service of the Chairman and the Non-executive Directors are contained in letters of appointment. Each Non-executive Director is appointed subject to their election at the Company's first Annual General Meeting following their appointment and re-election at subsequent Annual General Meetings. None of the Non-executive Directors are entitled to receive compensation for loss of office at any time. During the first year of his/her appointment the Chairman is entitled to 12 months' notice from the Company, thereafter, he/she is entitled to six months' notice from the Company. All Non-executive Directors are subject to retirement, and election or re-election, in accordance with the Company's Articles of Association. The current policy is for Non-executive Directors to serve on the Board for a maximum of nine years, with review at the end of the three and six years, subject always to mutual agreement and annual performance evaluation. The Board retains discretion to extend the tenure of Non-executive Directors beyond this time, subject to the requirements of Board balance and independence being satisfied.

The table below shows the date of appointment for each of the Non-executive Directors.

Non executive Director	Date of appointment
John McDonough CBE	31 October 2012
Nelda Connors	1 March 2013
Christer Gardell	31 October 2012
Jeff Hewitt <sup>1</sup>	31 October 2012
Jane Hinkley	3 December 2012

**NOTE**

1 Jeff Hewitt previously served as a Non-executive Director of Cookson Group plc from June 2005



## Directors' report

The Directors submit their Annual report together with the audited accounts of the Group and of the Company, Vesuvius plc, registered in England and Wales No 8217766, for the year ended 31 December 2014

The Companies Act 2006 requires the Company to provide a Directors' report for Vesuvius plc for the year ended 31 December 2014. The information that fulfils this requirement and which is incorporated by reference into, and forms part of, this report is included in the following sections of the Annual report

- The Our Responsibility section
- The Governance section
- Financial Instruments: the information on financial risk management objectives and policies contained in Notes 21 and 28 to the consolidated financial statements

This Directors' report and the Strategic report contained in pages 2 to 53 together represent the management report for the purpose of compliance with DTR 4.1.8R of the UK Listing Authority's Disclosure and Transparency Rules. The Company does not have any overseas branches within the meaning of the Companies Act 2006

### Going concern

Information on the business environment in which the Group operates, including the factors that are likely to impact the future prospects of the Group, is included in the Strategic report. The principal risks and uncertainties that the Group faces throughout its global operations are shown on pages 22 and 23. The financial position of the Group, its cash flows, liquidity position and debt facilities are also described in the Strategic Report. In addition, Notes 21 and 28 to the consolidated financial statements set out the Group's objectives, policies and processes for managing its capital, financial risks, financial instruments and hedging activities, and its exposures to credit, market (both currency and interest rate-related) and liquidity risk. Further details of the Group's cash balances and borrowings are included in Notes 14, 15 and 28 to the consolidated financial statements.

The Directors have prepared cash flow forecasts for the Group for a period in excess of 12 months from the date of approval of the 2014 financial statements. These forecasts reflect an assessment of current and future end-market conditions and their impact on the Group's future trading performance. The forecasts show that the Group will be able to operate within the current committed debt facilities and show continued compliance with the Company's financial covenants. On the basis of the exercise described above and the Group's available committed debt facilities, the Directors consider that the Group and Company have adequate resources to continue in operational existence for the 12 months from the date of signing these accounts. Accordingly, they continue to adopt a going concern basis in preparing the financial statements of the Group and the Company.

### Research & development

The Group's investment in research & development ("R&D") during the year under review amounted to £26.1m (representing 1.8% of Group revenue (2013: 1.8%)). Further details of the Group's R&D activities can be found on pages 15 and 16 of the Strategic report.

### Dividends

An interim dividend of 5.0 pence (2013: 4.75 pence) per Vesuvius ordinary share was paid on 26 September 2014 to Vesuvius shareholders. The Board is recommending a final dividend in respect of 2014 of 11.125 pence (2013: 10.25 pence) per ordinary share which, if approved, will be paid on 22 May 2015 to shareholders on the register at 10 April 2015.

### Accountability and audit

A responsibility statement of the Directors and a statement by the auditor about its reporting responsibilities can be found on pages 97 and 100 to 102 respectively. The Directors fulfil the responsibilities set out in their statement within the context of an overall control environment of central strategic direction and delegated operating responsibility. As at the date of this report, so far as each Director of the Company is aware, there is no relevant audit information of which the Company's auditor is unaware and each Director hereby confirms that they have taken all the steps that they ought to have taken as a Director in order to make themselves aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

### Auditor reappointment

KPMG LLP has expressed its willingness to continue in office as auditor of the Company, and consequently, resolutions for the reappointment of KPMG as auditor of the Company and to authorise the Directors to determine its remuneration are to be proposed at the AGM.

### Directors

The Directors of the Company are Nelda Connors, Christer Gardell, Jeff Hewitt, Jane Hinkley, John McDonough CBE, Chris O'Shea and François Wanecq. Two new Directors, Douglas Hurt and Hock Goh, will join the Board on 2 April 2015. Jeff Hewitt will retire from the Board at the close of the forthcoming AGM. All the other Directors, including the new appointees, will retire at the AGM and offer themselves for re-election. Biographical information for the current Directors is given on pages 56 and 57. Further information on the remuneration of, and contractual arrangements for, the current Executive and Non-executive Directors is given on pages 75 to 93 in the Directors' remuneration report. The Non-executive Directors do not have service agreements. Biographical information and details of the contractual arrangements for the new Non-executive Directors will be included in the Notice of Meeting for the forthcoming AGM.

### Directors' indemnities

The Directors have been granted Qualifying Third Party Indemnity Provisions by the Company and the Directors of the Group's UK Pension Plan Trustee Board (none of whom are Directors of Vesuvius plc) have been granted Qualifying Pension Scheme Indemnity Provisions by Vesuvius Pension Plans Trustees Ltd. The indemnities for Directors of Vesuvius plc have been in force since the date of their appointment. The Pension Trustee indemnities were in force throughout the last financial year and remain in force.

### Annual General Meeting

The Annual General Meeting of the Company will be held at The Lincoln Centre, 18 Lincoln's Inn Fields, London WC2A 3ED on Thursday 14 May 2015 at 11.00 am.

## Greenhouse gas emissions

Information on our reporting of greenhouse gas emissions, and the methodology used to record these, is set out on page 49 of the Strategic report

## Donations

In accordance with Company policy, no political donations were made in 2014 (2013 nil)

## Change of control provisions

The terms of the Group's committed bank facility and US Private Placement Loan Notes contain provisions entitling the counterparties to exercise termination or other rights in the event of a change of control on takeover of the Company. A number of the arrangements to which the Company and its subsidiaries are party, such as other debt arrangements and share incentive plans, may alter or terminate on a change of control in the event of a takeover. In the context of the Group as a whole, these other arrangements are not considered to be significant.

## Share capital

As at the date of this report, the Company had an issued share capital of 278,485,071 ordinary shares of 10p each. 7,271,174 of these ordinary shares are held in Treasury. Therefore, the total number of Vesuvius plc shares with voting rights is 271,213,897.

Further information relating to the Company's issued share capital can be found in Note 7 to the Company financial statements.

The Company's Articles specify that, subject to the authorisation of an appropriate resolution passed by a general meeting of the Company, Directors can allot relevant securities under Section 551 of the Companies Act, up to the aggregate nominal amount specified by that Act. In addition, the Articles state the Directors can seek the authority of shareholders in general meeting to allot equity securities for cash without first being required to offer such shares to existing ordinary shareholders in proportion to their existing holdings in connection with a rights issue and in other circumstances up to an aggregate nominal amount as specified in Section 561 of the Companies Act.

At the Annual General Meeting on 15 May 2014, the Directors were authorised to issue relevant securities up to an aggregate nominal amount of £18,080,926 and to be empowered to allot equity securities for cash on a non pre-emptive basis up to an aggregate nominal amount of £1,392,425, at any time up to the earlier of the date of the 2015 Annual General Meeting or 30 June 2015. The Directors propose to renew these authorities at the 2015 Annual General Meeting for a further year. In the year ahead, other than in respect of Vesuvius' ability to satisfy rights granted to employees under its various share-based incentive arrangements, the Directors have no present intention of issuing any share capital of Vesuvius.

## Authority for purchase of own shares

Subject to the provisions of Company law and any other applicable regulations, the Company may purchase its own shares. At the Annual General Meeting of the Company held on 15 May 2014 Vesuvius shareholders gave authority to the Company to make market purchases of up to 27,121,389 Vesuvius ordinary shares, representing 10% of the Company's issued ordinary share capital as at the latest practicable day prior to the publication of the Notice of AGM. This authority expires on 30 June 2015 or the date of the AGM to be held in 2015, whichever is the earlier. The Directors will seek renewal of this authority at the forthcoming AGM.

In 2013 the Company acquired 7,271,174 ordinary shares, representing a nominal value of £727,117 and 2.6% of the entire called-up share capital of the Company prior to the purchase. These shares were purchased pursuant to the Board's commitment to return the majority of the net proceeds of the disposal of the Precious Metals Processing division to shareholders. These shares are currently held as Treasury shares. The Company has not subsequently disposed of any of the repurchased shares. During the year, the Company did not make any further acquisitions of shares, any acquisitions by nominee, nor did it dispose of any shares previously acquired. The Company does not have a lien over any of its shares.

## Share plans

Vesuvius operates a number of share-based incentive plans, some of which have been carried over from Cookson Group plc. For the majority of these plans the Group can satisfy entitlements by the acquisition of existing shares, the transfer of Treasury shares or by the issue of new shares. Existing shares are held in an employee share ownership trust ("ESOP"). The trustee of the ESOP purchases shares in the open market as required, to enable the Group to meet liabilities for the issue of shares to satisfy awards that vest. The trustee does not register votes in respect of these shares and has waived the right to receive any dividends.

In 2014 the trustee of the ESOP purchased 101,847 ordinary shares of 10p each in Vesuvius plc with a nominal value of £10,185 at an average price, including transaction costs of 490.43 pence per share. Subsequent to the year-end, the ESOP purchased a further 371,040 shares at an average price, including transaction costs, of 442.38 pence per share. See Note 25 to the consolidated financial statements for further information.

## Pensions

In each country in which the Group operates, the pension arrangements in place are considered to be consistent with good employment practice in that particular area. Independent advisers are used to ensure that the plans are operated in accordance with local legislation and the rules of each plan. Group policy prohibits direct investment of pension fund assets in the Company's shares. Outside the UK, the US, Germany and Belgium, the majority of pension plans in the Group are of a defined contribution nature.

The Group's UK defined benefits plan (the "UK Plan") and the main US defined benefits plan are closed to new entrants and have ceased providing future benefits accrual, with all eligible employees instead being provided with benefits through defined contribution arrangements.

For the Group's closed UK Plan a Trustee Board exists comprising employees, former employees and an independent trustee. The Board currently comprises six trustee directors, of whom two are member-nominated. The administration of the plan is outsourced. The Company is mindful of its obligations under the Pensions Act 2004 and of the need to comply with the guidance issued by the Pensions Regulator. Regular dialogue is maintained between the Company and the Trustee Board of the UK Plan to ensure that both Company and Trustee are apprised of the same financial and other information about the Group and the UK Plan. This is pertinent to each being able to contribute to the effective functioning of the UK Plan.

The latest full valuation of the UK Plan showed a funding surplus, as a result of which Company contributions ceased in July 2013. However, the Company has agreed to make voluntary contributions of £2.0m per annum at least until the next valuation date in recognition of the potential funding strain resulting from the ongoing de-risking initiatives likely to be undertaken in the short term.

The Group's worldwide net pension deficit at 31 December 2014 was £51.1m (31 December 2013: £47.9m).

The significant reduction in discount rates across the UK, US and Germany and increased mortality rate assumptions in the US drove pension liabilities higher by £83.4m but this was largely offset by actuarial gains on plan assets of £76.8m especially in the UK's fixed income securities, £3.6m of net

settlement gains arising from closure of the defined benefit pension plan in the Netherlands and continued Company contributions to fund the pension plans

Further details of pension arrangements are given in Note 29 to the consolidated financial statements

### Restrictions on transfer of shares and voting

The Company's Articles of Association ("Articles") do not contain any specific restrictions on the size of a holding or on the transfer of shares. The Directors are not aware of any agreements between holders of the Company's shares that may result in restrictions on the transfer of securities or voting rights

No person has any special rights with regard to the control of the Company's share capital and all issued shares are fully paid. This is a summary only and the relevant provisions of the Articles should be consulted if further information is required

### Amendment of Articles of Association

The Company may make amendments to the Articles by way of special resolution in accordance with the Companies Act

### Interests in the Company's shares

The Company has been notified in accordance with DTR 5 of the Disclosure and Transparency Rules of the following interests of 3%, or more, of its issued ordinary shares

	31 Dec 2014	3 Mar 2015
Cevian Capital	21.11	21.11
Artisan Partners	11.04	11.04
Morgan Stanley	5.99	6.09
Pelham Capital Management CIO	5.91	5.91
Franklin Templeton	5.01	5.01

The interests of Directors and their connected persons in the ordinary shares of the Company as disclosed in accordance with the Listing Rules of the UK Listing Authority are as set out on page 83 of the Directors' Remuneration report and details of the Directors' long-term incentive awards are set out on pages 81 and 82

The Directors' report has been approved by the Board and is signed on its behalf by

Henry Knowles  
Company Secretary  
3 March 2015

In compliance with the Financial Conduct Authority's Listing Rule 9.8.4, we present the following disclosures for your consideration

Disclosure requirement under LR 9.8.4	Reference/Location
(1) Interest capitalised by the Group during the year	Not applicable
(2) Publication of unaudited financial information	Not applicable
(4) Details of any long-term incentive schemes	Pages 88 and 89
(5) Director waiver of emoluments	Not applicable
(6) Director waiver of future emoluments	Not applicable
(7) Allotment for cash of equity securities made during the year	Not applicable
(8) Allotment for cash of equity securities made by a major unlisted subsidiary during the year	Not applicable
(9) Details of participation of parent undertaking in any placing made during the year	Not applicable
(10) Details of relevant contracts in which a Director or controlling shareholder was interested during the year	Not applicable
(11) Contracts for the provision of services by a controlling shareholder during the year	Not applicable
(12) Details of any arrangement under which a shareholder has waived or agreed to waive any dividends	Vesuvius plc holds 7,271,174 of its £0.10 ordinary shares as Treasury shares. No dividends are payable on these shares. Cookson Investments (Jersey) Limited, the Trustee of the Company's ESOP, has agreed to waive on an ongoing basis any dividends payable on shares it holds for the benefit of the Company's Employee Share Plans, details of which can be found on page 95
(13) Details of where a shareholder has agreed to waive future dividends	See above
(14) Statements relating to controlling shareholders and ensuring company independence	Not applicable

## Statement of Directors' responsibilities in respect of the Annual report and financial statements

The Directors of Vesuvius plc are responsible for preparing the Annual report and the Group and parent company (the "Company") financial statements in accordance with applicable law and regulations

Company law requires the Directors to prepare Group and Company financial statements for each financial year. Under that law they are required to prepare the Group financial statements in accordance with IFRSs as adopted by the European Union and applicable law and have elected to prepare the Company financial statements in accordance with UK Accounting Standards and applicable law ("UK Generally Accepted Accounting Practice")

Under company law the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of their profit or loss for that period. In preparing each of the Group and Company financial statements, the Directors are required to

- Select suitable accounting policies and then apply them consistently
- Make judgements and estimates that are reasonable and prudent
- For the Group financial statements, state whether they have been prepared in accordance with IFRSs as adopted by the European Union
- For the Company financial statements, state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the Company financial statements
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and the Company will continue in business

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that its financial statements comply with the Companies Act 2006. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the Directors are also responsible for preparing a Strategic report, Directors' report, Directors' remuneration report and Corporate governance report that comply with that law and those regulations.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

### Responsibility statement of the Directors in respect of the Annual financial report

Each of the Directors confirms that to the best of their knowledge

- The financial statements, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the undertakings included in the consolidation taken as a whole.
- The Directors' report and Strategic report include a fair review of the development and performance of the business and the position of the Company and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

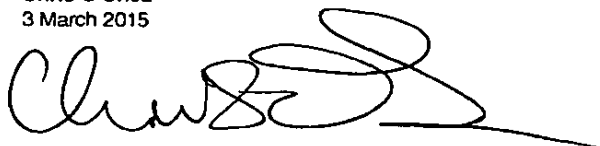
In addition, the Directors consider that the Annual report, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's performance, business model and strategy.

The names and functions of the Directors of Vesuvius plc are as follows:

John McDonough	Chairman
François Wanecq	Chief Executive
Chris O'Shea	Chief Financial Officer
Nelda Connors	Non-executive Director
Christopher Gardell	Non-executive Director
Jeff Hewitt	Non-executive Director, Senior Independent Director and Chairman of the Audit Committee
Jane Hinkley	Non-executive Director and Chairman of the Remuneration Committee

On behalf of the Board

Chris O'Shea  
3 March 2015



## **Section Five**

# **Financial Statements**

### **In this section**

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# Independent Auditor's Report to the Members of Vesuvius plc Only

## Opinions and conclusions arising from our audit

### 1 Our opinion on the financial statements is unmodified

We have audited the financial statements of Vesuvius plc for the year ended 31 December 2014 which comprise the Group income statement, the Group statement of comprehensive income, the Group statement of cash flows, the Group and Company balance sheets, the Group statement of changes in equity, and the related Notes. In our opinion:

- The financial statements give a true and fair view of the state of the Group's and of the parent Company's affairs as at 31 December 2014 and of the Group's profit for the year then ended
- The Group financial statements have been properly prepared in accordance with International Financial Reporting Standards as adopted by the European Union
- The parent Company financial statements have been properly prepared in accordance with UK Accounting Standards
- The financial statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the Group financial statements, Article 4 of the IAS Regulation

### 2 Our assessment of risks of material misstatement

In arriving at our audit opinion above on the financial statements, the risks of material misstatement that had the greatest effect on our audit were as follows:

#### *Recognition of deferred tax assets (£54.0m)*

Refer to page 68 (Audit Committee report), page 115 (accounting policy) and page 118 (financial disclosures)

**The risk** The Group recognised in 2013 a deferred tax asset of £29.2m in respect of unutilised losses and other temporary differences arising in the US. The amount recognised in 2014 has increased to £54.0m. The Group also has losses and other temporary differences for which no deferred tax asset has been recognised in these financial statements. The recognition or otherwise of a deferred tax asset in respect of these losses and other temporary differences is based on judgement in respect of the timing and quantum of expected future profits and the ability of the Group to offset any of its accumulated losses against these expected profits.

**Our response** We compared the assumptions used in respect of future taxable profit forecasts to the Group's long-term forecasts. We considered, amongst other things, historical levels of US tax profits, the historical accuracy of forecasts, the growth forecasts used by the Group, and the period over which those forecasts were applied. This included critically assessing the assumptions and judgements made by the Directors in those growth forecasts, by using our knowledge of the Group and the industry in which it operates and by comparing growth assumptions to externally derived data. We also assessed the adequacy of the Group's disclosures setting out the basis of the deferred tax balance and the level of estimation involved.

#### *Income tax payable and provisions (£44.9m)*

Refer to page 68 (Audit Committee report), page 115 (accounting policy) and page 118 (financial disclosures)

**The risk** Provisions for tax contingencies require the Directors to make judgements and estimates in relation to income tax issues and exposures. This is one of the key judgemental areas that our audit concentrated on due to the Group operating in a number of tax jurisdictions, the complexities of transfer pricing and other international tax legislation, and the time taken for tax matters to be agreed with the tax authorities.

**Our response** In this area our audit procedures included the use of our own global tax specialists to assess the Group's tax positions, and its correspondence with the relevant tax authorities to analyse and challenge the assumptions, such as the likelihood of settlement, used to determine tax provisions based on our knowledge and experience of the application of international and local legislation by the relevant authorities and courts. We also considered the adequacy of the Group's disclosures in respect of income tax payable and provisions.

#### *Provisions (£52.7m)*

Refer to page 68 (Audit Committee report), page 146 (accounting policy) and page 146 (financial disclosures)

**The risk** In providing for known or probable costs, resulting from indirect tax, legal, regulatory, or environmental requirements, the Directors use their judgement, experience, and where appropriate receive external advice, in order to make provisions in the financial statements for such matters. The inherent uncertainty and risk could have material impact on the Group's financial position and result for the year.

**Our response** In this area our audit procedures included obtaining an understanding from the Directors of the basis for their best estimates, and then challenging the basis used with reference to the latest available corroborative information, in light of our understanding of the business, and by obtaining third-party confirmations where appropriate. In addition we met with the Group's in-house legal counsel to discuss the nature of ongoing claims, and obtained formal confirmations from the Group's external counsel for all significant litigation. We also assessed whether the Group's disclosures about provisions, contingent liabilities, and the movements in the year were appropriate.

### 3 Our application of materiality and an overview of the scope of our audit

The materiality for the Group financial statements as a whole was set at £5.7m (2013: £7.0m). This has been determined with reference to a benchmark of Group profit before taxation, of which it represents 5% (2013: 6.7%). We have reduced the percentage of the benchmark from 6.7% to 5% in 2014 to move in line with the peer group for other similar businesses.

We report to the Audit Committee any corrected or uncorrected identified misstatements exceeding £0.3m, in addition to other identified misstatements that warranted reporting on qualitative grounds.

