Principal risks and uncertainties

As described in the Corporate Governance Report, there is a continuous process for identifying, evaluating and managing significant risks faced by Vesuvius. Group management operates a risk management process designed to identify the key risks facing each business and reports to the Audit Committee on the process of how those risks are being managed. The Board is responsible for the Group's risk management and also reviews the role of insurance and other measures used in managing risks across the Group. The Board receives regular reports on any major issues that have arisen during the year and makes an annual assessment of how the risks have changed over the period under review.

Throughout its global operations, Vesuvius faces various risks, both internal and external, which could have a material impact on the Group's long-term performance. Vesuvius manages the risks inherent in its operations in order to mitigate exposure to all forms of risk, where practical, and to transfer risk to insurers, where cost-effective. The risks below are not the only ones that the Group will face. Some risks are not yet known and some that are not currently deemed material could later become material. All of these risks could materially affect the Group, its businesses, results of future operations or financial condition.

Risk and impact	Mitigation
The financial performance and financial position of Vesuvius may be adversely affected by a significant weakening in demand in its core end-markets.	
The global macroeconomic environment remains uncertain. In 2012, following a decline in average monthly steel production volumes at the beginning of the second half of the year, the normal seasonal strengthening did not occur and, indeed, in September, rather than our businesses experiencing the normal seasonal strengthening, there were signs of some further weakening in steel production volume trends, particularly in the US, Europe and Brazil. The downturn was particularly marked in the Foundry division and was principally related to the weakness of the car market in Europe and the truck market globally. Vesuvius supplies predominantly consumable products, on short lead times, to the global steel and foundry industries. As such, Vesuvius' expectations of future trading are based upon the Directors' assessment of end-market conditions, which conditions are subject to some uncertainty. In the event that end-market conditions suffer significant deterioration, Vesuvius may experience reductions in trading activity, a lower share price, the financial failure of one or more of its key customers and suppliers, asset impairments, lower profitability and/or a material adverse impact on its financial position.	The Board regularly reviews Group strategy, which determines the markets in which the Group operates. The current spread of the Group's major businesses, both geographically and by end-market served, provides some protection to the Group should conditions, in particular markets, deteriorate. Further, the reduction in the Group's cost base during the last three years provides additional insulation to the adverse impact of any near-term market downturn and this, together with the level and tenor of the Group's debt facilities, leads the Directors to believe that the Group is well positioned financially to sustain a further downturn in end-market activity should this occur.

Risk and impact	Mitigation
The Group's financial position and trading results may be adversely affected by fluctuations in exchange rates, interest rates or the rate of inflation.	
In the normal course of business, many transactions are carried out by Group businesses in currencies other than their reporting currency, leading to transactional foreign exchange risk, although this is not material for the Group overall. The Group is exposed to the effect of translating the results and net assets of its overseas subsidiaries into sterling. Significant fluctuations in the value of currencies in which it operates, in interest rates, or in rates of inflation may adversely impact the Group's financial position, results of operations and ability to comply with its financial covenants.	The Group seeks to manage transactional and balance sheet translation risks associated with currency exchange rate fluctuations through its hedging and funding policies and it is Group policy that foreign currency transaction exposures that are material at an individual operating unit level are hedged using appropriate instruments such as forward foreign exchange contracts. For its key operating currencies, the Group broadly matches the currency profile of its borrowings with the currencies of its asset base, but does not hedge translational impact on the income statements of overseas subsidiaries. Where appropriate, the Group manages its interest rate exposures using interest rate swaps or other instruments.
The Group may lose customers to competitors with new or alternative technologies if its businesses either do not adequately adapt to market developments or are unable to protect, maintain and enforce their intellectual property.	
The markets in which many of Vesuvius' businesses operate can experience rapid changes due to the introduction of new technologies. The continued success of Vesuvius depends upon its ability to continue to develop and produce new and enhanced products and services on a cost-effective and timely basis in accordance with customer demands. In addition, the markets for Vesuvius' products are competitive in terms of pricing, product and service quality, product development and introduction time, customer service, financing terms and other similar factors. If Vesuvius fails adequately to adapt to market developments related to new products and technology, it could lose customers to suppliers with better or less costly products. Throughout its operations, Vesuvius relies on a combination of trade secrets, patents, confidentiality procedures and agreements, and copyright and trade mark laws to protect its proprietary rights. If Vesuvius fails to or is unable to protect, maintain and enforce its existing intellectual property, this may result in the loss of the Group's exclusive right to use technologies and processes which are included or used in its businesses. In addition, the laws of certain foreign countries in which Vesuvius operates may not protect proprietary rights to the same extent as those of, for example, the UK or the USA.	Vesuvius invests significant amounts in research and development and endeavours to sustain its competitive advantage and take appropriate action to ensure that its cost base remains competitive. In 2012, total research and development spend was £24.5 million, equivalent to 1.6% of revenue. The Group applies for patents over its major products, technologies and processes in a number of jurisdictions, including in Europe and the US. New product and service offerings by competitors are regularly monitored and any perceived breach of a Group patent is vigorously challenged. To the extent possible, the Group avoids holding key intellectual property in countries which do not afford an acceptable degree of legal protection to the Group.