Of the Group's 53 reporting components, we subjected 17 to audits for Group reporting purposes and three to specified risk-focused audit procedures. For coverage achieved by Group reporting please refer to the chart below.

The remaining 27% of total Group revenue, 13% of Group profit before tax and 13% of total Group assets are represented by 33 reporting components, none of which individually represented more than 4% of any of total Group revenue, Group profit before tax or total Group assets. For these remaining components, we performed analysis at an aggregated Group level to re-examine our assessment that there were no significant risks of material misstatement within these.

The Group audit team instructed component auditors as to the significant areas to be covered, including the relevant risks detailed above and the information to be reported back. The Group audit team approved the component materialities, which ranged from £0.1m to £5.6m, having regard to the mix of size and risk profile of the Group across the components. The work on 18 of the 20 components was performed by component auditors and the rest by the Group audit team.

The Group audit team visited six component locations in Brazil, the UK, the US, Germany, Poland, and China. Telephone conference meetings were also held with these component auditors and all others that were not physically visited. At these visits and meetings, the findings reported to the Group audit team were discussed in more detail, and any further work required by the Group audit team was then performed by the component auditor.

**4 Our opinion on other matters prescribed by the Companies Act 2006 is unmodified**

In our opinion:

- The part of the Directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006
- The information given in the Strategic report and the Directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements

**5 We have nothing to report in respect of the matters on which we are required to report by exception**

Under ISAs (UK and Ireland) we are required to report to you if, based on the knowledge we acquired during our audit, we have identified other information in the Annual report that contains a material inconsistency with either that knowledge or the financial statements, a material misstatement of fact, or that is otherwise misleading.

In particular, we are required to report to you if:

- We have identified material inconsistencies between the knowledge we acquired during our audit and the Directors' statement that they consider that the Annual report and financial statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's performance, business model and strategy or
- The Audit Committee report does not appropriately address matters communicated by us to the Audit Committee

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- Adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us or
- The parent company financial statements and the part of the Directors' remuneration report to be audited are not in agreement with the accounting records and returns or
- Certain disclosures of Directors' remuneration specified by law are not made or
- We have not received all the information and explanations we require for our audit

Under the Listing Rules we are required to review:

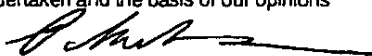
The Directors' statement, set out on page 94, in relation to going concern

The part of the Corporate governance statement on page 61 relating to the Company's compliance with the ten provisions of the 2012 UK Corporate Governance Code specified for our review

We have nothing to report in respect of the above responsibilities

*Scope of report and responsibilities*

As explained more fully in the Directors' responsibilities statement set out on page 97, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. A description of the scope of an audit of financial statements is provided on the Financial Reporting Council's website at [www.frc.org.uk/auditscopeukprivate](http://www.frc.org.uk/auditscopeukprivate). This report is made solely to the Company's members as a body and is subject to important explanations and disclaimers regarding our responsibilities, published on our website at [www.kpmg.com/uk/auditscopeukco2014a](http://www.kpmg.com/uk/auditscopeukco2014a), which are incorporated into this report as if set out in full and should be read to provide an understanding of the purpose of this report, the work we have undertaken and the basis of our opinions.



Paul Korolkiewicz (Senior Statutory Auditor)  
for and on behalf of KPMG LLP, Statutory Auditor  
Chartered Accountants  
15 Canada Square, London, E14 5GL  
3 March 2015

# Group income statement

For the year ended 31 December 2014

		2014			2013		
	Notes	Headline performance £m	Separately reported items £m	Total £m	Headline performance £m	Separately reported items £m	Total £m
<b>Continuing operations</b>							
Revenue	5	1,444.4	—	1,444.4	1,510.5	—	1,510.5
Manufacturing costs		(1,048.3)	—	(1,048.3)	(1,100.0)	—	(1,100.0)
Administration, selling and distribution costs		(253.3)	—	(253.3)	(270.5)	—	(270.5)
Trading profit	5	142.8	—	142.8	140.0	—	140.0
Amortisation of intangible assets	17	—	(17.0)	(17.0)	—	(17.4)	(17.4)
Restructuring charges	7	—	—	—	—	(3.9)	(3.9)
Operating profit/(loss)		142.8	(17.0)	125.8	140.0	(21.3)	118.7
Net finance costs	10	(16.4)	—	(16.4)	(17.3)	—	(17.3)
Share of post-tax profit of joint ventures		1.4	—	1.4	2.5	—	2.5
Profit on disposal of continuing operations	9	—	0.4	0.4	—	0.2	0.2
Profit/(loss) before tax		127.8	(16.6)	111.2	125.2	(21.1)	104.1
Income tax (costs)/credits	11	(32.9)	25.8	(7.1)	(32.5)	38.8	6.3
Profit/(loss) from							
Continuing operations		94.9	9.2	104.1	92.7	17.7	110.4
Discontinued operations	23	—	(3.6)	(3.6)	—	29.9	29.9
Profit		94.9	5.6	100.5	92.7	47.6	140.3
<b>Profit attributable to</b>							
Owners of the parent		90.3	5.6	95.9	87.7	47.6	135.3
Non-controlling interests		4.6	—	4.6	5.0	—	5.0
Profit		94.9	5.6	100.5	92.7	47.6	140.3
<b>Earnings per share — pence</b>							
		12					
Continuing operations				36.8			38.4
				36.7			38.3
Total operations				35.5			49.2
				35.4			49.1



# Group statement of comprehensive income

For the year ended 31 December 2014

	Notes	2014 £m	2013 £m
<b>Profit</b>		<b>100.5</b>	<b>140.3</b>
<b>Other comprehensive (loss)/income, net of income tax</b>			
<b>Items that will not be reclassified subsequently to income statement</b>			
Remeasurement of defined benefit liabilities/assets	29.6	(9.9)	10.2
Income tax relating to items not reclassified	11.4	0.5	(1.6)
<b>Items that may be reclassified subsequently to income statement</b>			
Exchange differences on translation of the net assets of foreign operations		(9.6)	(55.0)
Reclassification of exchange differences on disposal of foreign operations		—	(6.2)
Exchange translation differences arising on net investment hedges	26	(0.3)	0.3
Change in fair value of cash flow hedges	26	(0.2)	0.4
Change in fair value of available-for-sale investments	26	(0.2)	0.1
<b>Other comprehensive loss, net of income tax</b>		<b>(19.7)</b>	<b>(51.8)</b>
<b>Total comprehensive income</b>		<b>80.8</b>	<b>88.5</b>
<b>Total comprehensive income attributable to</b>			
Owners of the parent		<b>75.7</b>	<b>86.9</b>
Non-controlling interests		<b>5.1</b>	<b>1.6</b>
<b>Total comprehensive income</b>		<b>80.8</b>	<b>88.5</b>

# Group statement of cash flows

For the year ended 31 December 2014

	Notes	2014 £m	2013 £m
<b>Cash flows from operating activities</b>			
Cash generated from operations	13	145 0	160 7
Net interest paid		(12 0)	(11 8)
Income taxes paid		(24 4)	(30 4)
<b>Net cash inflow from operating activities</b>		<b>108 6</b>	<b>118 5</b>
<b>Cash flows from investing activities</b>			
Capital expenditure		(53 1)	(46 3)
Proceeds from the sale of property, plant and equipment		2 0	1 6
Proceeds from the sale of investments		0 6	0 3
Acquisition of subsidiaries and joint ventures, net of cash acquired	22	(23 4)	—
Disposal of subsidiaries and joint ventures, net of cash disposed of		—	44 1
Dividends received from joint ventures		0 6	1 3
Other investing outflows		(2 3)	(1 4)
<b>Net cash outflow from investing activities</b>		<b>(75 6)</b>	<b>(0 4)</b>
<b>Net cash inflow before financing activities</b>		<b>33 0</b>	<b>118 1</b>
<b>Cash flows from financing activities</b>			
Repayment of borrowings	15	(9 8)	(112 2)
Settlement of forward foreign exchange contracts		4 8	(1 4)
Proceeds from the issue of share capital		—	0 1
Purchase of own shares		(0 5)	(34 1)
Borrowing facility arrangement costs		—	(0 4)
Dividends paid to equity shareholders	27	(41 2)	(39 4)
Dividends paid to non-controlling shareholders		(2 6)	(1 1)
<b>Net cash outflow from financing activities</b>		<b>(49 3)</b>	<b>(188 5)</b>
<b>Net decrease in cash and cash equivalents</b>	15	<b>(16 3)</b>	<b>(70 4)</b>
Cash and cash equivalents at 1 January		52 8	124 7
Effect of exchange rate fluctuations on cash and cash equivalents	15	2 0	(1 5)
<b>Cash and cash equivalents at 31 December</b>	14	<b>38 5</b>	<b>52 8</b>

	Continuing operations £m	Discontinued operations £m	2014 total £m	Continuing operations £m	Discontinued operations £m	2013 total £m
<b>Free cash flow</b>						
Net cash inflow/(outflow) from operating activities	109 1	(0 5)	108 6	128 4	(9 9)	118 5
Additional funding contributions into Group pension plans	3 2	—	3 2	11 0	—	11 0
Capital expenditure	(53 1)	—	(53 1)	(46 3)	—	(46 3)
Proceeds from the sale of property, plant and equipment	2 0	—	2 0	1 6	—	1 6
Dividends received from joint ventures	0 6	—	0 6	1 3	—	1 3
Dividends paid to non-controlling shareholders	(2 6)	—	(2 6)	(1 1)	—	(1 1)
<b>Free cash flow</b>	<b>59 2</b>	<b>(0 5)</b>	<b>58 7</b>	<b>94 9</b>	<b>(9 9)</b>	<b>85 0</b>

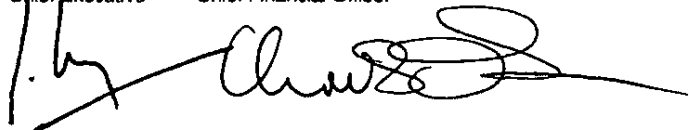
# Group balance sheet

As at 31 December 2014

	Notes	2014 £m	2013 as restated £m
<b>Assets</b>			
Property, plant and equipment	16	291.8	274.7
Intangible assets	17	703.9	717.7
Employee benefits — net surpluses	29	49.8	28.7
Interests in joint ventures		16.9	15.4
Investments		3.3	4.2
Income tax recoverable	11	2.9	4.2
Deferred tax assets	11	71.4	43.7
Other receivables		16.5	14.3
<b>Total non-current assets</b>		<b>1,156.5</b>	<b>1,102.9</b>
Cash and short-term deposits	14	76.9	76.6
Inventories	20	191.9	181.9
Trade and other receivables	19	334.1	313.7
Income tax recoverable	11	4.0	3.5
Derivative financial instruments	21	—	0.3
<b>Total current assets</b>		<b>606.9</b>	<b>576.0</b>
<b>Total assets</b>		<b>1,763.4</b>	<b>1,678.9</b>
<b>Equity</b>			
Issued share capital	24	27.8	27.8
Retained earnings	25	2,332.1	2,284.6
Other reserves	26	(1,466.7)	(1,455.8)
Equity attributable to the owners of the parent		893.2	856.6
Non-controlling interests		29.9	27.3
<b>Total equity</b>		<b>923.1</b>	<b>883.9</b>
<b>Liabilities</b>			
Interest-bearing borrowings	28	304.9	309.5
Employee benefits — net liabilities	29	100.9	76.6
Other payables	31	18.2	18.6
Provisions	33	31.9	35.3
Deferred tax liabilities	11	50.3	51.0
<b>Total non-current liabilities</b>		<b>506.2</b>	<b>491.0</b>
Interest bearing borrowings	28	40.3	23.5
Trade and other payables	31	221.0	214.5
Income tax payable	11	51.8	45.0
Provisions	33	20.8	20.8
Derivative financial instruments	21	0.2	0.2
<b>Total current liabilities</b>		<b>334.1</b>	<b>304.0</b>
<b>Total liabilities</b>		<b>840.3</b>	<b>795.0</b>
<b>Total equity and liabilities</b>		<b>1,763.4</b>	<b>1,678.9</b>

The financial statements were approved and authorised for issue by the Directors on 3 March 2015 and signed on their behalf by

François Wanecq Chris O'Shea  
Chief Executive Chief Financial Officer



# Group statement of changes in equity

For the year ended 31 December 2014

	Issued share capital £m	Other reserves £m	Retained earnings £m	Owners of the parent £m	Non-controlling interests £m	Total equity £m
As at 1 January 2013	27.8	(1,399.0)	2,212.2	841.0	26.8	867.8
Profit	—	—	135.3	135.3	5.0	140.3
Other comprehensive income/(loss), net of income tax						
Items that will not be reclassified subsequently to income statement						
Remeasurement of defined benefit liabilities/assets	—	—	10.2	10.2	—	10.2
Income tax relating to items not reclassified	—	—	(1.6)	(1.6)	—	(1.6)
Items that may be reclassified subsequently to income statement						
Exchange differences on translation of the net assets of foreign operations	—	(51.6)	—	(51.6)	(3.4)	(55.0)
Reclassification of exchange differences on disposal of foreign operations	—	(6.2)	—	(6.2)	—	(6.2)
Exchange translation differences arising on net investment hedges	—	0.3	—	0.3	—	0.3
Change in fair value of cash flow hedges	—	0.4	—	0.4	—	0.4
Change in fair value of available-for-sale investments	—	0.1	—	0.1	—	0.1
Other comprehensive (loss)/income, net of income tax	—	(57.0)	8.6	(48.4)	(3.4)	(51.8)
Total comprehensive (loss)/income	—	(57.0)	143.9	86.9	1.6	88.5
Purchase of own shares	—	—	(34.1)	(34.1)	—	(34.1)
Recognition of share-based payments	—	—	2.1	2.1	—	2.1
Dividends paid (Note 27)	—	—	(39.4)	(39.4)	(1.1)	(40.5)
Redemption of redeemable preference shares	—	0.1	(0.1)	—	—	—
Issue of share capital	—	0.1	—	0.1	—	0.1
Total transactions with owners	—	0.2	(71.5)	(71.3)	(1.1)	(72.4)
As at 1 January 2014	27.8	(1,455.8)	2,284.6	856.6	27.3	883.9
Profit	—	—	95.9	95.9	4.6	100.5
Other comprehensive income/(loss), net of income tax						
Items that will not be reclassified subsequently to income statement						
Remeasurement of defined benefit liabilities/assets	—	—	(9.9)	(9.9)	—	(9.9)
Income tax relating to items not reclassified	—	—	0.5	0.5	—	0.5
Items that may be reclassified subsequently to income statement						
Exchange differences on translation of the net assets of foreign operations	—	(10.2)	—	(10.2)	0.6	(9.6)
Exchange translation differences arising on net investment hedges	—	(0.3)	—	(0.3)	—	(0.3)
Change in fair value of cash flow hedges	—	(0.2)	—	(0.2)	—	(0.2)
Change in fair value of available-for-sale investments	—	(0.2)	—	(0.2)	—	(0.2)
Other comprehensive (loss)/income, net of income tax	—	(10.9)	(9.4)	(120.3)	0.6	(19.7)
Total comprehensive (loss)/income	—	(10.9)	86.5	75.6	5.2	80.8
Purchase of own shares	—	—	(0.5)	(0.5)	—	(0.5)
Recognition of share-based payments	—	—	2.7	2.7	—	2.7
Dividends paid (Note 27)	—	—	(41.2)	(41.2)	(2.6)	(43.8)
Total transactions with owners	—	—	(39.0)	(39.0)	(2.6)	(41.6)
As at 31 December 2014	27.8	(1,466.7)	2,332.1	893.2	29.9	923.1

# Notes to the consolidated financial statements

## 1. General information

Vesuvius plc ("Vesuvius" or "the Company") is a public limited company registered in England and Wales and listed on the London Stock Exchange. The nature of the operations and principal activities of the Company and its subsidiary and joint venture companies ("the Group") is set out in the Strategic report on pages 2 to 53 and its registered address is shown on page 154.

## 2. Basis of preparation

### 2.1 Basis of accounting

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as adopted by the European Union and, with the exception of defined benefit pension plans, certain provisions and derivative financial instruments, under the historical cost convention.

### 2.2 Basis of consolidation

The consolidated financial statements of the Group incorporate the financial statements of the Company and entities controlled by the Company (its "subsidiaries"). Control exists when the Company has the power to direct the relevant activities of an entity that significantly affect the entity's return so as to have rights to the variable return from its activities. In assessing whether control exists, potential voting rights that are currently exercisable are taken into account. The results of subsidiaries acquired or disposed of during the year are included in the Group income statement from the effective date of acquisition or up to the effective date of disposal, as appropriate.

Where necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those detailed herein to ensure that the Group financial statements are prepared on a consistent basis. All intra-Group transactions, balances, income and expenses are eliminated on consolidation.

Non-controlling interests in the net assets of consolidated subsidiaries are identified separately from the Group's interest therein. Non-controlling interests consist of the amount of those interests at the date of the original business combination together with the non-controlling interests' share of profit or loss and each component of other comprehensive income since the date of the combination. Total comprehensive income is attributed to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

### 2.3 Going concern

The Directors have prepared cash flow forecasts for the Group for a period in excess of 12 months from the date of approval of the 2014 financial statements. These forecasts reflect an assessment of current and future end-market conditions and their impact on the Group's future trading performance. The forecasts show that the Group will be able to operate within the current committed debt facilities and show continued compliance with the Company's financial covenants. On the basis of the exercise described above and the Group's available committed debt facilities, the Directors consider that the Group and Company have adequate resources to continue in operational existence for 12 months from the date of signing these accounts. Accordingly, they continue to adopt a going concern basis in preparing the financial statements of the Group and the Company.

### 2.4 Functional and presentation currency

The financial statements are presented in millions of pound sterling, which is the functional currency of the Company, and rounded to one decimal place. Foreign operations are included in accordance with the policies set out in Note 28.1.

### 2.5 Disclosure of "Separately reported items"

IAS 1 Presentation of Financial Statements, provides no definitive guidance as to the format of the income statement, but states key lines which should be disclosed. It also encourages the disclosure of additional line items and the reordering of items presented on the face of the income statement when appropriate for a proper understanding of the entity's financial performance. In accordance with IAS 1, the Company has adopted a columnar presentation for its Group income statement, to separately identify Headline Performance results, as the Directors consider that this gives a better view of the underlying results of the ongoing business. As part of this presentation format, the Company has adopted a policy of disclosing separately on the face of its Group income statement, within the column entitled "Separately reported items", the effect of any components of financial performance for which the Directors consider separate disclosure would assist both in a better understanding of the financial performance achieved and in making projections of future results. In its adoption of this policy, the Company applies an even-handed approach to both gains and losses and aims to be both consistent and clear in its accounting and disclosure of such items.

Both materiality and the nature and function of the components of income and expense are considered in deciding upon such presentation. Such items may include, inter alia, the financial effect of exceptional items which occur infrequently, such as major restructuring activity, initial recognition and subsequent increase, decrease and amortisation of deferred tax assets, together with items always reported separately, such as amortisation charges relating to intangible assets, profits or losses arising on the disposal of continuing or discontinued operations and the taxation impact of the aforementioned exceptional items and items reported separately.

### 2.6 New and revised IFRS

Following the implementation of Amendments to IAS 32 Financial Instruments which clarified the circumstances in which financial instruments can be offset within financial statements, the Group has reviewed the presentational treatment of its notional cash pooling arrangements and consequently has made the following restatements to prior year consolidated results: cash and short-term deposits have increased by £8.2m from the previously reported 2013 figure of £68.4m to £76.6m, overdrafts within current interest-bearing borrowings have increased by £8.2m from the previously reported 2013 figure of £15.6m to £23.8m. This presentational disclosure change has no effect on cash and cash equivalents as shown in the Group statement of cash flows, or the Group's overall financial position, total comprehensive income or earnings per share in either the current or prior year. See Note 28.4 for further details.

The Group also adopted a number of other new standards and amendments which became effective during the year, none of which had a material impact on the Group's net cash flow, financial position, total comprehensive income or earnings per share.

A number of other new and amended IFRS were issued during the year which do not become effective until after 1 January 2015 and which have not been early adopted.

IFRS 9 Financial Instruments (effective after 1 January 2018, for the year-end 2018), replaces the existing guidance in IAS 39 Financial Instruments Recognition and Measurement. IFRS 9 includes revised guidance on the classification and measurement of financial instruments, including a new expected credit loss model for calculating impairment on financial assets, and new general hedge accounting requirements. It also carries forward the guidance on recognition and derecognition of financial instruments from IAS 39. The Group is currently assessing the potential impact on its consolidated financial statements resulting from the application of IFRS 9.

IFRS 15 Revenue from Contracts with Customers (effective after 1 January 2017, for the year-end 2017), establishes a comprehensive framework for determining whether, how much and when revenue is recognised. It replaces existing revenue recognition guidance, including IAS 18 Revenue, IAS 11 Construction Contracts and IFRIC 13 Customer Loyalty Programmes. Based on a preliminary assessment of the adoption of IFRS 15, the Group currently does not believe there will be a significant impact on its consolidated financial statements.

Other new or amended standards are not expected to have a significant impact on the Group's financial statements.

### 3. Critical judgements in applying accounting policies and key sources of estimation uncertainty

Determining the carrying amount of some assets and liabilities requires estimation of the effect of uncertain future events. The major sources of estimation uncertainty that have a significant risk of resulting in a material adjustment to the carrying amounts of assets or liabilities are noted below.

#### 3.1 Goodwill and other intangible assets

The Directors use their judgement to determine the extent to which goodwill and other capitalised intangible assets have a value that will benefit the performance of the Group over future periods. To assist in making this judgement, the Directors undertake an assessment, at least annually, of the carrying value of the Group's capitalised goodwill and other intangible assets. In the assessment undertaken as at 31 December 2014, further details of which are given in Note 18, value in use was derived from discounted three-year cash flow projections and terminal value based on a conservative growth rate of 2.5% in the years beyond the projection period. The projection period is, in the opinion of the Directors, an appropriate period over which to view the future results of the Group's businesses for this purpose. Changes to the assumptions used in making these forecasts could significantly alter the Directors' assessment of the carrying value of goodwill and other intangible assets.

#### 3.2 Employee benefits

The Group's financial statements include the costs and obligations associated with the provision of pension and other post-retirement benefits to current and former employees. It is the Directors' responsibility to set the assumptions used in determining the key elements of the costs of meeting such future obligations. These assumptions are set after consultation with the Group's actuaries and include those used to determine regular service costs and the financing elements related to the plans' assets and liabilities. Whilst the Directors believe that the assumptions used are appropriate, a change in the assumptions used could affect the Group's profit and financial position.

#### 3.3 Provisions

Vesuvius has extensive international operations and is subject to various legal and regulatory regimes, including those covering taxation and environmental matters. Several of the Group's subsidiaries are parties to legal proceedings, certain of which are insured claims arising in the ordinary course of the operations of the company involved, and are aware of a number of issues which are, or may be, the subject of dispute with tax authorities. Provisions are made for the expected amounts payable in respect of known or probable costs resulting both from legal or other regulatory requirements, or from third-party claims. As the settlement of many of the obligations for which provision is made is subject to legal or other regulatory process, the timing and amount of the associated outflows is subject to some uncertainty. The Directors use their judgement and experience to make provisions in the financial statements for an appropriate amount relating to such matters.

#### 3.4 Taxation

##### (a) Current tax

Tax benefits are not recognised unless it is probable that they will result in future economic benefits to the Group. In assessing the amount of the benefit to be recognised in the financial statements, the Directors exercise their judgement in considering the effect of negotiations, litigation and any other matters that they consider may impact upon the potential settlement. Any interest and penalties on tax liabilities are provided for in the tax charge. The Group operates internationally and is subject to tax in many different jurisdictions. As a consequence, the Group is routinely subject to tax audits and local enquiries which, by their very nature, can take a considerable period of time to conclude. Provisions are made for known issues based upon the Directors' interpretation of country-specific tax law and their assessment of the likely outcome.

##### (b) Deferred tax

The Group has recognised deferred tax assets in respect of unutilised losses and other timing differences arising in a number of the Group's businesses, further details of which are given in Note 11.4. Account has been taken of future forecasts of taxable profit in arriving at the values at which these assets are recognised. If these forecast profits do not materialise or change, or there are changes in tax rates or to the period over which the losses or timing differences might be recognised, then the value of deferred tax assets will need to be revised in a future period.

The Group also has losses and other timing differences, analysed in Note 11.4, for which no deferred tax assets have been recognised in these financial statements, relating either to loss-making subsidiaries where the future economic benefit of the timing difference is not probable or to where the timing difference is of such a nature that its value is dependent on certain types of profit being earned, such as capital profits. If trading or other appropriate profits are earned in future in these companies, these losses and other timing differences may yield benefit to the Group in the form of a reduced tax charge.

### 4. Non-GAAP financial measures

The Company uses a number of non-Generally Accepted Accounting Practice ("non-GAAP") financial measures in addition to those reported in accordance with IFRS. The Directors believe that these non-GAAP measures, listed below, are important when assessing the underlying financial and operating performance of the Group and its divisions.

#### 4.1 Headline

Headline performance is from continuing operations and before items reported separately on the face of the income statement.

#### 4.2 Underlying

Underlying performance is adjusted to exclude the effects of changes in exchange rates, business acquisitions and disposals.

#### 4.3 Return on sales

Return on sales is calculated as trading profit divided by revenue.

#### 4.4 Trading profit

Trading profit is defined as operating profit before separately reported items. The Directors believe that trading profit is an important measure of the underlying trading performance of the Group.

#### 4.5 Headline profit before tax

Headline profit before tax is calculated as the net total of trading profit, plus the Group's share of post-tax profit of joint ventures and total net finance costs associated with headline performance.

#### 4.6 Effective tax rate

The Group's effective tax rate is calculated on the income tax costs associated with headline performance, divided by headline profit before tax and before the Group's share of post-tax profit of joint ventures

#### 4.7 Headline earnings per share

Headline earnings per share is calculated by dividing headline profit before tax less associated income tax costs attributable to owners of the parent by the weighted average number of ordinary shares in issue during the year

#### 4.8 Operating cash flow

Operating cash flow is cash generated from continuing operations before restructuring, demerger payments and additional pension funding contributions but after deducting capital expenditure net of asset disposals

#### 4.9 Free cash flow

Free cash flow is defined as net cash flow from operating activities after net outlays for the purchase and sale of property, plant and equipment, dividends from joint ventures and dividends paid to non-controlling shareholders, but before additional funding contributions to Group pension plans

#### 4.10 Average working capital to sales ratio

The average working capital to sales ratio is calculated as the percentage of average working capital balances to the total revenue for the year, using constant foreign exchange rates. Average working capital (comprising inventories, trade receivables and trade payables) is calculated as the average of the 12 previous month-end balances

#### 4.11 Earnings before interest, tax, depreciation and amortisation ("EBITDA")

EBITDA is calculated as the total of trading profit before depreciation charges

#### 4.12 Net interest

Net interest is calculated as interest payable on borrowings less interest receivable, excluding any item separately reported

#### 4.13 Interest cover

Interest cover is the ratio of EBITDA to net interest

#### 4.14 Net debt

Net debt comprises the net total of current and non-current interest-bearing borrowings and cash and short-term deposits

#### 4.15 Net debt to EBITDA

Net debt to EBITDA is the ratio of net debt at the year-end to EBITDA for that year

#### 4.16 Return on net assets ("RONA")

RONA is calculated as trading profit plus share of post tax profit of joint ventures, divided by average net operating assets, at constant foreign exchange rates (being the average over the previous 12 months of property, plant and equipment, trade working capital and other operating receivables and payables)

#### 4.17 Constant rates

Figures presented at constant rates represent December 2013 numbers retranslated to December 2014 exchange rates

### 5. Segment information

The segment information contained in this Note makes reference to several non-GAAP financial measures, definitions of which can be found in Note 4

#### 5.1 Accounting policy

##### (a) Revenue recognition

Revenue comprises the fair value of the consideration received or receivable for goods supplied and services rendered to customers after deducting rebates, discounts and value-added taxes, and after eliminating sales within the Group. Revenue from the sale of goods is recognised when persuasive evidence exists, usually in the form of an executed sales agreement, that the significant risks and rewards of ownership have been transferred to the customer, recovery of the consideration is probable, there is no continuing management involvement with the goods, and the amount of revenue can be measured reliably. A provision for anticipated returns is made based primarily on historical return rates. Where a contractual arrangement consists of two or more separate elements that can be provided to customers either on a stand-alone basis or as an extra, such as the provision of supplementary materials with equipment, revenue is recognised for each element as if it were an individual contractual arrangement

##### (b) Research & development costs

Expenditure on research activities is recognised in the income statement as an expense in the year in which it is incurred. Expenditure on development activities is capitalised if the product or process is technically and commercially feasible and the Group has sufficient resources to complete development. All other development expenditure is recognised in the income statement as an expense in the year in which it is incurred. Capitalised development expenditure is stated at cost less accumulated amortisation and impairment losses

#### 5.2 Business segments

##### Operating segments for continuing operations

For reporting purposes, the Group is organised into two main business segments: Steel and Foundry. It is the Vesuvius Board which makes the key operating decisions in respect of these segments. The information used by the Vesuvius Board to review performance and determine resource allocation between the business segments is presented with the Group's activities segmented between the two business segments, Steel and Foundry. Taking into account the basis on which the Group's activities are reported to the Vesuvius Board, the Directors believe that these two business segments are the appropriate way to analyse the Group's results. The principal activities of each of these segments are described in the Strategic report on pages 34 to 41.

Segment revenue represents revenue from external customers (inter-segment revenue is not material). Trading profit includes items directly attributable to a segment as well as those items that can be allocated on a reasonable basis.

##### Discontinued operations

The European Precious Metals business was held for sale as at 31 December 2012 and its results for the period up to 31 May 2013, when it was sold, are reported as discontinued operations in 2013.

#### 5.3 Income statement

The operating segment results from continuing operations for 2014 and 2013 are presented below

	Steel £m	Foundry £m	Continuing operations £m
<b>Segment revenue</b>	<b>981.4</b>	<b>463.0</b>	<b>1,444.4</b>
Segment EBITDA	121.9	59.4	181.3
Segment depreciation	(25.5)	(13.0)	(38.5)
<b>Segment trading profit</b>	<b>96.4</b>	<b>46.4</b>	<b>142.8</b>
Amortisation of intangible assets			(17.0)
<b>Operating profit</b>			<b>125.8</b>
Net finance costs			(16.4)
Share of post-tax profit of joint ventures			1.4
Profit on disposal of continuing operations			0.4
<b>Profit before tax</b>			<b>111.2</b>
Return on sales margin (%)	9.8	10.0	9.9
Capital expenditure additions (£m)	28.6	24.9	53.5

	2013		
	Steel £m	Foundry £m	Continuing operations £m
<b>Segment revenue</b>	<b>1,017.5</b>	<b>493.0</b>	<b>1,510.5</b>
Segment EBITDA	114.1	65.2	179.3
Segment depreciation	(25.4)	(13.9)	(39.3)
<b>Segment trading profit</b>	<b>88.7</b>	<b>51.3</b>	<b>140.0</b>
Amortisation of intangible assets			(17.4)
Restructuring charges			(3.9)
<b>Operating profit</b>			<b>118.7</b>
Net finance costs			(17.3)
Share of post-tax profit of joint ventures			2.5
Profit on disposal of continuing operations			0.2
<b>Profit before tax</b>			<b>104.1</b>
Return on sales margin (%)	8.7	10.4	9.3
Capital expenditure additions (£m)	28.6	18.9	47.5

#### 5.4 Geographic analysis

	External revenue		Non-current assets	
	2014 £m	2013 £m	2014 £m	2013 £m
USA	291.0	294.6	243.9	216.0
Germany	202.1	216.1	108.5	114.4
China	103.5	109.5	86.7	76.1
UK	78.2	79.2	143.4	155.6
Brazil	71.9	83.9	62.9	56.2
India	85.9	86.0	37.0	36.4
France	52.6	56.0	14.5	15.7
Spain	45.2	42.6	36.0	34.2
Rest of the World	514.0	542.6	300.5	323.7
<b>Continuing operations</b>	<b>1,444.4</b>	<b>1,510.5</b>	<b>1,033.4</b>	<b>1,028.3</b>

External revenue disclosed in the table above is based upon the geographical location of the operation. The Group's customers are widely dispersed around the world and no single country included within Rest of the World in the table above, for either of the years presented, amounts to more than 10% of the total external revenue of continuing operations. Non-current assets exclude employee benefits net surpluses and deferred tax assets.

#### 5.5 Products and customers

Information relating to the Group's products and services is given in the Strategic report on pages 2 to 53. The Group is not dependent upon any single customer for its revenue and no single customer, for either of the years presented in the tables above, accounts for more than 10% of the Group's total external revenue.

#### 6. Amounts payable to KPMG LLP and its associates

	2014 £m	2013 £m
Fees payable to the Company's auditor and its associates for the audit of the Company's annual accounts	0.4	0.3
Fees payable to the Company's auditor and its associates for other services		
Audit of the Company's subsidiaries	1.4	1.4



Audit-related assurance services	0.1	0.1
Tax compliance and advisory	0.1	0.1
<b>Total auditor's remuneration</b>	<b>2.0</b>	<b>1.9</b>

Total auditor's remuneration of £2.0m in 2014, all related to continuing operations, of which £1.8m related to audit fees and £0.2m of non-audit fees, the latter comprising £0.1m in respect of the interim review fee and £0.1m for taxation advice (2013: £1.9m, including £1.7m of audit fees and £0.2m of non-audit fees, the latter comprising of £0.1m in respect of the interim review fee and £0.1m for taxation advice). It is the Group's policy not to use the Group's auditor for non-audit services other than for very limited tax services where the synergies between the audit services and tax services make it cost effective for the Group.

## 7. Restructuring charges

There were no separately reported restructuring charges for the year from continuing operations. The 2013 charge of £3.9m arose in connection with initiatives that included redundancy programmes, the downsizing or closure of facilities, the streamlining of manufacturing processes and the rationalisation of product lines. Of this total charge, £0.1m arose in connection with the actions taken to downsize the Solar Crucibles operations of the Foundry division, comprising of redundancy and other cash costs of £1.1m, net of the release of a reserve of £1.0m for lease costs no longer required. The net tax credit attributable to the total restructuring charges in 2013 was £2.6m.

Cash costs of £5.8m (2013: £10.3m) (Note 13) were incurred in the year in respect of the restructuring initiatives of continuing operations commenced in prior years, leaving provisions made but unspent of £8.0m (Note 33) as at 31 December 2014 (2013: £12.9m), of which £4.4m relates to future costs in respect of leases expiring between one and eight years.

## 8. Employees

### 8.1 Employee benefits expense

	2014 £m	2013 £m
Wages and salaries	296.9	326.3
Social security costs	45.5	48.7
Share-based payments (Note 30)	2.3	2.6
Pension costs — defined contribution pension plans (Note 29)	9.2	10.9
— defined benefit pension plans (Note 29)	3.8	7.1
Other post-retirement benefits (Note 29)	0.3	0.7
<b>Total employee benefits expense</b>	<b>358.0</b>	<b>396.3</b>

Of the total employee benefits expense of £358.0m (2013: £396.3m), £356.2m (2013: £384.8m) was charged in arriving at trading profit, within which £3.6m (2013: £nil) was credited within gains relating to employee benefits plans, £1.8m (2013: £1.8m) was charged within ordinary net finance costs, and £nil (2013: £9.7m) was charged to discontinued operations.

At constant 2014 foreign exchange rates the total employee benefits expense for 2013 is £371.3m which includes discontinued expenses of £10.7m.

### 8.2 Average number of employees

	2014 no	2013 no
Steel	7,716	7,568
Foundry	3,387	3,423
Continuing operations	11,103	10,991
Discontinued operations	—	505
<b>Total average number of employees</b>	<b>11,103</b>	<b>11,496</b>

The Group acquired ECIL Met Tec with 473 employees in October 2014. Had we acquired ECIL Met Tec on 1 January, the average headcount would have been 11,496.

### 8.3 Remuneration of key management personnel

The remuneration of the Directors, who are the key management personnel of the Group, is set out below in aggregate for each of the categories specified in IAS 24 Related Party Disclosures. Further information about the remuneration of individual Directors is provided in the audited part of the Directors' remuneration report on pages 75 to 93.

	2014 £m	2013 £m
Short-term employee benefits	0.9	1.5
Post-employment benefits	0.3	0.3
Share-based payments	1.0	0.9
<b>Total remuneration of key management personnel</b>	<b>2.2</b>	<b>2.7</b>

## 9. Profit on disposal of continuing operations

The net profit on disposal of continuing operations in 2014 of £0.4m comprised of £0.8m profit on the sale of non-current assets in the USA and Czech Republic, and a £0.4m loss on the dilution of interests in an investment holding in Italy. The net profit on disposal of continuing operations in 2013 of £0.2m comprised £0.4m profit on the sale of a construction and installation business in Canada, together with a loss relating to a non-core business held for sale as at 31 December 2012. The tax charge attributable to these transactions was £nil (2013: £nil).

## 10. Net finance costs

### 10.1 Accounting policy

The ineffective portion of the change in fair value of interest rate swaps designated as cash flow hedges is included within interest payable on loans and overdrafts. Borrowing costs that are directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial

period of time to get ready for its intended use or sale are capitalised as part of the cost of that asset. All other borrowing costs are recognised as an expense in the income statement using the effective interest rate method.

## 10.2 Total net finance costs

	2014 £m	2013 £m
<b>Interest payable on borrowings</b>		
Loans, overdrafts and factoring arrangements	14.2	13.2
Obligations under finance leases	0.1	0.2
Amortisation of capitalised borrowing costs	1.8	2.6
<b>Total interest payable on borrowings</b>	<b>16.1</b>	<b>16.0</b>
Interest on net retirement benefits obligations	1.8	1.8
Unwinding of discounted provisions	1.1	1.3
Finance income	(2.6)	(1.8)
<b>Total net finance costs</b>	<b>16.4</b>	<b>17.3</b>

## 11. Income tax

### 11.1 Accounting policy

Tax expense represents the sum of current tax and deferred tax. Current and deferred tax are recognised in profit or loss except to the extent that they relate to items charged or credited in other comprehensive income or directly to equity, in which case the associated tax is also dealt with in other comprehensive income or directly in equity.

**Current tax** is based on taxable profit for the year. Taxable profit differs from profit before tax as reported in the income statement because it excludes items of income or expense that are taxable or deductible in other years and it further excludes items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates and laws that have been enacted, or substantively enacted, by the balance sheet date.

**Deferred tax** is recognised on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from the initial recognition of goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit. Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised, based on tax rates and laws that have been enacted, or substantively enacted, by the balance sheet date.

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered. Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and liabilities on a net basis.

### 11.2 Income tax costs

	2014 £m	2013 £m
<b>Current tax</b>		
Overseas taxation	31.8	31.9
Adjustments in respect of prior years	0.4	(1.3)
<b>Total current tax, continuing operations</b>	<b>32.2</b>	<b>30.6</b>
<b>Deferred tax</b>		
Origination and reversal of temporary taxable differences	(25.7)	(38.3)
Adjustments in respect of prior years	0.6	1.4
<b>Total deferred tax, continuing operations</b>	<b>(25.1)</b>	<b>(36.9)</b>
<b>Total income tax costs</b>	<b>7.1</b>	<b>(6.3)</b>
<b>Total income tax costs attributable to</b>		
Continuing operations — headline performance	32.9	32.5
— separately reported items	(25.8)	(38.8)
<b>Total income tax costs</b>	<b>7.1</b>	<b>(6.3)</b>

The Group's total income tax costs relating to separately reported items are analysed in the following table:

	2014 £m	2013 £m
<b>Separately reported items</b>		
US deferred tax asset recognition (Note 11.4)	21.8	29.2
Restructuring charges	—	2.6
Amortisation of intangibles	4.0	7.0
<b>Total tax credit on separately reported items</b>	<b>25.8</b>	<b>38.8</b>

Tax credit in the Group statement of comprehensive income in the year amounted to £0.5m (2013: £1.6m charge), £0.5m (2013: £1.4m) of which related to net actuarial gains and losses on employee benefits plans.

The Group operates in a number of countries that have differing tax rates, laws and practices. Changes in any of these areas could, adversely or positively, impact the Group's tax charge in the future. Continuing losses, or insufficiency of taxable profit to absorb all expenses, in any subsidiary could

have the effect of increasing tax charges in the future, relative to 2014, as effective tax relief may not be available for those losses or expenses. Other significant factors affecting the tax charge are described in Notes 3.4 and 11.1.