Principal risks and uncertainties continued

Risk and impact	Mitigation
The Group's financial condition may be materially adversely affected by any significant liabilities for any defects of its products or services.	
If a product of the Group or of one of the Group's industrial customers does not conform to agreed specifications or is otherwise defective, the Group may be subject to claims by its customers arising from end-product defects, injury to individuals or other such claims. Legal claims have been brought against certain Group companies by third parties alleging that persons have been harmed by exposure to hazardous materials used by those companies in the manufacture of industrial and consumer products, and further claims may be brought in the future. Certain of the Group's subsidiaries are subject to suits, predominantly in the US, relating to a small number of products containing asbestos manufactured prior to the acquisition of those subsidiaries by the Group. These suits usually also name many other product manufacturers. To date, the Group is not aware of there being any liability verdicts against any of these subsidiaries.	The Board believes that, taking into account legal advice received, the Group's insurance arrangements, indemnification provided by former owners of certain of the subsidiaries impacted and financial provisions, none of the currently pending or potential claims will, either individually or in the aggregate, have a material adverse impact on the Group's financial position and results of operations.
The Group's worldwide operations and businesses may be adversely affected by various political, legal, regulatory and other developments in countries in which it operates.	
Vesuvius is subject to various legal and regulatory regimes, including those covering taxation and environmental matters; and political risks including the imposition of trade barriers, changes of regulatory requirements, lack of protection for intellectual property rights and the volatility of input costs, selling prices, taxes and currencies. In particular, operating within the rapidly evolving developing nations can expose the Group's businesses to significant local risks and challenges. Future global political, legal or regulatory developments concerning Group businesses may affect their ability to operate and to operate profitably in the affected jurisdictions. Should Group businesses fail to comply with applicable legal and regulatory requirements, this may result in a financial loss or restriction on their ability to operate. The Group's businesses are subject to a variety of operational risks, including natural catastrophe, terrorist action, theft, fraud and, particularly in developing nations, insufficient supply of high-quality local management and technical personnel. If any of the operational risks materialise to a significant extent, this could result in a substantial interruption to a facility, loss of future insurance cover, a potential loss of customers and revenue and financial loss.	As part of its planning process before entering a new market or territory, or expanding in an existing market or territory, the Group undertakes a rigorous assessment of the risks involved. In addition, the spread of the Group's major businesses, both geographically and by end-market served, provides some protection to the Group should any of its businesses be adversely impacted by legal, regulatory or other changes in an individual market or territory. The Group has in place an insurance programme covering all of its businesses which provides an acceptable level of coverage for the operational risks which they face.

Risk and impact	Mitigation
A withdrawal or reduction of precious metal consignment arrangements, or increased precious metal prices resulting in consignment lines being fully utilised, may cause a shortage of raw materials requiring the business to be restructured and downsized and may result in a short-term material increase in the Group's financial indebtedness.	
The Group's precious metal fabrication operations utilise significant quantities of precious metals, primarily gold by value. These metals are held predominantly on consignment under uncommitted contractual arrangements whereby the consignor has the right to demand physical return or purchase of its consigned metal. Should precious metals consignors decide to reduce or withdraw the facilities for whatever reason, or require a return of the consigned metal, or increased metal prices lead to the consignment arrangements becoming fully utilised, the Group's precious metal fabrication operations may suffer shortages of raw materials requiring the business to be restructured and downsized in order to be able to operate within its available consignment facilities. In the short - term this may require precious metals to be purchased, which could materially increase the Group's financial indebtedness pending completion of the downsizing.	The utilisation of consigned precious metals is established practice in the precious metals industry. The Group has successfully maintained precious metal consignment arrangements of this nature for over 20 years. Vesuvius has close commercial relationships with its group of consignor banks. Management seek to operate the business at all times with appropriate headroom within the consignment facilities, taking account of anticipated levels of business activity and precious metals prices. The sale of the Group's Precious Metals Processing division will remove this risk.