### 11.3 Reconciliation of income tax costs to profit before tax

	2014 £m	2013 £m
<b>Profit before tax</b>	<b>111.2</b>	<b>104.1</b>
<b>Tax at the UK corporation tax rate of 21.5% (2013: 23.25%)</b>	<b>23.9</b>	<b>24.2</b>
Overseas tax rate differences	6.9	4.6
Withholding taxes	3.9	3.6
Amortisation of intangibles	(0.3)	(2.7)
Expenses not deductible for tax purposes	2.5	0.8
US deferred tax asset not previously recognised	(34.4)	(29.2)
Deferred tax assets not recognised	3.9	3.8
Utilisation of previously unrecognised tax losses	(0.3)	(11.5)
Adjustments in respect of prior years	1.0	0.1
<b>Total income tax costs</b>	<b>7.1</b>	<b>(6.3)</b>

### 11.4 Deferred tax

	Interest £m	Other operating losses £m	Pension costs £m	Intangible assets £m	Timing differences £m	Total £m
As at 1 January 2013	—	—	3.1	(49.6)	3.7	(42.8)
Exchange adjustments	—	(0.3)	—	1.3	(0.9)	0.1
Charge to Group statement of comprehensive income	—	—	(1.4)	—	(0.2)	(1.6)
Credit/(charge) to Group income statement	—	2.5	—	7.0	(1.7)	7.8
Credit to Group income statement US	14.5	11.3	—	—	3.4	29.2
<b>As at 1 January 2014</b>	<b>14.5</b>	<b>13.5</b>	<b>1.7</b>	<b>(41.3)</b>	<b>4.3</b>	<b>(7.3)</b>
Exchange adjustments	1.7	1.0	0.1	0.9	0.4	4.1
Acquisition	—	—	—	—	(1.3)	(1.3)
Credit to Group statement of comprehensive income	—	—	0.5	—	—	0.5
(Charge)/credit to Group income statement	—	(1.0)	(1.0)	4.0	1.3	3.3
Credit/(charge) to Group income statement US	14.2	9.6	—	—	(2.0)	21.8
<b>As at 31 December 2014</b>	<b>30.4</b>	<b>23.1</b>	<b>1.3</b>	<b>(36.4)</b>	<b>2.7</b>	<b>21.1</b>

	2014 £m	2013 £m
<b>Recognised in the Group balance sheet as</b>		
Non-current deferred tax assets	71.4	43.7
Non-current deferred tax liabilities	(50.3)	(51.0)
<b>Net total deferred tax liabilities</b>	<b>21.1</b>	<b>(7.3)</b>

Included in non-current deferred tax assets is £54.0m (2013: £29.2m) in respect of the partial recognition of temporary differences arising in the US. We initially recognised a deferred tax asset of £29.2m in 2013 in respect of US losses. However our confidence has increased regarding the future realisation of value for these losses, and at the end of 2014 we have increased the total deferred tax asset recognised to £54.0m. In view of its material size and nature, the tax credit arising from the recognition of this asset is presented separately from the tax charge on headline performance, in accordance with the principles outlined in Note 2.5 above. Subsequent increase, decrease and amortisation of the value of this asset would similarly be expected to be presented in this manner, as the Directors consider that the separate identification of deferred tax for material temporary differences would assist both in a better understanding of the financial performance achieved and in making projections of future results of the Group. Consequently, the credit to the Group income statement of £21.8m (2013: £29.2m) comprises additional recognition of deferred tax asset of £34.4m, net of amortisation of £12.6m.

Tax loss carry-forwards and other temporary differences of £2.1m (2013: £7.5m) were recognised by subsidiaries reporting a loss in 2013 or 2014. On the basis of approved business plans of these subsidiaries, the Directors consider it probable that the tax loss carry forwards and temporary differences can be offset against future taxable profits.

The total deferred tax assets not recognised as at 31 December 2014 were £259.3m (2013: £280.0m), as analysed below. In accordance with the accounting policy in Note 11.1, these items have not been recognised as deferred tax assets on the basis that their future economic benefit is not probable. In total, there was a decrease of £20.7m (2013: £56.6m) in net unrecognised deferred tax assets during the year.

	2014 £m	2013 £m
Operating losses	117.5	126.0
Unrelieved US interest (may be carried forward indefinitely)	52.3	69.4
Capital losses available to offset future UK capital gains (may be carried forward indefinitely)	33.0	33.0
UK ACT credits (may be carried forward indefinitely)	13.1	13.1
US tax credits	2.0	4.2

Other timing differences	41 4	34 3
<b>Total deferred tax assets not recognised</b>	<b>259 3</b>	<b>280 0</b>

As at 31 December 2014, the Group had total operating losses carried forward with a tax value of £140 6m (2013 £139 5m)

	2014 £m	2013 £m
<b>Losses available to set against future US taxable income, due to expire 2024 to 2031</b>	<b>28 7</b>	<b>29 6</b>
<b>Losses available to set against future UK taxable income (may be carried forward indefinitely)</b>	<b>79 8</b>	<b>77 6</b>
<b>Losses available to set against future taxable income in Rest of World ("RoW")</b>		
Due to expire within five years	14 7	17 1
Due to expire between five and 20 years	—	1 1
Carried forward indefinitely	17 4	14 1
<b>ROW operating losses</b>	<b>32 1</b>	<b>32 3</b>

<b>Total net operating losses</b>	<b>140 6</b>	<b>139 5</b>
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Total net operating losses of £140 6m (2013 £139 5m) comprised unrecognised losses of £117 5m (2013 £126 0m) and recognised losses of £23 1m (2013 £13 5m)

The above losses available relating to the Rest of the World arise in a number of countries, each of which is not individually significant, reflecting the spread of the Group's operations

As at 31 December 2014, the Group had US tax credits carried forward with a tax value of £2 0m (2013 £4 2m) as follows

	2014 £m	2013 £m
US research and experimentation credits (due to expire 2018 to 2033)	1 1	1 1
US foreign tax credits (due to expire 2022 to 2024)	0.9	3 1
<b>US tax credits</b>	<b>2 0</b>	<b>4 2</b>

There are no temporary differences associated with investments in subsidiaries and interests in joint ventures for which deferred tax liabilities have not been recognised

From 1 April 2014, the UK corporation tax rate reduced to 21% from 23%. Further UK corporation tax rate reductions to 20% from 1 April 2015 were substantively enacted on 2 July 2013. Accordingly, the Group's closing UK deferred tax liability has been provided using a tax rate of 20%. The impact of using this lower tax rate was included in 2013 and increased the exceptional tax credit relating to the amortisation of intangible assets from £4 5m to £7 0m. There was no impact in 2014.

#### 11.5 Income tax payable and recoverable

	2014 £m	2013 £m
Liabilities and provisions for income tax payable	51 8	45 0
Income taxes recoverable		
within one year	4 0	3 5
after more than one year	2 9	4 2
	6 9	7 7
<b>Net liability and provision for income tax payable</b>	<b>44 9</b>	<b>37 3</b>

## 12. Earnings per share ("EPS")

### 12.1 Earnings for EPS

Basic and diluted EPS from continuing operations are based upon the profit attributable to owners of the parent, as reported in the Group income statement, of £99 5m (2013 £105 4m), being the profit for the year of £104 1m (2013 £110 4m) less non-controlling interests of £4 6m (2013 £5 0m), basic and diluted EPS from total operations are based on the profit attributable to owners of the parent of £95 9m (2013 £135 3m), headline and diluted headline EPS are based upon headline profit from continuing operations attributable to owners of the parent of £90 3m (2013 £87 7m). The table below reconciles these different profit measures

	Continuing operations £m	Discontinued operations £m	2014 total £m	Continuing operations £m	Discontinued operations £m	2013 total £m
Profit attributable to owners of the parent	99 5	(3 6)	95 9	105 4	29 9	135 3
Adjustments for separately reported items						
Amortisation of intangible assets	17 0	—	17 0	17 4	—	17 4
Restructuring charges	—	—	—	3 9	0 1	4 0
Profit on disposal of continuing operations	(0 4)	—	(0 4)	(0 2)	—	(0 2)
Profit on disposal of discontinued operations	—	—	—	—	(19 3)	(19 3)
Tax relating to separately reported items	(25 8)	—	(25 8)	(38 8)	—	(38 8)
<b>Headline profit attributable to owners of the parent</b>	<b>90 3</b>	<b>(3 6)</b>	<b>86 7</b>	<b>87 7</b>	<b>10 7</b>	<b>98 4</b>

## 12.2 Weighted average number of shares

	2014 £m	2013 £m
For calculating basic and headline EPS	270.3	274.8
Adjustment for dilutive potential ordinary shares	0.8	0.9
For calculating diluted and diluted headline EPS	271.1	275.7

For the purposes of calculating diluted and diluted headline EPS, the weighted average number of ordinary shares is adjusted to include the weighted average number of ordinary shares that would be issued on the conversion of all dilutive potential ordinary shares expected to vest, relating to the Company's share-based payment plans. Potential ordinary shares are only treated as dilutive when their conversion to ordinary shares would decrease EPS, or increase loss per share, from continuing operations.

## 12.3 Per share amounts

	Continuing operations pence	Discontinued operations pence	2014 total pence	Continuing operations pence	Discontinued operations pence	2013 total pence
Earnings/(loss) per share — basic	36.8	(1.3)	35.5	38.4	10.8	49.2
— headline	33.4		32.1	31.9		35.8
— diluted	36.7	(1.3)	35.4	38.3	10.8	49.1
— diluted headline	33.3		32.0	31.8		35.7

## 13. Cash generated from operations

	Continuing operations £m	Discontinued operations £m	2014 total £m	Continuing operations £m	Discontinued operations £m	2013 total £m
Operating profit	125.8	(3.6)	122.2	118.7	10.6	129.3
Adjustments for:						
Amortisation of intangible assets	17.0	—	17.0	17.4	—	17.4
Restructuring charges	—	—	—	3.9	0.1	4.0
Depreciation	38.5	—	38.5	39.3	—	39.3
EBITDA	181.3	(3.6)	177.7	179.3	10.7	190.0
Net (increase)/decrease in trade and other working capital	(26.8)	3.1	(23.7)	15.8	(3.5)	12.3
Net operating outflow related to assets and liabilities classified as held for sale	—	—	—	—	(17.1)	(17.1)
Outflow related to restructuring charges	(5.8)	—	(5.8)	(10.3)	—	(10.3)
Outflow related to demerger costs	—	—	—	(3.2)	—	(3.2)
Additional pension funding contributions	(3.2)	—	(3.2)	(11.0)	—	(11.0)
Cash generated from operations	145.5	(0.5)	145.0	170.6	(9.9)	160.7

## 14. Cash and cash equivalents

	2014 £m	2013 as restated £m
Cash at bank and in hand	76.9	76.6
Cash and short-term deposits	76.9	76.6
Bank overdrafts	(38.4)	(23.8)
Cash and cash equivalents in the Group statement of cash flows	38.5	52.8

Bank overdrafts that are repayable on demand and form an integral part of the Group's cash management are included as a component of cash and cash equivalents for the purpose of the Group statement of cash flows.

## 15 Reconciliation of movement in net debt

	Balance as at 1 Jan 2014 as restated £m	Foreign exchange adjustments £m	Non-cash movements £m	Cash flow £m	Balance as at 31 Dec 2014 £m
<b>Cash and cash equivalents</b>					
Cash at bank and in hand	76.6	0.9	—	(0.6)	76.9
Bank overdrafts	(23.8)	1.1	—	(15.7)	(38.4)
	52.8	2.0	—	(16.3)	38.5
<b>Borrowings, excluding bank overdrafts</b>					
Current	(1.5)	—	—	(0.7)	(2.2)
Non-current	(310.7)	(5.6)	—	10.5	(305.8)
	(312.2)	(5.6)	—	9.8	(308.0)
Capitalised borrowing costs	3.0	—	(1.8)	—	1.2
<b>Net debt</b>	<b>(256.4)</b>	<b>(3.6)</b>	<b>(1.8)</b>	<b>(6.5)</b>	<b>(268.3)</b>

Net debt is a measure of the Group's net indebtedness to banks and other external financial institutions and comprises the total of cash and short-term deposits and current and non-current interest-bearing borrowings

## 16. Property, plant and equipment

### 16.1 Accounting policy

Freehold land is carried at cost less accumulated impairment losses. Other items of property, plant and equipment are carried at cost less accumulated depreciation and accumulated impairment losses. Costs are capitalised only when it is probable that they will result in future economic benefits flowing to the Group and when they can be measured reliably. All other repairs and maintenance expenditure are charged to the Group income statement in the period in which they are incurred.

Freehold land is not depreciated as it has an infinite life. Depreciation on other items of property, plant and equipment begins when the asset is available for use and is charged to the Group income statement on a straight-line basis so as to write off the cost less residual value of the asset over its estimated useful life as follows:

Asset category	Estimated useful life
Freehold property	between ten and 50 years
Leasehold property	the term of the lease
Plant and equipment — motor vehicles and information technology equipment	between one and five years
— other	between three and 15 years

The depreciation method used, residual values and estimated useful lives are reviewed and changed, if appropriate, at least at each year-end. As described in Note 18.1, an asset's carrying amount is immediately written down to its recoverable amount if its carrying amount is greater than its estimated recoverable amount. Gains and losses arising on disposals are determined by comparing sales proceeds with carrying amount and are recognised in the Group income statement.

### 16.2 Movement in net book value

	Freehold property £m	Leasehold property £m	Plant and equipment £m	Construction in progress £m	Total £m
<b>Cost</b>					
As at 1 January 2013	133.4	3.6	460.7	31.7	629.4
Exchange adjustments	(6.4)	(0.1)	(15.1)	(1.6)	(23.2)
Capital expenditure additions	4.5	0.2	23.3	19.5	47.5
Disposals	(0.1)	—	(19.6)	(0.3)	(20.0)
Reclassifications	14.8	—	3.0	(17.8)	—
<b>As at 1 January 2014</b>	<b>146.2</b>	<b>3.7</b>	<b>452.3</b>	<b>31.5</b>	<b>633.7</b>
Exchange adjustments	(2.0)	—	(3.0)	—	(5.0)
Capital expenditure additions	6.7	0.5	22.1	24.2	53.5
Acquisitions through business combinations	2.3	—	5.9	—	8.2
Disposals	(1.4)	(0.5)	(8.4)	—	(10.3)
Reclassifications	5.2	—	10.6	(15.8)	—
<b>As at 31 December 2014</b>	<b>157.0</b>	<b>3.7</b>	<b>479.5</b>	<b>39.9</b>	<b>680.1</b>
<b>Accumulated depreciation and impairment losses</b>					
As at 1 January 2013	47.5	2.1	302.0	—	351.6
Exchange adjustments	(2.0)	(0.1)	(9.9)	—	(12.0)
Depreciation charge	4.8	0.3	34.2	—	39.3
Disposals	—	—	(19.9)	—	(19.9)
Reclassifications	4.2	—	(4.2)	—	—
<b>As at 1 January 2014</b>	<b>54.5</b>	<b>2.3</b>	<b>302.2</b>	<b>—</b>	<b>359.0</b>
Exchange adjustments	(0.4)	—	0.2	—	(0.2)
Depreciation charge	4.8	0.3	33.4	—	38.5
Disposals	(0.9)	(0.5)	(7.7)	—	(9.1)
Reclassifications	(0.1)	(0.1)	0.3	—	0.1
<b>As at 31 December 2014</b>	<b>57.9</b>	<b>2.0</b>	<b>328.4</b>	<b>—</b>	<b>388.3</b>
<b>Net book value as at 31 December 2014</b>	<b>99.1</b>	<b>1.7</b>	<b>151.1</b>	<b>39.9</b>	<b>291.8</b>
Net book value as at 31 December 2013	91.7	1.4	150.1	31.5	274.7
Net book value as at 1 January 2013	85.9	1.5	158.7	31.7	277.8

The net book value of assets held under finance leases as at 31 December 2014, 31 December 2013 and 1 January 2013 was not material.

## 17. Intangible assets

Intangible assets comprise goodwill and other intangible assets that have been acquired through business combinations.

## 17.1 Accounting policy

### (a) Goodwill

Goodwill arising in a business combination is initially recognised as an asset at cost, measured as the excess of the aggregate of the acquisition-date fair value of the consideration transferred and the amount of any non-controlling interest acquired over the net of the acquisition-date fair value amounts of the identifiable assets acquired and liabilities assumed. When the excess is negative, a bargain purchase gain is recognised immediately in profit or loss. Goodwill is subsequently measured at cost less accumulated impairment losses, with impairment testing carried out annually, or more frequently when there is an indication that the cash-generating unit to which the goodwill has been allocated may be impaired. On disposal of a business, the attributable amount of goodwill is included in the calculation of the profit or loss on disposal.

### (b) Other intangible assets

Intangible assets other than goodwill are recognised on business combinations if they are separable, or if they arise from contractual or other legal rights, and their value can be measured reliably. They are initially measured at cost, which is equal to the acquisition-date fair value, and subsequently measured at cost less accumulated amortisation charges and accumulated impairment losses. Other intangible assets are subject to impairment testing when there is an indication that an impairment loss may have been incurred and are amortised over their estimated useful lives.

## 17.2 Movement in net book value

	Goodwill £m	Other intangible assets £m	2014 total £m	Goodwill £m	Other intangible assets £m	2013 total £m
<b>Cost</b>						
As at 1 January	555.3	260.3	815.6	579.6	266.4	846.0
Exchange adjustments	(5.5)	(4.4)	(9.9)	(24.3)	(6.1)	(30.4)
Business combinations (Note 22)	11.6	—	11.6	—	—	—
<b>As at 31 December</b>	<b>561.4</b>	<b>255.9</b>	<b>817.3</b>	<b>555.3</b>	<b>260.3</b>	<b>815.6</b>
<b>Accumulated amortisation and impairment losses</b>						
As at 1 January	—	97.9	97.9	—	82.3	82.3
Exchange adjustments	—	(1.5)	(1.5)	—	(1.8)	(1.8)
Amortisation charge for the year	—	17.0	17.0	—	17.4	17.4
<b>As at 31 December</b>	<b>—</b>	<b>113.4</b>	<b>113.4</b>	<b>—</b>	<b>97.9</b>	<b>97.9</b>
<b>Net book value as at 31 December</b>	<b>561.4</b>	<b>142.5</b>	<b>703.9</b>	<b>555.3</b>	<b>162.4</b>	<b>717.7</b>

## 17.3 Analysis of goodwill by cash-generating unit ("CGU")

Goodwill acquired in a business combination is allocated to each of the Group's CGUs expected to benefit from the synergies of the combination. For the purposes of impairment testing, the Directors consider that the Group has two CGUs: the Steel division and the Foundry division. These CGUs represent the lowest level within the Group at which goodwill is monitored.

	2014 £m	2013 £m
Steel	363.2	355.1
Foundry	198.2	200.2
<b>Total goodwill</b>	<b>561.4</b>	<b>555.3</b>

## 17.4 Analysis of other intangible assets

Other intangible assets arose in 2008 on the acquisition of Foseco plc and are being amortised on a straight-line basis over their estimated useful lives. The assets acquired and their remaining useful lives are shown below.

	Remaining useful life years	Net book value as at 31 Dec 2014 £m
Foseco — customer relationships (useful life: 20 years)	13.3	68.4
— trade name (useful life: 20 years)	13.3	48.0
— intellectual property rights (useful life: ten years)	3.3	26.1
<b>Total</b>		<b>142.5</b>

## 18. Impairment of tangible and intangible assets

### 18.1 Accounting policy

The Directors regularly review the performance of the business and the external business environment to determine whether there is any indication that those assets have suffered an impairment loss. If such indication exists, the recoverable amount of the asset is estimated and compared to the carrying value in order to determine the extent, if any, of the impairment loss. Where it is not feasible to estimate the recoverable amount of an individual asset, the Directors estimate the recoverable amount of the CGU to which the asset belongs. In addition, goodwill is tested for impairment on an annual basis. Goodwill acquired in a business combination is allocated to each of the Group's CGUs expected to benefit from the synergies of the combination and the Directors carry out annual impairment testing of the carrying value of each CGU, to assess the need for any impairment of the carrying value of the associated goodwill and other intangible and tangible assets.

For the purpose of impairment testing, the recoverable amount of an asset or CGU is the higher of (i) its fair value less costs to sell and (ii) its value in use. If the recoverable amount of a CGU is less than its carrying amount, the resulting impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then to the other assets of the CGU pro rata on the basis of the carrying amount of each asset in the CGU. An impairment loss recognised for goodwill is not reversed in a subsequent period. An impairment loss recognised in a prior year for an asset other than goodwill may be reversed where there has been a change in the estimates used to measure the asset's recoverable amount since the impairment loss was recognised.

## 18.2 Key assumptions

The key assumptions used in determining value in use are return on sales, growth rates and discount rates. Return on sales assumptions are based on historical financial information, adjusted to factor in the anticipated impact of restructuring and rationalisation plans already announced at the balance sheet date.

The value in use calculations of the Group's CGUs are based on three-year business plans and a terminal value at 2.5% growth rate. The cash flows are discounted to their current value using pre-tax discount rates, which represent each CGU's weighted average cost of capital ("WACC"). Growth rates are determined with reference to current market conditions, external forecasts and historical trends for the Group's key end-markets of Steel and Foundry, and expected growth in output within the industries in which each major Group business unit operates. A perpetuity growth rate of 2.5% (2013 2.5%) has been applied. This is a conservative assumption given that the 2014 underlying revenue and trading profit growth are 3.5% and 11.6% respectively (2013 0.8% and 10.9%) and the Group noted no reason to change it from prior year. The pre-tax discount rate is the WACC calculated for each CGU as at 31 December 2014 based on industry-specific beta coefficients for the industries in which the CGUs operate, risk-free rates, and equity risk premia related to the major countries in which the CGUs are located, selecting countries which contribute at least 60% of total CGU revenue. The pre-tax discount rate used for the Steel CGU was 10.3% (2013 11.7%) and for the Foundry CGU was 15.0% (2013 13.7%). The increase in Foundry's pre-tax discount rate is due to the inclusion of Brazil in the weighted assumption to ensure the revenue coverage reflects the portfolio of Foundry business globally. Under a sensitivity analysis undertaken on the 2014 impairment testing, a 1.0% increase in each of the CGU discount rates and a 1.0% perpetuity growth rate still left each CGU with significant headroom of recoverable amount over its carrying value. A pre-tax WACC of 18% would result in an impairment of Foundry intangible assets and 17.1% for Steel.

## 18.3 Goodwill impairment

In assessing goodwill for potential impairment as at 31 December 2014, the Directors made use of detailed calculations of the recoverable amount of the Group's CGUs as at 31 December 2014. Those calculations resulted in recoverable amounts significantly higher than the carrying values of each of the Group's CGUs and consequently no impairment charges were recognised.

## 19. Trade and other receivables

### 19.1 Accounting policy

Trade and other receivables are initially recognised at fair value and subsequently measured at amortised cost, using the effective interest method, less impairment losses.

### 19.2 Analysis of trade and other receivables

			2014			2013		
			Gross £m	Impairment £m	Net £m	Gross £m	Impairment £m	Net £m
Trade receivables	— current		212.5	(0.8)	211.7	197.0	(1.3)	195.7
	— one to 30 days past due		48.7	(0.7)	48.0	44.0	(0.6)	43.4
	— 31 to 60 days past due		14.7	(0.2)	14.5	17.3	(0.1)	17.2
	— 61 to 90 days past due		7.1	(0.2)	6.9	8.3	(0.3)	8.0
	— over 90 days past due		30.5	(23.5)	7.0	30.5	(21.5)	9.0
Trade receivables			313.5	(25.4)	288.1	297.1	(23.8)	273.3
Other receivables					19.9			17.3
Prepayments and accrued income					26.1			23.1
<b>Total trade and other receivables</b>					<b>334.1</b>			<b>313.7</b>

All of the Group's operating companies have policies and procedures in place to assess the creditworthiness of the customers with whom they do business. Where objective evidence exists that a trade receivable balance may be impaired, provision is made for the difference between its carrying amount and the present value of the estimated cash that will be recovered. Evidence of impairment may include such factors as the customer being in breach of contract, or entering bankruptcy or financial reorganisation proceedings. Impairment provisions are assessed on an individual customer basis for all significant outstanding balances and collectively for all remaining balances, based upon historical loss experience. Historical experience has shown that the Group's trade receivable provisions are maintained at levels that are sufficient to absorb actual bad debt write-offs, without being excessive.

Under its non-recourse factoring arrangements, the Group sells trade receivables balances to a third-party factoring company in exchange for a cash payment from the factoring company, net of fees. All the risks and rewards of the trade receivables subject to these arrangements are transferred to the factoring company and, accordingly, the trade receivables are derecognised in the Group balance sheet. Such arrangements are used from time to time by the Group to manage the recovery of cash from its trade receivables. As at 31 December 2014, the Group balance sheet included £5.9m (2013 £11.9m) of cash that would otherwise have been reported as trade receivables if these arrangements were not in place. The movement since the prior year of £6.0m includes £4.8m in respect of the retirement of a debt factoring programme in Germany. Factoring fees incurred during the year ended 31 December 2014, which are written off to the Group income statement within ordinary finance costs, amounted to £0.6m (2013 £0.4m).

### 19.3 Movements on impairment provisions

	2014 £m	2013 £m
As at 1 January	23.8	28.0
Charge for the year	3.0	4.3
Receivables written off during the year as uncollectable	(1.4)	(8.5)
<b>As at 31 December</b>	<b>25.4</b>	<b>23.8</b>

Write-offs shown in the table above are charged or credited as appropriate within administration, selling and distribution costs or discontinued activities in the Group income statement.

Of the total provision for impairment of trade receivables at 31 December 2014 of £25.4m (2013 £23.8m) shown in the table above, £24.1m (2013 £22.6m) related to balances that were impaired on an individual basis. The ageing analysis of these individually impaired balances is shown in the table below.

	2014 £m	2013 £m
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**Ageing analysis of individually impaired trade receivable balances**

Current	0.5	0.8
One to 30 days past due	0.4	0.3
31 to 60 days past due	0.1	0.1
61 to 90 days past due	0.1	0.3
Over 90 days past due	23.0	21.1
<b>Total individually impaired trade receivable balances</b>	<b>24.1</b>	<b>22.6</b>

Due to the large number of customers with which the Group transacts its business, none of which represent a significant proportion of the total outstanding trade receivables balance and, considering the level of trade receivable provisions held, the Group is not exposed to any significant concentration of credit risk. There is no significant difference between the fair value of the Group's trade and other receivable balances and the amount at which they are reported in the Group balance sheet.

**20. Inventories****20.1 Accounting policy**

Inventories are stated at the lower of cost (using the first in, first out method) and net realisable value. Cost comprises expenditure incurred in purchasing or manufacturing inventories together with all other costs directly incurred in bringing the inventory to its present location and condition and, where appropriate, attributable production overheads based on normal activity levels. Net realisable value represents the estimated selling price less all estimated costs of completion and costs to be incurred in marketing, selling and distribution. The amount of any write-down of inventories to net realisable value is recognised as an expense in the year in which the write-down occurs.

**20.2 Analysis of inventories**

	2014 £m	2013 £m
Raw materials	72.5	61.2
Work-in-progress	16.5	14.0
Finished goods	102.9	106.7
<b>Total inventories</b>	<b>191.9</b>	<b>181.9</b>

The cost of inventories recognised as an expense and included in cost of sales of continuing operations in the income statement during the year was £670.4m (2013: £655.7m). An expense of £nil (2013: £43.8m) was included within discontinued operations.

**21. Derivative financial instruments****21.1 Accounting policy**

The Group uses derivative financial instruments ("derivatives") in the form of forward foreign currency contracts, and interest rate swaps to manage the effects of its exposure to foreign exchange risk, and interest rate risk. The way in which derivatives are used to manage the Group's financial risk is detailed in Note 28.

Derivatives are measured at fair value. The fair value of forward foreign currency contracts is calculated using market prices at the balance sheet date. The fair value of an interest rate swap is the estimated amount that the Group would receive or pay to terminate the swap at the balance sheet date, taking into account current interest rates and the creditworthiness of the swap counterparty.

The method of recognising the gain or loss on remeasurement to fair value depends on whether the derivative is designated as a hedging instrument for hedge accounting purposes and, if so, the nature of the item being hedged. Strict conditions have to be satisfied in order to qualify for hedge accounting, including a determination both at inception of the hedge and on an ongoing basis that the hedge is expected to be highly effective in achieving offsetting changes in fair values or cash flows attributable to the hedged risk. The change in fair value of a derivative that is not designated as a hedging instrument for hedge accounting purposes is recognised immediately in the Group income statement. No derivatives are held for speculative purposes.

**Cash flow hedges**

The effective part of any gain or loss on a derivative that is designated as a cash flow hedge is recognised in other comprehensive income and presented in the hedging reserve in equity. The ineffective part of any gain or loss is recognised immediately within trading profit, or within finance costs in the case of interest rate swaps designated as cash flow hedges. When the transaction that was being hedged is realised and affects profit or loss, the cumulative gain or loss on the derivative is removed from the hedging reserve and recognised in the income statement in the same period.

**Fair value hedges**

The change in fair value of a derivative that is designated as a fair value hedge is recognised within trading profit in the Group income statement. The carrying amount of the hedged item is adjusted by the change in its fair value that is attributable to the hedged risk and this adjustment is recognised within trading profit in the Group income statement.

**Net investment hedges**

The effective part of any gain or loss on a derivative that is designated as a hedge of a net investment in a foreign operation is recognised in other comprehensive income and presented in the translation reserve in equity, and is subsequently recognised in the Group income statement as part of the profit or loss on disposal of the net investment. The ineffective portion of the gain or loss is recognised immediately within trading profit in the Group income statement.

**21.2 Analysis of derivative financial instruments**

	2014		2013	
	Assets £m	Liabilities £m	Assets £m	Liabilities £m
Cash flow hedges	—	—	0.3	—
Other derivatives — not designated for hedge accounting purposes	—	0.2	—	0.2
<b>Total derivative financial instruments</b>	<b>—</b>	<b>0.2</b>	<b>0.3</b>	<b>0.2</b>

All of the fair values shown in the table above are classified under IFRS 13 as Level 2 measurements which have been calculated using quoted prices from active markets, where similar contracts are traded and the quotes reflect actual transactions in similar instruments. All of the derivative assets and liabilities reported in the table above will mature within a year of the balance sheet date.

## 22. Acquisition of subsidiaries and joint ventures, net of cash acquired

During the year, the Group acquired 100% ownership interests in ECIL Met Tec and Process Metnx subsidiaries providing technical services

	2014 £m
<b>Consideration transferred</b>	
Cash	24.6
Deferred	3.8
Contingent	1.2
<b>Total consideration transferred</b>	<b>29.6</b>
<b>Identifiable assets acquired and liabilities assumed at fair value</b>	
Property, plant and equipment	8.2
Inventories	6.7
Trade and other receivables	6.1
Cash	1.2
Trade and other payables	(2.9)
Taxation	(1.3)
<b>Total identifiable net assets at fair value</b>	<b>18.0</b>
<b>Goodwill</b>	<b>11.6</b>

The £23.4m disclosed in the Group statement of cash flows in respect of the acquisition of subsidiaries, net of cash acquired, comprised £24.6m paid for current year acquisitions, less £1.2m of cash acquired with current year acquisitions. For Process Metnx, US\$7.7m was paid on completion of the acquisition with the remaining US\$4.0m deferred for a period of up to five years (US\$2.0m in equal annual instalments and US\$2.0m on the achievement of certain specified performance-related milestones). For ECIL Met Tec, BRL7.9m was paid on completion, a further BRL5m is payable upon the completion of the subdivision of property and subsequent ownership transfer to Vesuvius, with the remaining BRL5m payable after six years.

These acquisitions contributed £3.6m of revenue, and £0.5m of trading profit to the Group's results. Management estimate that if the acquisitions had occurred on 1 January 2014, then the contribution would have been £19.2m of revenue, and £3.1m of trading profit, using similar fair value adjustments which arose at the acquisition dates. The Group incurred acquisition related costs of £0.4m relating to external legal fees and due diligence costs which have been included within administration costs in the Group income statement.

## 23. Discontinued operations

Discontinued operations in 2014 comprise of a release of £1.1m of provision relating to a VAT case which was resolved in Vesuvius' favour and a charge of £4.7m in relation to settlement of actions brought by MacDermid (incorporated in the United States) against Vesuvius and Alent plc that arose out of corporate activity between the parties in 2006. Further details of the MacDermid claims can be found in Note 33. Discontinued operations in 2013 comprise the post-tax results of the European Precious Metals Processing business for the period up to 31 May 2013 when it was sold, together with the profit arising on its disposal. The European Precious Metals Processing business was sold to Heimerle + Meule for consideration received of €56.8m plus €8.2m for working capital delivered. Included in the profit on disposal is a credit of £6.2m for recycled foreign exchange differences which had previously been taken directly to reserves in the Group accounts relating to the businesses sold. The profit before tax of £10.6m in 2013 includes the release of £10.2m of a provision relating to a VAT case which was resolved in Vesuvius' favour.

### 23.1 Results of discontinued operations

	2014 £m	2013 £m
Revenue	—	65.0
Expenses	(3.6)	(54.4)
<b>Profit before tax</b>	<b>(3.6)</b>	<b>10.6</b>
Income tax costs	—	—
<b>Profit on disposal of discontinued operations</b>	<b>—</b>	<b>19.3</b>
<b>Profit for the year attributable to owners of the parent</b>	<b>(3.6)</b>	<b>29.9</b>
<b>Earnings per share — pence</b>		
Basic	(1.3)	10.8
Diluted	(1.3)	10.8

### 23.2 Cash flows from discontinued operations

	2014 £m	2013 £m
Net cash outflow from		
— operating activities	(0.5)	(9.9)
<b>Net cash outflow for the year</b>	<b>(0.5)</b>	<b>(9.9)</b>

## 24. Issued share capital

### 24.1 Accounting policy

Equity instruments issued by the Company are recorded at the proceeds received, net of direct issue costs.

### 24.2 Analysis of issued share capital

The issued ordinary share capital of the Company as at 31 December 2014 was 278.5m shares of £0.10 each, of this, 7.3 million shares were held in Treasury and 0.7 million were held by the Cookson Group ESOP. Further information relating to the Company's share capital is given in Note 7 attached to the Company's financial statements.

## 25. Retained earnings

	Reserve for own shares £m	Share option reserve £m	Other retained earnings £m	Total retained earnings £m
As at 1 January 2013	(5 2)	5 5	2,211 9	2,212 2
Profit for the year	—	—	135 3	135 3
Remeasurement of defined benefit liabilities/assets	—	—	10 2	10 2
Purchase of own shares	(34 1)	—	—	(34 1)
Disposal of own shares	3 9	—	(3 9)	—
Recognition of share-based payments	—	2 1	—	2 1
Release of share option reserve on exercised and lapsed options	—	(4 0)	4 0	—
Income tax on items recognised in other comprehensive income	—	—	(1 6)	(1 6)
Redemption of redeemable preference shares	—	—	(0 1)	(0 1)
Dividends paid (Note 27)	—	—	(39 4)	(39 4)
As at 1 January 2014	(35 4)	3 6	2,316 4	2,284 6
Profit for the year	—	—	95 9	95 9
Remeasurement of defined benefit liabilities/assets	—	—	(9 9)	(9 9)
Purchase of own shares	(0 5)	—	—	(0 5)
Disposal of own shares	2 3	—	(2 3)	—
Recognition of share-based payments	—	2 7	—	2 7
Release of share option reserve on exercised and lapsed options	—	(2 3)	2 3	—
Income tax on items recognised in other comprehensive income	—	—	0 5	0 5
Dividends paid (Note 27)	—	—	(41 2)	(41 2)
As at 31 December 2014	(33 6)	4 0	2,361 7	2,332 1

During the year to 31 December 2014, the Company repurchased 101,847 of its own shares for £0.5m via Cookson Investments (Jersey) Limited as Trustee of the Cookson Group ESOP

## 26 Other reserves

	Other reserves £m	Translation reserve £m	Total other reserves £m
As at 1 January 2013	(1,499 6)	100 6	(1,399 0)
Exchange differences on translation of the net assets of foreign operations	—	(51 6)	(51 6)
Reclassification of exchange differences on disposal of foreign operations	—	(6 2)	(6 2)
Exchange translation differences arising on net investment hedges	—	0 3	0 3
Change in fair value of cash flow hedges	0 4	—	0 4
Change in fair value of available-for-sale investments	0 1	—	0 1
Redemption of redeemable preference shares	0 1	—	0 1
Issue of share capital	0 1	—	0 1
As at 1 January 2014	(1,498 9)	43 1	(1,455 8)
Exchange differences on translation of the net assets of foreign operations	—	(10 2)	(10 2)
Exchange translation differences arising on net investment hedges	—	(0 3)	(0 3)
Change in fair value of cash flow hedges	(0 2)	—	(0 2)
Change in fair value of available-for-sale investments	(0 2)	—	(0 2)
As at 31 December 2014	(1,499 3)	32 6	(1,466 7)

Within Other reserves as at 31 December 2014 is £1,499.0m (2013: £1,499.0m) arising from the demerger of Cookson Group plc, being the excess of the Vesuvius plc share capital of £1,777.9m over the total share capital and share premium of Cookson Group plc as at 14 December 2012 of £278.9m

The translation reserve in the table above comprises all foreign exchange differences attributable to the owners of the parent. These exchange differences arise from the translation of the financial statements of foreign operations and from the translation of financial instruments that hedge the Group's net investment in foreign operations. In addition to foreign exchange differences attributable to the owners of the parent, the Group statement of comprehensive income includes foreign exchange differences attributable to non-controlling interests.

On 11 December 2013, Vesuvius plc redeemed the 50,000 outstanding redeemable preference shares with a nominal value of £1 each for £50,000. The consideration was satisfied by the cancellation of the undertaking to pay given by the holder of the preference shares at the time of issue.

## 27. Dividends

A final dividend for the year ended 31 December 2013 of £27.7m (2012: £26.4m), equivalent to 10.25 pence (2012: 9.5 pence) per ordinary share, was paid in May 2014 (June 2013) and an interim dividend for the year ended 31 December 2014 of £13.5m (2013: £13.0m), equivalent to 5.00 pence (2013: 4.75 pence) per ordinary share, was paid in September 2014 (October 2013).

A proposed final dividend for the year ended 31 December 2014 of £30.1m, equivalent to 11.125 pence per ordinary share, is subject to approval by shareholders at the Company's Annual General Meeting and has not been included as a liability in these financial statements. If approved by shareholders, the dividend will be paid on 22 May 2015 to ordinary shareholders on the register at 10 April 2015.

## 28. Financial risk management

### 28.1 Accounting policy

#### (a) Non-derivative financial instruments

Loans and borrowings are initially recognised at fair value plus directly attributable transaction costs. After initial recognition they are measured at amortised cost, using the effective interest method.

#### (b) Foreign currencies

The individual financial statements of each Group entity are prepared in their functional currency, which is the currency of the primary economic environment in which that entity operates. For the purpose of the consolidated financial statements, the results and financial position of each entity are translated into pound sterling, which is the presentational currency of the Group.

#### Reporting foreign currency transactions in functional currency

Transactions in currencies other than the entity's functional currency (foreign currencies) are initially recorded at the rates of exchange prevailing on the dates of the transactions. At each subsequent balance sheet date:

- (i) Foreign currency monetary items are retranslated at the rates prevailing at the balance sheet date. Exchange differences arising on the settlement or retranslation of monetary items are recognised in the Group income statement.
- (ii) Non-monetary items measured at historical cost in a foreign currency are not retranslated.

#### Translation from functional currency to presentational currency

When the functional currency of a Group entity is different from the Group's presentational currency (pound sterling), its results and financial position are translated into the presentational currency as follows:

- (i) Assets and liabilities are translated using exchange rates prevailing at the balance sheet date.
- (ii) Income and expense items are translated at average exchange rates for the year, except where the use of such average rates does not approximate the exchange rate at the date of a specific transaction, in which case the transaction rate is used.
- (iii) All resulting exchange differences are recognised in other comprehensive income and presented in the translation reserve in equity and are reclassified to profit or loss in the period in which the foreign operation is disposed of.

#### Net investment in foreign operations

Exchange differences arising on a monetary item that forms part of a reporting entity's net investment in a foreign operation are initially recognised in other comprehensive income and presented in the translation reserve in equity and reclassified to profit or loss on disposal of the net investment.

### 28.2 Financial risk factors

The Group's treasury department, acting in accordance with policies approved by the Board, is principally responsible for managing the financial risks faced by the Group. The Group's activities expose it to a variety of financial risks, the most significant of which are market risk and liquidity risk.

#### (a) Market risk

Market risk is the risk that either the fair values or the cash flows of the Group's financial instruments may fluctuate because of changes in market prices. The Group is principally exposed to market risk through fluctuations in exchange rates ("currency risk") and interest rates ("interest rate risk").

#### Currency risk

The Group is exposed to currency risk on its borrowings and financial assets (being cash and short-term deposits) that are denominated in currencies other than pound sterling. The Group's general policy is proportionally to match the currency profile of its core borrowings with the currency profile of its earnings and net assets. This is achieved, where necessary, by the use of forward foreign exchange contracts ("FX swaps"). The currency profile of the Group's borrowings and financial assets, reflecting the effect of the FX swaps, is shown in the table overleaf.

	2014					2013 as restated				
	Borrowings before FX swaps £m	FX swaps £m	Financial assets £m	Borrowings after FX swaps £m	Net debt £m	Borrowings before FX swaps £m	FX swaps £m	Borrowings after FX swaps £m	Financial assets £m	Net debt £m
Sterling	17.1	91.8	108.9	(7.6)	101.3	28.6	86.4	115.0	(3.3)	111.7
United States dollar	212.0	(91.8)	120.2	(16.3)	103.9	193.9	(86.4)	107.5	(1.6)	105.9
Euro	108.4	—	108.4	(9.5)	98.9	105.6	—	105.6	(10.5)	95.1
Chinese renminbi	—	—	—	(7.4)	(7.4)	—	—	—	(18.6)	(18.6)
Other	8.9	—	8.9	(36.1)	(27.2)	7.9	—	7.9	(42.6)	(34.7)
Capitalised borrowing costs	(1.2)	—	(1.2)	—	(1.2)	(3.0)	—	(3.0)	—	(3.0)
<b>As at 31 December</b>	<b>345.2</b>	<b>—</b>	<b>345.2</b>	<b>(76.9)</b>	<b>268.3</b>	<b>333.0</b>	<b>—</b>	<b>333.0</b>	<b>(76.6)</b>	<b>256.4</b>

Based upon the currency profile shown in the table above, while not impacting reported profit, the change in net debt arising from a 10% strengthening of sterling would increase reported equity by £23.6m (2013: £21.3m as restated) and a corresponding 10% weakening of sterling would reduce equity by £28.9m (2013: £26.0m as restated).

The tables below show the net unhedged monetary assets and liabilities of Group companies that are not denominated in their functional currency and which could give rise to exchange gains and losses in the Group income statement.

	Net unhedged monetary assets/(liabilities)					
	Sterling £m	US dollar £m	Euro £m	Renminbi £m	Other £m	Total £m
<b>Functional currency</b>						
Sterling	—	2.1	1.1	—	1.2	4.4
United States dollar	—	—	0.4	—	(2.1)	(1.7)
Euro	0.2	(0.9)	—	—	0.1	(0.6)
Chinese renminbi	(0.5)	3.7	(1.5)	—	(0.1)	1.6
Other	(0.7)	8.7	9.7	0.1	5.7	23.5

<b>As at 31 December 2014</b>	<b>(1 0)</b>	<b>13.6</b>	<b>9 7</b>	<b>0 1</b>	<b>4 8</b>	<b>27 2</b>
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	Net unhedged monetary assets/(liabilities)					
	Sterling £m	US dollar £m	Euro £m	Renminbi £m	Other £m	Total £m
<b>Functional currency</b>						
Sterling	—	6 2	(4 0)	(1 3)	0 9	1 8
United States dollar	—	—	2 9	—	(1 1)	1 8
Euro	(0 1)	2 1	—	—	0 1	2 1
Chinese renminbi	(0 3)	3 3	(1 3)	—	(0 1)	1 6
Other	(0 3)	3 3	9 8	2 0	6 5	21 3
<b>As at 31 December 2013</b>	<b>(0 7)</b>	<b>14 9</b>	<b>7 4</b>	<b>0 7</b>	<b>6 3</b>	<b>28 6</b>

#### Interest rate risk

The Group's interest rate risk principally arises in relation to its borrowings. Where borrowings are held at floating rates of interest, fluctuations in interest rates expose the Group to variability in the cash flows associated with its interest payments and where borrowings are held at fixed rates of interest, fluctuations in interest rates expose the Group to changes in the fair value of its borrowings. The Group's policy is to maintain a mix of fixed and floating rate borrowings, within certain parameters agreed from time to time by the Board, in order to optimise interest cost and reduce volatility in reported earnings.

As at 31 December 2014, the Group had \$310m and £30m (£222.4m in total) of US Private Placement Loan Notes outstanding, which carry a fixed rate of interest, representing two-thirds of the Group's total borrowings outstanding at that date. The interest rate profile of the Group's borrowings and net debt is detailed in the tables below.

	Financial liabilities (gross borrowings)			Financial assets £m	Net debt £m
	Fixed rate £m	Floating rate £m	Total £m		
Sterling	—	17 1	17 1	(7 6)	9 5
US dollar	199 1	12 9	212 0	(16 3)	195 7
Euro	23 3	85 1	108 4	(9 5)	98 9
Chinese renminbi	—	—	—	(7 4)	(7 4)
Other	—	8 9	8 9	(36 1)	(27 2)
Capitalised borrowing costs	(1 2)	—	(1 2)	—	(1 2)
<b>As at 31 December 2014</b>	<b>221 2</b>	<b>124 0</b>	<b>345 2</b>	<b>(76 9)</b>	<b>268 3</b>

	Financial liabilities (gross borrowings)			As restated	
	Fixed rate £m	Floating rate £m	Total £m	Financial assets £m	Net debt £m
Sterling	—	28 6	28 6	(3 3)	25 3
US dollar	187 2	6 7	193 9	(1 6)	192 3
Euro	24 9	80 7	105 6	(10 5)	95 1
Chinese renminbi	—	—	—	(18 6)	(18 6)
Other	—	7 9	7 9	(42 6)	(34 7)
Capitalised borrowing costs	(1 5)	(1 5)	(3 0)	—	(3 0)
<b>As at 31 December 2013</b>	<b>210 6</b>	<b>122 4</b>	<b>333 0</b>	<b>(76 6)</b>	<b>256 4</b>

The floating rate financial liabilities shown in the tables above bear interest at the inter-bank offered rate of the appropriate currency, plus a margin. The fixed rate financial liabilities of £221.2m (2013: £210.6m) have a weighted average interest rate of 4.6% (2013: 4.6%) and a weighted average period for which the rate is fixed of 6.3 years (2013: 7.3 years). The financial assets attract floating rate interest at the inter-bank offered rate of the appropriate currency, less a margin.

Based upon the interest rate profile of the Group's financial assets and liabilities shown in the tables above, a 1% increase in market interest rates would increase both the net finance costs charged in the Group income statement and the net interest paid in the Group statement of cash flows by £0.5m (2013: £0.5m) and a 1% reduction in market interest rates would decrease both the net finance costs charged in the Group income statement and the net interest paid in the Group statement of cash flows by £0.5m (2013: £0.5m). Similarly, a 1% increase in market interest rates would result in a decrease of £14.1m (2013: £12.6m) in the fair value of the Group's net debt and a 1% decrease in market interest rates would result in an increase of £11.6m (2013: £13.6m) in the fair value of the Group's net debt.

#### (b) Liquidity risk

Liquidity risk is the risk that the Group might have difficulties in meeting its financial obligations. The Group manages this risk by ensuring that it maintains sufficient levels of committed borrowing facilities and cash and cash equivalents to ensure that it can meet its operational cash flow requirements and any maturing financial liabilities, while at all times operating within its financial covenants. The level of operational headroom provided by the Group's committed borrowing facilities is reviewed at least annually as part of the Group's three-year planning process. Where this process indicates a need for additional finance, this is normally addressed 12 to 18 months in advance by means of either additional committed bank facilities or raising finance in the capital markets.

As at 31 December 2014, the Group had committed borrowing facilities of £647.4m (2013: £637.1m), of which £343.5m (2013: £328.6m) were undrawn. These undrawn facilities are due to expire in April 2016. The Group's borrowing requirements are met by US Private Placement Loan Notes ("USPP") and a multi-currency committed syndicated bank facility of £425m (2013: £425m). The USPP facility was fully drawn as at 31 December 2014 and

amounted to £222.4m (\$310m and €30m), of which \$110m is repayable in 2017, \$140m in 2020, €15m in 2021, \$30m in 2023, €15m in 2025 and \$30m in 2028. The syndicated bank facility is repayable in April 2016.

The maturity analysis of the Group's gross borrowings is shown in the tables below.

	Non-current		Current		Total	
	2014 £m	2013 £m	2014 £m	2013 as restated £m	2014 £m	2013 as restated £m
Loans and overdrafts	303.9	308.7	39.1	23.9	343.0	332.6
Obligations under finance leases	2.0	2.0	1.4	1.4	3.4	3.4
Capitalised borrowing costs	(1.0)	(1.2)	(0.2)	(1.8)	(1.2)	(3.0)
<b>Total interest-bearing borrowings</b>	<b>304.9</b>	<b>309.5</b>	<b>40.3</b>	<b>23.5</b>	<b>345.2</b>	<b>333.0</b>

	2014 £m	2013 as restated £m
<b>Interest-bearing borrowings repayable</b>		
On demand or within one year	40.5	25.3
In the second year	82.7	1.1
In the third year	71.3	97.1
In the fourth year	0.3	66.7
In the fifth year	—	—
After five years	151.6	145.8
Capitalised borrowing costs	(1.2)	(3.0)
<b>Total interest-bearing borrowings</b>	<b>345.2</b>	<b>333.0</b>

Capitalised borrowing costs shown in the tables above, which have been recognised as a reduction in borrowings in the financial statements, amounted to £1.2m as at 31 December 2014 (31 December 2013: £3.0m), of which £1.2m (2013: £1.5m) related to the USPP and £nil (2013: £1.5m) related to the syndicated bank facility.

### 28.3 Capital management

The Company considers its capital to be equal to the sum of its total equity and net debt. It monitors its capital using a number of key performance indicators, including free cash flow, average working capital to sales ratios, net debt to EBITDA ratios and RONA (Note 4). The Group's objectives when managing its capital are:

- To ensure that the Group and all of its businesses are able to operate as going concerns and ensure that the Group operates within the financial covenants contained within its debt facilities.
- To have available the necessary financial resources to allow the Group to invest in areas that may deliver acceptable future returns to investors.
- To maintain sufficient financial resources to mitigate against risks and unforeseen events.
- To maximise shareholder value through maintaining an appropriate balance between the Group's equity and net debt.

The Group operated comfortably within the requirements of its debt covenants throughout the year and has substantial liquidity headroom within its committed debt facilities. Details of the Group's covenant compliance and committed debt facilities can be found in the Strategic report on page 29.

### 28.4 Cash pooling arrangements

The Group enters into notional cash pooling arrangements as part of its ongoing treasury management activities. Certain cash pooling arrangements do meet the criteria for offsetting as clarified in Amendments to IAS 32 Financial Instruments, as regards a legally enforceable right of set off both in the ordinary course of business and in the event of default. The following tables set out the amounts of recognised financial assets and liabilities shown as cash and cash borrowings and those amounts which are subject to these agreements.

	Gross amounts of recognised financial assets/ liabilities £m	Gross amounts of recognised financial assets/ liabilities offset in the statement of financial position £m	Net amounts of financial assets/ liabilities presented in the statement of financial position £m	Related amounts of financial assets/ liabilities not offset in the statements of financial position £m	Net amount £m
<b>Financial assets/liabilities</b>					
Cash deposits	145.9	(69.0)	76.9	(20.2)	56.7
Cash borrowings	(107.4)	69.0	(38.4)	20.2	(18.2)
<b>As at 31 December 2014</b>	<b>38.5</b>	<b>—</b>	<b>38.5</b>	<b>—</b>	<b>38.5</b>
<b>Financial assets/liabilities</b>					
Cash deposits	142.2	(65.6)	76.6	(8.2)	68.4
Cash borrowings	(89.4)	65.6	(23.8)	8.2	(15.6)
<b>As at 31 December 2013</b>	<b>52.8</b>	<b>—</b>	<b>52.8</b>	<b>—</b>	<b>52.8</b>

## 29. Employee benefits

### 29.1 Accounting policy

The net surplus or net liability recognised in the Group balance sheet for the Group's defined benefit plans is the present value of the defined benefit obligation at the balance sheet date, less the fair value of the plan assets. The defined benefit obligation is calculated by independent actuaries using the

projected unit credit method and by discounting the estimated future cash flows using interest rates on high quality corporate bonds that have terms to maturity approximating the terms of the related pension liability. Any asset recognised in respect of a surplus arising from this calculation is limited to the asset ceiling, where this is the present value of any economic benefits available in the form of refunds or reductions in future contributions in respect of the plans.

The expense for the Group's defined benefit plans is recognised in the Group income statement as shown in Note 29.8. Actuarial gains and losses arising on the assets and liabilities of the plans are reported within the Group statement of comprehensive income, and gains and losses arising on settlements and curtailments are recognised in the Group income statement in the same line as the item that gave rise to the settlement or curtailment or, if material, separately reported as a component of operating profit.

## **29.2 Group post-retirement plans**

The Group operates a number of pension plans around the world, both of the defined benefit and defined contribution type, and accounts for them in accordance with IAS 19.

The Group's principal defined benefit pension plans are in the UK and the US, the benefits of which are based upon the final pensionable salaries of plan members. The assets of these plans are held separately from the Group in trustee-administered funds. The trustees are required to act in the best interests of the plans' beneficiaries. The principal risks faced by these plans comprise (i) the risk that the value of the plan assets is not sufficient to meet all plan liabilities as they fall due, (ii) the risk that plan beneficiaries live longer than envisaged, causing liabilities to exceed the available plan assets, and (iii) the risk that the market-based factors used to value plan liabilities change materially adversely to increase plan liabilities over the value of available plan assets. The Group also has defined benefit pension plans in other territories but, with the exception of those in Germany, these are not individually material in relation to the Group as a whole.

### **(a) Defined benefit pension plans – UK**

The Group's main defined benefit pension plan in the UK ("the UK Plan") is closed to new members and to future benefit accrual.

A full actuarial valuation of the UK Plan is carried out every three years by an independent actuary for the UK Plan Trustee and the last full valuation was carried out as at 31 December 2012. At that date, the market value of plan assets was £501.9m and this represented a funding level of 102% of the accrued plan benefits at the time of £490.4m. Calculated on a "buyout" basis (using an estimation of the cost of buying out the UK Plan benefits with an insurance company), the liabilities at that date were £610.1m, representing a funding level of 82%. Under the rules of the UK Plan, the Trustee has the power to set the funding contributions, having consulted with the Company. Under a schedule of contributions agreed by the Company and Trustee, the Company made "top-up" payments of £7.0m per annum up to July 2013, after which they ceased as a result of the funding surplus evidenced by the 2012 funding valuation. The level of "top-up" payments will be reviewed based on the UK Plan's next triennial valuation as at 31 December 2015, which should be available in mid-2016.

Notwithstanding the latest funding valuation surplus, the Company has agreed to make voluntary contributions of £2.0m per annum at least until the next valuation date.

In July 2012, the UK Plan Trustee entered into a pension insurance buy-in agreement with Pension Insurance Corporation ("PIC"), whereby the UK Plan Trustee paid an insurance premium of £318.8m to PIC to insure a significant portion of the UK Plan's liabilities. In December 2012, the PIC buy-in agreement was extended, under which the UK Plan Trustee agrees to transfer to PIC all new pensioner liabilities arising from July 2012 to December 2015 (limited to £30m) in exchange for a premium payment from the assets of the UK Plan based on the pricing terms of the original buy-in agreement, but reflecting changes in market conditions and differences in the duration of the liabilities transferred. As part of this extension to the buy-in agreement, in May 2014 the UK Plan Trustee paid an additional £12.4m of insurance premium to PIC from the assets of the UK Plan to cover new retirees between inception and 31 December 2013. Under this arrangement, the value of the PIC insurance contract matches the value of the liabilities because the inflation, interest rate, investment and longevity risk for Vesuvius in respect of these liabilities are eliminated. As at end December 2014, the IAS 19 valuation of the PIC insurance contract value associated with the bought-in liabilities was £281.3m. The IAS 19 valuation of the pension liabilities uses a higher discount rate than that used for funding valuation purposes and hence generates a lower value for the bought-in liabilities which implies a lower accounting valuation of the PIC insurance contract compared to the actual premium paid to PIC. Consequently the reduction in asset portfolio valuation is reported in the Group statement of comprehensive income, not the income statement based on IAS 19 requirements.

The value of the UK Plan liabilities increased to £506.3m (2013: £458.1m). The increase in the liabilities is driven mainly by the change in financial assumptions which saw a decrease in discount rates to 3.5% in 2014 (2013: 4.4%) while being partially offset by the decrease in long-term inflation expectations in UK. The UK Plan assets increased to £555.1m (2013: £485.5m) mainly driven by the return on plan assets excluding interest income of £66.0m.

### **(b) Defined benefit pension plans – US**

The Group has a number of defined benefit pension plans in the US, providing retirement benefits based on final salary or a fixed benefit. The Group's principal US defined benefit pension plans are closed to new members and also to future benefit accrual for existing members. Actuarial valuations of the US defined benefit pension plans are carried out every year and the last full valuation was carried out as at 31 December 2013. At that date the market value of the plan assets was £68.1m, representing a funding level of 75% of funded accrued plan benefits at that date (using the projected unit method of valuation) of £91.4m. Funding levels for the Group's US defined benefit pension plans are normally based upon annual valuations carried out by independent qualified actuaries and are governed by US Government regulations. The value of US plan liabilities increased to £111.8m (2013: £9.4m) mainly driven by reduction in discount rates to 3.7% (2013: 4.5%) and increased life expectancy assumptions.

### **(c) Defined benefit pension plans – Germany**

The Group has a number of defined benefit pension arrangements in Germany which are unfunded, as is common practice in that country. The net liability of the German plans at 31 December 2014 was £39.9m.

### **(d) Defined contribution pension plans**

The total expense for the Group's defined contribution plans in the Group income statement amounted to £9.2m (2013: £10.9m continuing operations) and represents the contributions payable for the year by the Group to the plans.

### **(e) Multi-employer plans**

Due to collective agreements, Vesuvius in the USA participates together with other enterprises in union run multi-employer pension plans for temporary workers hired on sites. Some of these plans are underfunded and all participating employers are ultimately liable for any deficit. If a participating employer stops contributing to a plan it is required to make a withdrawal payment to the plan to cover its share of the total deficit in the plan. No reliable basis exists for allocation of the plans' obligations and plan assets to individual employer participants. Deficits in the plans may necessitate increased contributions in the future. These are currently accounted for as defined contribution plans. In 2014 Vesuvius contributed £1.7m (2013: £1.7m) to these plans.

### 29.3 Post-retirement liability valuation

The main assumptions used in calculating the costs and obligations of the Group's defined benefit pension plans, as detailed below, are set by the Directors after consultation with independent professionally qualified actuaries

#### (a) Mortality assumptions

The mortality assumptions used in the actuarial valuations of the Group's UK, US and German defined benefit pension liabilities are summarised in the table below and have been selected to reflect the characteristics and experience of the membership of those plans

For the UK Plan, the assumptions used have been derived from the Self-Administered Pension Schemes ("SAPS") All table, with future longevity improvements in line with the "core" mortality improvement tables published in 2013 by the Continuous Mortality Investigation ("CMI"), with a long-term rate of improvement of 1.5% per annum. For the Group's US plans, the assumptions used have been based on the standard RP-2014 fully generational tables with projection scale BB, and the MP-2014 mortality improvement scale. The Group's major plans in Germany have been valued using the Heubeck-Richttafel 2005G mortality tables

Life expectancy of pension plan members	2014			2013		
	UK years	US years	Germany years	UK years	US years	Germany years
Age to which current pensioners are expected to live — Men	87.6	86.6	84.9	87.5	85.1	84.7
— Women	89.9	88.8	88.9	89.8	87.3	88.8
Age to which future pensioners are expected to live — Men	89.0	88.3	87.5	88.9	87.2	87.4
— Women	92.2	90.5	91.5	92.1	89.2	91.3

#### (b) Other main actuarial valuation assumptions

	2014			2013		
	UK % p a	US % p a	Germany % p a	UK % p a	US % p a	Germany % p a
Discount rate	3.50	3.70	2.20	4.40	4.50	3.75
Price inflation — using RPI for UK	3.40	2.25	1.75	3.60	2.50	2.00
— using CPI for UK	2.40	n/a	n/a	2.60	n/a	n/a
Rate of increase in pensionable salaries	n/a	n/a	2.50	n/a	n/a	2.75
Rate of increase to pensions in payment	3.10	n/a	1.60	3.30	n/a	1.90

The discount rate used to determine the liabilities of the UK Plan for IAS 19 accounting purposes is required to be determined by reference to market yields on high quality corporate bonds. The UK discount rate in the above table is based on the Aon Hewitt AA-rated corporate bond yield in conjunction with the most recent projected cash flow data relating to the UK Plan liabilities, the US discount rate is based on the Citigroup pension discount curve, and the Germany discount rate is based on the yield on the iBoxx over ten-year euro corporates AA index.

The assumptions for UK price inflation are set by reference to the difference between yields on longer-term conventional government bonds and index-linked bonds, except for CPI, for which no appropriate bonds exist, which is assumed to be 1.0 point lower than RPI-based inflation.

#### (c) Sensitivity analysis of the impact of changes in significant IAS 19 actuarial assumptions

The following table analyses, for the Group's main UK, US and Germany pension plans, the theoretical estimated impact on plan liabilities resulting from changes to the most significant actuarial assumptions used for IAS 19 valuation purposes, whilst holding all other assumptions constant.

Following the agreement of buy-in agreements for the UK plan pensioner liabilities in 2012, as noted above, and the fact that US pensions are not inflation linked, the rate of increase in pensionable salaries and of pensions in payment is not significant to the valuation of the Group's overall pension liabilities.

As stated above, during 2012 the UK Plan entered into pension insurance buy-in agreements which eliminate the inflation, interest rate, investment and longevity risk in respect of the pensioner liabilities covered by the agreements. Therefore, for the liabilities so covered, which represent some 51% of the total liabilities of the UK Plan, any changes in the valuation assumptions which impact the value of those liabilities, also impact on the associated annuity assets in an equal and opposite way, thereby fully mitigating the valuation risk. This is also reflected in the following table.

Assumption	Change in assumption	Impact on plan liabilities		
		UK	US	Germany
Discount rate	Increase/decrease by 0.1%			
	— impact on plan liabilities	Decrease/increase by £8.1m	Decrease/increase by £1.3m	Decrease/increase by £0.8m
	— impact on plan assets	Decrease/increase by £3.2m	n/a	n/a
Price inflation	Increase/decrease by 0.1%			
	— impact on plan liabilities	Increase/decrease by £5.5m	n/a	Increase/decrease by £0.2m
	— impact on plan assets	Increase/decrease by £2.2m	n/a	n/a
Mortality	Increase by one year			
	— impact on plan liabilities	Increase by £20.6m	Increase by £3.4m	Increase by £1.3m
	— impact on plan assets	Increase by £12.7m	n/a	n/a

### 29.4 Defined benefit obligation

The liabilities of the Group's defined benefit pension and other post-retirement plans for IAS 19 accounting purposes are measured by discounting the best estimate of the future cash flows to be paid out by the plans using the projected unit method, in which the calculation of plan liabilities makes allowance, where appropriate, for projected increases in benefit-related earnings.

The average duration of the obligations to which the liabilities of the Group's principal pension plans relate is 19 years for the UK, 19 years for Germany and 12 years for the US.

Defined benefit pension plans					Other post-retirement benefit plans	Total £m
UK £m	US £m	Germany £m	ROW £m	Total £m		



							£m
Present value as at 1 January 2014	458.1	91.4	32.6	38.3	620.4	8.1	628.5
Exchange differences	—	6.6	(2.5)	(1.6)	2.5	0.1	2.6
Current service cost	—	0.4	0.9	3.3	4.6	0.1	4.7
Interest cost	19.7	4.1	1.2	1.5	26.5	0.2	26.7
Settlements	—	—	—	(14.1)	(14.1)	—	(14.1)
Transfer	—	—	—	3.0	3.0	(3.0)	—
Remeasurement of liabilities							
— demographic changes	—	5.4	—	0.1	5.5	—	5.5
— financial assumptions	52.0	9.1	9.0	8.1	78.2	0.2	78.4
— experience (gains)/losses	(4.8)	0.3	(0.1)	6.7	2.1	0.7	2.8
Contributions from members	—	—	—	0.1	0.1	—	0.1
Benefits paid	(18.7)	(5.5)	(1.2)	(4.7)	(30.1)	(1.0)	(31.1)
Present value as at 31 December 2014	506.3	111.8	39.9	40.7	698.7	5.4	704.1

	Defined benefit pension plans					Other post-retirement benefit plans	Total £m
	UK £m	US £m	Germany £m	ROW £m	Total £m	plans £m	
Present value as at 1 January 2013	446.3	104.6	33.0	40.3	624.2	7.3	631.5
Exchange differences	—	(1.3)	0.7	(0.5)	(1.1)	(0.2)	(1.3)
Current service cost	—	0.5	1.1	2.4	4.0	0.5	4.5
Interest cost	19.0	4.0	1.1	1.3	25.4	0.2	25.6
Transfer	—	—	—	(1.9)	(1.9)	1.9	—
Remeasurement of liabilities							
— demographic changes	(0.2)	0.2	—	—	—	—	—
— financial assumptions	16.8	(8.6)	(2.5)	(2.0)	3.7	(0.2)	3.5
— experience (gains)/losses	(3.7)	(2.1)	0.4	1.0	(4.4)	—	(4.4)
Contributions from members	—	—	—	0.1	0.1	—	0.1
Benefits paid	(20.1)	(5.9)	(1.2)	(2.4)	(29.6)	(1.4)	(31.0)
Present value as at 31 December 2013	458.1	91.4	32.6	38.3	620.4	8.1	628.5

## 29.5 Fair value of plan assets

	2014				2013			
	UK £m	US £m	ROW £m	Total £m	UK £m	US £m	ROW £m	Total £m
As at 1 January	485.5	68.1	27.0	580.6	468.4	69.4	24.9	562.7
Exchange differences	—	4.5	(0.6)	3.9	—	(1.3)	(0.5)	(1.8)
Return on plan assets	20.9	3.0	1.0	24.9	20.2	2.7	0.9	23.8
Settlements	—	—	(10.5)	(10.5)	—	—	—	—
Remeasurement of assets	66.0	4.4	6.4	76.8	10.2	(1.9)	1.0	9.3
Contributions from employer	2.0	1.2	2.9	6.1	7.8	4.6	2.9	15.3
Contributions from members	—	—	0.1	0.1	—	—	0.1	0.1
Administration expenses paid	(0.7)	(0.3)	(0.2)	(1.2)	(1.1)	(0.4)	—	(1.5)
Benefits paid	(18.6)	(4.7)	(4.4)	(27.7)	(20.0)	(5.0)	(2.3)	(27.3)
As at 31 December	555.1	76.2	21.7	653.0	485.5	68.1	27.0	580.6

The Group's pension plans in Germany are unfunded, as is common practice in that country, and accordingly there are no assets associated with these plans.

## 29.6 Remeasurement of defined benefit liabilities/assets

	2014 total £m	2013 total £m
Remeasurement of liabilities		
— demographic changes	(5.5)	—
— financial assumptions	(78.4)	(3.5)
— experience (gains)/losses	(2.8)	4.4
Remeasurement of assets	76.8	9.3
Total movement	(9.9)	10.2

## 29.7 Balance sheet recognition

The amount recognised in the Group balance sheet in respect of the Group's defined benefit pension plans and other post-retirement benefit plans is analysed in the following tables, which all relate to continuing operations. All equity securities and bonds have quoted prices in active markets.

	Defined benefit pension plans					Other post-retirement benefit	2014 total £m
	UK £m	US £m	Germany £m	ROW £m	Total £m		

	plans £m					
Equities	68.2	15.7	—	2.2	86.1	86.1
Bonds	181.4	53.6	—	1.2	236.2	236.2
Insurance contracts	281.3	—	—	14.6	295.9	295.9
Other assets	24.2	6.9	—	3.7	34.8	34.8
Fair value of plan assets	555.1	76.2	—	21.7	653.0	653.0
Present value of funded obligations	(505.3)	(101.1)	—	(36.9)	(643.3)	(643.3)
	49.8	(24.9)	—	(15.2)	9.7	9.7
Present value of unfunded obligations	(1.0)	(10.7)	(39.9)	(3.8)	(55.4)	(60.8)
<b>Total net surpluses/(liabilities)</b>	<b>48.8</b>	<b>(35.6)</b>	<b>(39.9)</b>	<b>(19.0)</b>	<b>(45.7)</b>	<b>(51.1)</b>
Recognised in the Group balance sheet as						
Net surpluses	49.8	—	—	—	49.8	49.8
Net liabilities	(1.0)	(35.6)	(39.9)	(19.0)	(95.5)	(100.9)
<b>Total net surpluses/(liabilities)</b>	<b>48.8</b>	<b>(35.6)</b>	<b>(39.9)</b>	<b>(19.0)</b>	<b>(45.7)</b>	<b>(51.1)</b>

	Defined benefit pension plans					Other post-retirement benefit plans	2013 total
	UK £m	US £m	Germany £m	ROW £m	Total £m	£m	£m
Equities	29.9	13.7	—	2.1	45.7	—	45.7
Bonds	—	47.7	—	1.4	49.1	—	49.1
Risk-mitigation derivatives	2.3	—	—	—	2.3	—	2.3
Insurance contracts	257.8	—	—	20.3	278.1	—	278.1
Other assets	195.5	6.7	—	3.2	205.4	—	205.4
Fair value of plan assets	485.5	68.1	—	27.0	580.6	—	580.6
Present value of funded obligations	(456.8)	(82.2)	—	(38.1)	(577.1)	—	(577.1)
	28.7	(14.1)	—	(11.1)	3.5	—	3.5
Present value of unfunded obligations	(1.3)	(9.2)	(32.6)	(0.2)	(43.3)	(8.1)	(51.4)
<b>Total net surpluses/(liabilities)</b>	<b>27.4</b>	<b>(23.3)</b>	<b>(32.6)</b>	<b>(11.3)</b>	<b>(39.8)</b>	<b>(8.1)</b>	<b>(47.9)</b>
Recognised in the Group balance sheet as							
Net surpluses	28.7	—	—	—	28.7	—	28.7
Net liabilities	(1.3)	(23.3)	(32.6)	(11.3)	(68.5)	(8.1)	(76.6)
<b>Total net surpluses/(liabilities)</b>	<b>27.4</b>	<b>(23.3)</b>	<b>(32.6)</b>	<b>(11.3)</b>	<b>(39.8)</b>	<b>(8.1)</b>	<b>(47.9)</b>

(a) UK Plan asset allocation

As at 31 December 2014, of the UK Plan's total assets, 51% were represented by the bulk annuity insurance contracts covering the UK Plan's pension liabilities, 12% were allocated to equities, 33% to fixed income securities, 2% to cash, and 2% to other assets. In addition, the UK Plan holds a liability driven investment portfolio of financial derivative contracts which reduces the risk that the UK Plan's assets would fall materially relative to the value of its economic liabilities.

(b) Defined benefit contributions in 2015

In 2015, the Group is expected to make aggregate contributions into its defined benefit pension and other post-retirement benefits plans of around £5m.

29.8 Income statement recognition

The expense recognised in the Group income statement in respect of the Group's defined benefit retirement plans and other post-retirement benefit plans is shown below.

	2014			2013		
	Defined benefit pension plans £m	Other post-retirement benefit plans £m	Total £m	Defined benefit pension plans as restated £m	Other post-retirement benefit plans £m	Total £m
Current service cost	4.6	0.1	4.7	4.0	0.5	4.5
Settlements	(3.6)	—	(3.6)	—	—	—
Administration expenses	1.2	—	1.2	1.5	—	1.5
Net interest cost	1.6	0.2	1.8	1.6	0.2	1.8
<b>Total net charge</b>	<b>3.8</b>	<b>0.3</b>	<b>4.1</b>	<b>7.1</b>	<b>0.7</b>	<b>7.8</b>

The total net charge of £4.1m (2013: £7.8m) recognised in the Group income statement in respect of the Group's defined benefit pension plans and other post-retirement benefits plans is recognised in the following lines:

		2014 £m	2013 £m
In arriving at trading profit	— within other manufacturing costs	2.0	1.9
	— within administration, selling and distribution costs	0.3	4.1
In arriving at profit before tax	— within net finance costs	1.8	1.8
Continuing operations	— charge	4.1	7.8

**Discontinued operations**

<b>Total net charge</b>	<b>4 1</b>	<b>7 8</b>
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As at 31 December 2014, the defined benefit pension plan in the Netherlands was converted to a defined contribution plan, eliminating the net obligation of the defined benefit plan, resulting in a settlement gain of £3.6m from the conversion of the plan, recognised within trading profit

**30. Share-based payments****30.1 Income statement recognition**

The total expense recognised in the Group income statement is shown below

	2014 £m	2013 £m
Long Term Incentive Plan	0.8	2.4
Other plans	1.5	0.2
<b>Total expense</b>	<b>2.3</b>	<b>2.6</b>

The Group operates a number of different share-based payment plans, the most significant of which is the Long Term Incentive Plan ("LTIP"), details of which can be found between pages 75 to 93 of the Directors' remuneration report. The Group's other share-based payment plans are not considered significant in the context of the Group's results or financial position.

**30.2 Details of outstanding options**

	Outstanding awards				
	As at 1 Jan 2014 no	Granted no	Exercised no	Forfeited/ lapsed no	As at 31 Dec 2014 no
LTIP	2,276,510	881,270	(325,289)	(949,993)	1,882,498
Weighted average exercise price	nil	nil	nil	nil	nil
Other plans	120,823	705,273	(155,724)	(44,029)	626,343
Weighted average exercise price	nil	nil	nil	nil	nil

For the options exercised during 2014, the share price at the date of exercise was 436 pence for LTIP schemes and 410 or 420 pence for other plans.

	Outstanding awards				
	As at 1 Jan 2013 no	Granted no	Exercised no	Forfeited/ lapsed no	As at 31 Dec 2013 no
LTIP	2,575,362	587,729	(607,847)	(278,734)	2,276,510
Weighted average exercise price	nil	nil	nil	nil	nil
Other plans	290,536	8,658	(165,354)	(13,017)	120,823
Weighted average exercise price	51p	nil	81p	288p	nil

For options exercised during 2013, the share price at the date of exercise was 332 pence for LTIP schemes and 332 or 460 pence for other plans.

	2014			2013		
	Awards exercisable as at 31 Dec 2014 no	Weighted average outstanding contractual life of awards years	Range of exercise prices pence	Awards exercisable as at 31 Dec 2013 no	Weighted average outstanding contractual life of awards years	Range of exercise prices pence
LTIP	—	4.2	—	—	2.4	—
Weighted average exercise price	—	—	n/a	—	—	n/a
Other plans	—	1.3	—	—	0.6	—
Weighted average exercise price	—	—	n/a	—	—	nil

**30.3 Options granted under the LTIP during the year**

	2014		2013	
	EPS element	TSR element	EPS element	TSR element
Fair value of options granted (per share)	429p	154p	322p	188p
Share price on date of grant (per share)	429p	429p	322p	322p
Expected volatility	n/a	26%	n/a	38.6%
Risk-free interest rate	n/a	1.03%	n/a	0.3%
Exercise price (per share)	nil	nil	nil	nil
Expected term (years)	4	4	4	4
Expected dividend yield	0%	0%	0%	0%

Share price volatility for options granted in 2013 is based upon weekly movements in the Company's (formerly Cookson's) share price either over a period prior to the grant date that is equal in length to the expected term of the award, or a shorter period for 2014 awards where this was considered more representative of the Company's post-demerger performance.

**31. Trade and other payables****31.1 Accounting policy**

Trade and other payables are initially recognised at fair value and subsequently measured at amortised cost, using the effective interest method.

## 31.2 Analysis of trade and other payables

	2014 £m	2013 £m
<b>Non-current</b>		
Accruals and other payables	15 0	18 5
Deferred purchase and contingent consideration	3 2	0 1
<b>Total non-current other payables</b>	<b>18 2</b>	<b>18 6</b>
<b>Current</b>		
Trade payables	123 8	117 5
Other taxes and social security	32 5	31 8
Deferred purchase and contingent consideration	1 9	—
Accruals and other payables	62 8	65 2
<b>Total current trade and other payables</b>	<b>221 0</b>	<b>214 5</b>

There is no significant difference between the fair value of the Group's trade and other payables balances and the amount at which they are reported in the Group balance sheet

## 32. Leases

### 32.1 Accounting policy

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases. Rentals payable under operating leases are charged to the income statement on a straight-line basis over the term of the lease. Benefits received and receivable as an incentive to enter into an operating lease are also spread on a straight-line basis over the lease term.

### 32.2 Operating lease commitments

The future aggregate minimum lease payments under non-cancellable operating leases are payable as follows

	2014 £m	2013 £m
Not later than one year	7 5	8 4
Later than one year and not later than five years	15 3	17 6
Later than five years	4 7	6 4
<b>Total operating lease commitments</b>	<b>27 5</b>	<b>32 4</b>

The Group's property, plant and equipment assets are either purchased outright or held under lease contracts. Where the terms of the lease transfer substantially all the risks and rewards of ownership of the asset to the Group, the asset is capitalised in the Group balance sheet and the corresponding liability to the lessor is recognised as a finance lease obligation. Where all the risks and rewards of ownership are not transferred to the Group, the lease is classified as an operating lease and neither the asset nor the corresponding liability to the lessor is recognised in the Group balance sheet. The net book value of the Group's property, plant and equipment assets held under finance lease contracts at 31 December 2014 and 31 December 2013 was not material.

The cost incurred by the Group in the year in respect of assets held under operating leases, all of which was charged within trading profit, amounted to £12.7m (2013: £14.4m).

## 33. Provisions

### 33.1 Accounting policy

Provisions are recognised when the Group has a present obligation as a result of a past event and it is probable that the Group will be required to settle that obligation. Provisions are measured at the Directors' best estimate of the expenditure required to settle the obligation at the balance sheet date. Where the effect of the time value of money is material, provisions are discounted using a pre-tax discount rate that reflects both the current market assessment of the time value of money and the specific risks associated with the obligation. Where discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

### 33.2 Analysis of provisions

	Disposal and closure costs £m	Restructuring charges £m	Other £m	Total £m
<b>As at 1 January 2014</b>	<b>30 4</b>	<b>12 9</b>	<b>12 8</b>	<b>56 1</b>
Exchange adjustments	1 6	(0 1)	0 2	1 7
Net charge to Group income statement	—	0 2	5 8	6 0
Unwind of discount	0 9	0 2	—	1 1
Cash spend	(2 5)	(5 8)	(6 5)	(14 8)
Transferred from other payables	—	0 6	2 0	2 6
<b>As at 31 December 2014</b>	<b>30 4</b>	<b>8 0</b>	<b>14 3</b>	<b>52 7</b>

Of the total provision balance as at 31 December 2014 of £52.7m (2013: £56.1m), £31.9m (2013: £35.3m) is recognised in the Group balance sheet within non-current liabilities and £20.8m (2013: £20.8m) within current liabilities.

The provision for disposal and closure costs includes the Directors' current best estimate of the costs to be incurred both in the fulfilment of obligations incurred in connection with former Group businesses, resulting from either disposal or closure, together with those related to the demolition and clean-up of closed sites. The provision comprises amounts payable in respect of known or probable costs resulting both from legal or other regulatory requirements, or from third-party claims, including claims relating to product liability. As the settlement of many of the obligations for which provision is made is subject to legal or other regulatory process, the timing of the associated cash outflows is subject to some uncertainty, but the majority of the

amounts provided are expected to be utilised over the next ten years and the underlying estimates of costs are regularly updated to reflect changed circumstances with regard to individual matters

The provision for restructuring charges includes the costs of all of the Group's initiatives to rationalise its operating activities. The balance of £8.0m as at 31 December 2014 comprises £4.4m in relation to onerous lease provisions in respect of leases terminating between one and eight years, and £3.6m in relation to future expenditure on restructuring initiatives which is expected to be paid out over the next two years.

Other provisions comprise amounts payable in respect of known or probable costs resulting both from legal or other regulatory requirements, or from third-party claims. As the settlement of many of the obligations for which provision is made is subject to legal or other regulatory process, the timing of the associated outflows is subject to some uncertainty, but the majority of amounts provided are expected to be utilised over the next five years and the underlying estimates of costs are regularly updated to reflect changed circumstances with regard to individual matters. During 2014 the Group recognised net charges of £5.8m (2013: net credit £3.2m) in the income statement to provide for various litigation settlements and other claims. Of these charges, £4.7m (2013: £2.2m) is set aside as a total provision of £6.9m relating to the full and final settlement of actions brought by MacDermid (incorporated in the United States) against Vesuvius and Alent plc that arose out of corporate activity between the parties in 2006. The £6.9m provision for the settlement of MacDermid claims consists of £6.4m, being Vesuvius' share of the net settlement, and a further £0.5m set aside for remaining legal fees associated with MacDermid claims. This matter was noted as a contingent liability in Vesuvius' 2013 Annual report.

Where insurance cover exists for any of these known or probable costs, a related asset is recognised in the Group balance sheet only when its realisation is virtually certain. As at 31 December 2014, £11.4m (2013: £10.4m) was recorded in receivables in respect of associated insurance reimbursements, of which £9.0m (2013: £8.1m) is non-current. The amounts reported in the table above as charged to the Group income statement represent only that part of the total income statement charge reported as a movement on provisions. Other components of the charge, such as asset write-offs, are reported as a reduction in the carrying value of the relevant balance sheet item.

### **34. Off-balance sheet arrangements**

In compliance with current reporting requirements, certain arrangements entered into by the Group in its normal course of business are not reported in the Group balance sheet. Of such arrangements, those considered material by the Directors are future lease payments in relation to assets used by the Group under non-cancellable operating leases (Note 32).

### **35. Contingent liabilities**

Guarantees given by the Group under property leases of operations disposed of amounted to £2.3m (2013: £2.7m). Details of guarantees given by the Company, on behalf of the Group, are given in Note 10 to the Company financial statements.

Vesuvius has extensive international operations and is subject to various legal and regulatory regimes, including those covering taxation and environmental matters. Several of Vesuvius' subsidiaries are parties to legal proceedings, certain of which are insured claims arising in the ordinary course of the operations of the company involved, and the Directors are aware of a number of issues which are, or may be, the subject of dispute with tax authorities. Reserves are made for the expected amounts payable in respect of known or probable costs resulting both from legal or other regulatory requirements, or from third-party claims. As the settlement of many of the obligations for which reserve is made is subject to legal or other regulatory process, the timing and amount of the associated outflows is subject to some uncertainty (see Note 33 for further information).

Certain of Vesuvius' subsidiaries are subject to lawsuits, predominantly in the US, relating to a small number of products containing asbestos manufactured prior to the acquisition of those subsidiaries by Vesuvius. These suits usually also name many other product manufacturers. To date, Vesuvius is not aware of there being any liability verdicts against any of these subsidiaries. A number of lawsuits have been withdrawn, dismissed or settled and the amount paid, including costs, in relation to this litigation has not had a material adverse effect on Vesuvius' financial position or results of operations.

### **36. Principal subsidiaries and joint ventures**

Details of the principal subsidiaries and joint ventures of Vesuvius plc and the countries in which they are incorporated are given in Note 5 to the Company financial statements, together with detail of subsidiaries exempt from audit of their individual financial statements by virtue of section 479A Companies Act 2006.

### **37. Related parties**

All transactions with related parties are conducted on an arm's length basis and in accordance with normal business terms. Transactions between related parties that are Group subsidiaries are eliminated on consolidation.

# Company balance sheet

As at 31 December 2014

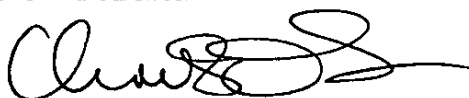
	Notes	2014 £m	2013 £m
<b>Fixed assets</b>			
Investment in subsidiaries	5	1,780.3	1,778.9
<b>Total fixed assets</b>		<b>1,780.3</b>	<b>1,778.9</b>
<b>Current assets</b>			
Debtors — amounts falling due within one year		10.5	0.1
Cash at bank and in hand		—	0.4
<b>Total current assets</b>		<b>10.5</b>	<b>0.5</b>
<b>Creditors — amounts falling due within one year</b>			
Other creditors	6	(991.7)	(939.5)
<b>Net current liabilities</b>		<b>(981.2)</b>	<b>(939.0)</b>
<b>Total assets less current liabilities</b>		<b>799.1</b>	<b>839.9</b>
<b>Net assets</b>		<b>799.1</b>	<b>839.9</b>
<b>Equity capital and reserves</b>			
Issued share capital	7	27.8	27.8
Retained earnings		771.3	812.1
<b>Shareholders' funds — equity</b>	8	<b>799.1</b>	<b>839.9</b>

Company number 8217766

The financial statements were approved and authorised for issue by the Directors on 3 March 2015 and signed on their behalf by

François Wanecq  
Chief Executive

Chris O'Shea  
Chief Financial Officer

# Notes to the Company financial statements

## 1. Basis of preparation

### 1.1 Basis of accounting

The financial statements of Vesuvius plc are prepared in accordance with the Companies Act 2006 and under the historical cost convention and in accordance with UK GAAP. The Company has not presented a separate profit and loss account, as permitted by Section 408(3) of the Companies Act 2006.

### 1.2 Going concern

The Directors have a reasonable expectation that the Group and the Company have adequate resources to continue in operational existence for a period of 12 months from the date of approval of the 2014 financial statements. Accordingly, they continue to adopt a going concern basis in preparing the financial statements of the Group and the Company.

## 2 Employee benefits expense

Details of the Directors' remuneration are disclosed in the Directors' remuneration report on pages 75 to 93.

## 3. Audit and non-audit fees

Amounts payable to KPMG LLP in relation to audit and non-audit fees are disclosed within Note 6 to the consolidated financial statements.

## 4. Dividends

A proposed final dividend for the year ended 31 December 2014 of £30.1m (2013: £27.7m), equivalent to 11.125 pence per ordinary share (2013: 10.25 pence), is subject to approval by shareholders at the Company's Annual General Meeting and has not been included as a liability in these financial statements. If approved by shareholders, the dividend will be paid on 22 May 2015 to ordinary shareholders on the register at 10 April 2015.

## 5. Investment in subsidiaries

### 5.1 Accounting policy

Shares in subsidiaries are stated at cost less any impairment in value.

### 5.2 Analysis of investment in subsidiaries

	Shares in subsidiaries £m
As at 1 January 2013	1,777.9
Additions	1.0
As at 1 January 2014	1,778.9
Additions	1.4
As at 31 December 2014	1,780.3

The principal subsidiaries and joint ventures of Vesuvius plc and the countries in which they are incorporated are as follows:

Angang Vesuvius Refractory Company Ltd, China (50%)	Foseco Ltd, England and Wales†
Cookson America, Inc., USA	Vesuvius Advanced Ceramics (China) Co. Ltd, China
Cookson Australia Pty Ltd, Australia	Vesuvius Corporation SA, Switzerland
Cookson Ceramics Ltd, England and Wales	Vesuvius Crucible Company, USA
Vesuvius Holdings Ltd, England and Wales*	Vesuvius GmbH, Germany
Cookson Investments Ltd, England and Wales	Vesuvius USA Corporation, USA
Cookson Overseas Ltd, England and Wales	Wilkes-Lucas Ltd, England and Wales
Foseco International Ltd, England and Wales	Wuhan Wugang-Vesuvius Advanced Ceramics Co. Ltd, China (50%)
Foseco (Jersey) Ltd, Jersey	Wuhan Wugang-Vesuvius Advanced CCR Co. Ltd, China (50%)

With the exception of the company marked with an asterisk (\*), the ordinary capital of the above companies was owned by a Vesuvius plc subsidiary as at 31 December 2014. All of the above companies are wholly owned, unless otherwise stated. A full list of Group companies will be included in the Company's Annual Return to the Registrar of Companies.

\* See Note 5.2 overleaf.

The UK subsidiaries marked with a dagger (†) above, together with the following, are exempt from audit of their individual financial statements by virtue of Section 479A Companies Act 2006:

Brazil 1 Limited	Foseco Transnational Limited
Cookson Minerals Limited	Foseco Steel (Holdings) China Limited
Cookson Pigments (Holdings) Limited	S G Blair & Company Limited
Foseco (UK) Limited	Vesuvius China Limited
Foseco Technology Limited	Vesuvius Group Limited

All of the above companies have the same year-end as Vesuvius plc and all subsidiaries are included in the consolidated financial statements of the Company.

## 6. Other creditors

	£m	£m
Amounts owed to subsidiary undertakings	990.3	937.7
Accruals and other creditors	1.4	1.8
<b>Total amounts falling due within one year</b>	<b>991.7</b>	<b>939.5</b>

## 7. Issued share capital

### 7.1 Accounting policy

Equity instruments issued by the Company are recorded at the proceeds received, net of direct issue costs

### 7.2 Analysis of issued share capital

The issued ordinary share capital of the Company as at 31 December 2014 was 278.5 million shares of £0.10 each (31 December 2013: 278.5 million shares of £0.10 each)

During 2013 the Company issued 36,319 ordinary shares of £0.10 each for a total consideration of £0.1m

On 11 December 2013, the Company redeemed the 50,000 outstanding redeemable preference shares with a nominal value of £1 each for £50,000. The consideration was satisfied by the cancellation of the undertaking to pay given by the holder of the preference shares at the time of issue. Also during the year, the Company redeemed the deferred share for no consideration and cancelled it.

During the year to 31 December 2014, the Company had repurchased 101,847 of its own shares for £0.5m via Cookson Investments (Jersey) Limited as Trustee of the Cookson Group ESOP.

## 8. Shareholders' funds

### 8.1 Accounting policy

#### Taxation

Both current and deferred tax are calculated using tax rates and laws that have been enacted, or substantively enacted, by the balance sheet date.

Current tax payable is based on the taxable result for the year. Deferred taxation is recognised, without discounting, in respect of all timing differences that have originated, but not reversed, at the balance sheet date, with the exception that deferred taxation assets are only recognised if it is considered more likely than not that there will be suitable future profits from which the reversal of the underlying timing differences can be deducted. Provision is made for the tax that would arise on remittance of the retained earnings of overseas subsidiaries only to the extent that, at the balance sheet date, dividends have been accrued as receivable.

### 8.2 Reconciliation of movements in shareholders' funds

	Share capital £m	Other reserves £m	Retained earnings £m	Total £m
As at 1 January 2013	27.8	—	888.1	915.9
Loss recognised in the period	—	—	(4.5)	(4.5)
Issue of new shares	—	0.1	—	0.1
Purchase of own shares	—	—	(34.1)	(34.1)
Recognition of share-based payments	—	1.9	—	1.9
Release of share reserve on exercise and lapsed options	—	(0.2)	0.2	—
Dividend paid	—	—	(39.4)	(39.4)
Redemption of redeemable preference shares	—	0.1	(0.1)	—
<b>As at 1 January 2014</b>	<b>27.8</b>	<b>1.9</b>	<b>810.2</b>	<b>839.9</b>
Loss recognised for the year	—	—	(1.6)	(1.6)
Purchase of own shares	—	—	(0.5)	(0.5)
Disposal of own shares	—	—	1.0	1.0
Recognition of share-based payments	—	1.5	—	1.5
Release of share reserve on exercise and lapsed options	—	(1.4)	1.4	—
Dividend paid	—	—	(41.2)	(41.2)
<b>As at 31 December 2014</b>	<b>27.8</b>	<b>2.0</b>	<b>769.3</b>	<b>799.1</b>

## 9. Share-based payments

### 9.1 Accounting policy

The Company operates equity-settled share-based payment arrangements for its employees. Equity-settled share-based payments are measured at fair value at the date of grant. The fair value determined at the grant date takes account of the effect of market-based conditions, such as the Total Shareholder Return target upon which vesting for some of the awards is conditional, and is expensed on a straight-line basis over the vesting period with a corresponding increase in equity. The cumulative expense recognised is adjusted for the best estimate of the shares that will eventually vest and for the effect of other non-market-based vesting conditions, such as growth in headline earnings per share, which are not included in the fair value determined at the date of grant. For grants with market-based conditions attaching to them, fair value is measured using a form of stochastic option pricing model. For all other grants, fair value is measured using the Black-Scholes model.

### 9.2 Profit and loss account recognition

The Company operates a number of different share-based payment schemes, the main features of which are detailed between pages 75 to 93 of the Directors' remuneration report. £1.3m was charged to the profit and loss account in the year with regard to share-based payments (2013: £0.9m).

### 9.3 Details of outstanding options

The information in the tables below has been restated to take into account the demerger of the Alent business from the Cookson Group. The number of share options, and other related disclosures, were adjusted with reference to the Vesuvius share price at the date of demerger.

Outstanding awards	Awards exercisable	Weighted average	Range of exercise
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	As at 1 Jan 2014 no	Granted no	Exercised no	Forfeited/ lapsed no	As at 31 Dec 2014 no	as at 31 Dec 2014 no	outstanding contractual life of awards years	prices pence
LTIP	1,244,609	463,667	(133,857)	(346,842)	1,227,577	—	5.0	
Weighted average exercise price	nil	nil	nil	nil	nil	—		n/a
Other plans	54,403	76,522	(87,624)	—	43,301	—	2.1	
Weighted average exercise price	nil	nil	nil	nil	nil	—		n/a

For options exercised during 2014, the share price at the date of exercise was 435 pence for LTIP schemes and 410 or 420 pence for other plans

Outstanding awards						Awards exercisable as at 31 Dec 2013 no	Weighted average outstanding contractual life of awards years	Range of exercise prices pence
	As at 1 Jan 2013 no	Granted no	Exercised no	Forfeited/ lapsed no	As at 31 Dec 2013 no			
LTIP	847,076	559,016	(110,664)	(50,819)	1,244,609	—	—	2.2
Weighted average exercise price	nil	nil	nil	nil	nil	—	—	n/a
Other plans	108,805	1,685	(56,087)	—	54,403	—	—	0.8
Weighted average exercise price	nil	nil	nil	nil	nil	—	—	n/a

For options exercised during 2013, the share price at the date of exercise was 332 pence for LTIP schemes and 460 pence for other plans

As at 31 December 2014, the total options exercisable by all Group employees over the £0.10 ordinary shares and capable of being satisfied through new allotments of shares or through shares held by the Company's ESOP were as follows

	Years of award/grant	Option prices (£)	Latest year of exercise/ vesting	Number of options/ allocations outstanding
Long Term Incentive Plan	2012 – 2014	nil	2015/2024	1,882,498
Deferred Share Bonus Plan	2012 – 2014	nil	2015/2017	25,127
Restricted rights	2014	nil	2015/2015	40,407

FV of options granted under the LTIP during the year

	2014		2013	
	EPS element	TSR element	EPS element	TSR element
Fair value of options granted (per share)	429p	154p	322p	188p
Share price on date of grant (per share)	429p	429p	322p	322p
Expected volatility	n/a	26.0%	n/a	38.6%
Risk-free interest rate	n/a	1.03%	n/a	0.3%
Exercise price (per share)	nil	nil	nil	nil
Expected term (years)	4	4	4	4
Expected dividend yield	0%	0%	0%	0%

Share price volatility for options granted in 2013 is based upon weekly movements in the Company's (formerly Cookson's) share price over a period prior to the grant date that is equal in length to the expected term of the award, or a shorter period for 2014 awards where this was considered more representative of the Company's post-demerger performance

## 10. Contingent liabilities

Where the Company enters into financial guarantee contracts to guarantee the indebtedness of other companies within its Group, the Company considers these to be insurance arrangements and accounts for them as such. In this respect, the Company treats the guarantee contract as a contingent liability until such time as it becomes probable that the Company will be required to make a payment under the guarantee. Guarantees provided by the Company as at 31 December 2014 in respect of the liabilities of its subsidiary companies amounted to £457.7m (2013: £467.7m), which includes guarantees of \$310m and €30m (2013: \$310m and €30m) in respect of US Private Placement Loan Notes and £81.5m (2013: £96.4m) in respect of drawings under the syndicated bank facility, together with £108.2m (2013: £108.2m) in relation to a guarantee provided to the Company's UK subsidiary which acts as Trustee for the Group's UK pension plan. The guarantee is over all present and future pension liabilities of the plan and the contingent liability amount represents the net deficit on a solvency valuation basis as shown in the most recent triennial valuation.

Vesuvius has extensive international operations and is subject to various legal and regulatory regimes, including those covering taxation and environmental matters. Several of the Company's subsidiaries are parties to legal proceedings, certain of which are insured claims arising in the ordinary course of the operations of the company involved, and are aware of a number of issues which are, or may be, the subject of dispute with tax authorities. While the outcome of litigation and other disputes can never be predicted with certainty, having regard to legal advice received and the insurance arrangements of the Company and its subsidiaries, the Directors believe that none of these matters will, either individually or in the aggregate, have a materially adverse effect on the Company's financial condition or results of operations.

## 11. Related parties

All transactions with related parties are conducted on an arm's length basis and in accordance with normal business terms. Transactions between related parties that are wholly owned Group subsidiaries are not disclosed in this Note.

## Five-year summary – Divisional results from continuing operations

		2014	2013	2012	2011	2010
<b>Steel division</b>						
Revenue	£m	981	1,018	1,018	1,078	980
Trading profit <sup>(1)</sup>	£m	96.4	88.7	83.1	105.8	102.4
Return on sales <sup>(1)</sup>	%	9.8	8.7	8.2	9.8	10.4
Employees year-end	no	8,349	7,524	7,601	7,783	7,731
<b>Foundry division</b>						
Revenue	£m	463	493	530	608	515
Trading profit <sup>(1)</sup>	£m	46.4	51.3	48.2	75.5	66.8
Return on sales <sup>(1)</sup>	%	10.0	10.4	9.1	12.4	13.0
Employees year-end	no	3,443	3,330	3,585	3,889	3,936

### NOTE

<sup>1</sup> The unaudited trading profit numbers reported above for the years before 2011 are stated after deduction of management's estimate of the level of ongoing central costs for Vesuvius as a stand-alone company; and for the years before 2013 they are restated for the impact of IAS 19(R), which was adopted by the Company during 2013.

## Shareholder information

### Enquiries

The Company's share register is managed by Equiniti, who can be contacted regarding shareholding queries at the following address:

Equiniti Limited  
Aspect House, Spencer Road  
Lancing, West Sussex, BN99 6DA  
Tel (UK only) 0871 384 2335  
Tel (non-UK) +44 (0)121 415 7047

For the hard of hearing, Equiniti offers a special Textel service which can be accessed by dialling 0871 384 2255 (or +44 (0)121 415 7028 from outside the UK).

All other shareholder enquiries not related to the share register should be addressed to the Company Secretary at the registered office or emailed to [shareholderinformation@vesuvius.com](mailto:shareholderinformation@vesuvius.com).

### Registered office and Group head office

Vesuvius plc  
165 Fleet Street  
London EC4A 2AE  
Tel +44 (0)20 7822 0000  
Fax +44 (0)20 7822 0100  
(Registered in England & Wales No. 8217766)

### Corporate website

Shareholder and other information about the Company can be accessed on the Company's website [www.vesuvius.com](http://www.vesuvius.com).

### Shareview

A website, [www.shareview.co.uk](http://www.shareview.co.uk), is operated by Equiniti, the Company's Registrars, enabling shareholders to access details of their shareholdings online. The website provides information useful to the management of investments together with an extensive schedule of frequently asked questions. In order to gain access to information on shareholdings the shareholder reference number is required, which can be found at the top of the Company's share certificates.

Shareholders can register to receive shareholder communications electronically, including the Company's Annual report and accounts, rather than in paper form, using Shareview. The registration process requires input of the shareholder reference number. To ensure that shareholder communications are received in electronic form, "email" should be selected as the mailing preference. Once registered, shareholders will be sent an email notifying them each time that a shareholder communication has been published on the Company's website.

### Dealing services

UK resident shareholders can now sell shares on the Internet or by phone using Equiniti's Shareview Dealing facility by either logging on to [www.shareview.co.uk/dealing](http://www.shareview.co.uk/dealing) or by calling 0845 603 7037 between 8.00 am and 4.30 pm on any business day (excluding Bank Holidays).

In order to gain access to this service the shareholder reference number is required, which can be found at the top of the Company's share certificates.

### Dividend reinvestment plan

The Company offers holders of ordinary shares the opportunity to participate in a dividend reinvestment plan, through which shareholders can use any cash dividend declared to buy additional shares in Vesuvius. Further details, including the terms and conditions of the plan, are available on the Vesuvius website [www.vesuvius.com](http://www.vesuvius.com) or from Equiniti by calling the Share Dividend Helpline on 0871 384 2268 (or +44 (0)121 415 7047 from outside the UK).

### Overseas payment service

Equiniti provides a dividend payment service in over 90 countries that automatically converts payments into the local currency by an arrangement with Citibank Europe PLC. Further details, including an application form and terms and conditions of the service, are available on [www.shareview.co.uk](http://www.shareview.co.uk) or

from Equinix by calling +44 (0)121 415 7047 or writing to Equinix, Aspect House, Spencer Road, Lancing, West Sussex, BN99 6DA, United Kingdom (please quote Overseas Payment Service with details of the Company and your shareholder reference number)

## Financial calendar

2015 Annual General Meeting

14 May 2015

Announcement of 2015 half-year results

31 July 2015

## Share fraud and boiler rooms

Fraudsters use persuasive and high-pressure tactics to lure investors into scams. Share scams are often run from "boiler rooms" where fraudsters cold-call investors and offer to sell shares that turn out to be worthless or non-existent, or to buy shares at an inflated price in return for an upfront payment. While high profits are promised, if you buy or sell shares in this way you will probably lose your money.

## How to avoid share fraud

- 1 Keep in mind that firms authorised by the FCA are unlikely to contact you out of the blue with an offer to buy or sell shares
- 2 Do not get into a conversation, note the name of the person and firm contacting you and then end the call
- 3 Check the Financial Services Register from [www.fca.org.uk](http://www.fca.org.uk) to see if the person and firm contacting you is authorised by the FCA
- 4 Beware of fraudsters claiming to be from an authorised firm, copying its website or giving you false contact details
- 5 Use the firm's contact details listed on the Register if you want to call it back
- 6 Call the FCA on 0800 111 6768 if the firm does not have contact details on the Register or you are told they are out of date
- 7 Search the list of unauthorised firms to avoid at [www.scamsmart.fca.org.uk/](http://www.scamsmart.fca.org.uk/)
- 8 Consider that if you buy or sell shares from an unauthorised firm you will not have access to the Financial Ombudsman Service or Financial Services Compensation scheme
- 9 Think about getting independent financial and professional advice before you hand over any money
- 10 Remember if it sounds too good to be true, it probably is!

For further information on how to protect yourself from share fraud, visit [www.scamsmart.fca.org.uk/](http://www.scamsmart.fca.org.uk/)

## Analysis of ordinary shareholders

As at 31 December 2014	Investor type		Total	Shareholdings			
	Private	Institutional and other		1-1,000	1,001-50,000	50,001-500,000	500,001+
Number of holders	2,844	742	3,586	2,813	608	107	58
Percentage of holders	79.31%	20.69%	100%	78.45%	16.95%	2.98%	1.62%
Percentage of shares held	0.96%	99.04%	100%	0.16%	1.55%	6.48%	91.81%

## Glossary of terms

8D	An eight-step Vesuvius methodology to resolve customer, supplier and internal quality issues
ABC	Anti-bribery and corruption
AGM	Annual General Meeting
Boiler room	A term for an approach by unscrupulous people trying to buy/sell shares in worthless companies
Capex	Capital expenditure
CE	Chief Executive
CFD	Computational Fluid Dynamics
CFO	Chief Financial Officer
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
Code of Conduct	The Vesuvius code of conduct emphasising the Group's commitment to legal and ethical behaviour
Company	Vesuvius plc
CRC	UK Government's Carbon Reduction Commitment
Deloitte LLP	An audit firm, used for advice to the Remuneration Committee and the Company
DRIP	Dividend reinvestment plan
DSBP	Deferred share bonus plan
DTR	The Disclosure and Transparency Rules of the UK Financial Conduct Authority
EBITDA	Earnings before interest, tax, depreciation and amortisation
EMEA	Europe, Middle East and Africa
EPS	Earnings per share
EU	European Union
FEC	Foundry Executive Committee
Fluxes	A range of powders used alongside refractory products in the enclosed continuous casting process for steel production
FRC	Financial Reporting Council
FRS	Financial Reporting Standards
FTSE 250	Equity index whose constituents are the 101st to 350th largest companies listed on the London Stock Exchange in terms of their market capitalisation
Group	Vesuvius plc and its subsidiary companies
GEC	Group Executive Committee
HR	Human Resources
HSE	Health, Safety and the Environment
IAS	International Accounting Standard
IFRS	International Financial Reporting Standards
IA	The Investment Association
IP	Intellectual property (for example, patents and trademarks)
IR	Investor Relations
ISO	International Standards Organisation
ISO 14000	Internationally recognised series of standards which specify the requirements for an environment management system
ISO 9001:2008	Internationally recognised standard which specifies the requirements for a quality management system
KPI	Key performance indicator
LTC	Ladle tube changer
LTi	Lost time injury
LTIFR	Lost time injury frequency rate, a KPI which calculates the number of LTIs per million hours worked
LTIP	Long Term Incentive Plan
Median	The middle number in a sorted list of numbers
NED	Non-executive Director
OEM	Original Equipment Manufacturer
OHAS 18001	Occupational Health and Safety Advisory Services requirements for an OHS management system
Ordinary share	An ordinary share of 10p in the capital of the Company
QHSE	Quality, Health, Safety and the Environment
R&D	Research and development
RCT	Robotic Casting Technology
Scam	To obtain money or other goods from somebody by dishonest means
SIOPA	Safety Improvement Opportunity with Permanent Corrective Action
T3	Total tundish technology system
The Code/UK Code	The UK Corporate Governance code, issued by the Financial Reporting Council in September 2012
Towers, Towers Watson	A third-party firm of remuneration consultants used to advise the Remuneration Committee
TSR	Total shareholder return
Turbo S	The Vesuvius safety training programme

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