Morgan
Advanced Materials

Delivering world-class materials solutions

Annual Report 2018

Advanced materials have never been more important

There are significant trends shaping our modern world.

Resources are becoming more scarce and harder to access, our climate and environment is changing, and the pace of innovation and technology change is accelerating. Each of these directly or indirectly puts more demand on materials, advanced materials have never been more important.

At Morgan Advanced Materials our purpose is to use advanced materials to help make more efficient use of the world's resources and to improve the quality of life. Our highly experienced scientists and application engineers are working with our customers, to find new solutions to complex and technologically demanding problems. All the while, our commitment to working ethically and safely acts as a constant, underpinning everything we do.

Read more about our products and markets on pages 4 and 5, **our business model** on pages 8 and 9, **and corporate responsibility** on pages 34 to 41

2018 highlights

Headline performance

Revenue

£1,033.9m

2017: £1,001.4m

Group headline operating profit[4]

£124.8m

2017: £120.7m

Headline EPS[4]

26.7p

2017: 22.8p

Total dividend per share

11.0p

2017: 11.0p

Health and safety

Lost-time accident frequency (per 100,000 hours worked)

0.22

2017: 0.38

Statutory basis

Operating profit

£107.3m

2017: £159.1m

Profit before tax

£94.9m

2017: £136.8m

Continuing EPS[3]

20.0p

2017: 38.1p

Continuing and discontinued EPS[3]

16.2p

2017: 37.8p

1. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. The years ended 31 December 2018 and 2017 have been presented as Continuing operations throughout this Report. Further details are provided in notes 2 and 9 to the consolidated financial statements.
2. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.
3. EPS is presented on a 'Continuing' and a combined 'Continuing and discontinued' basis for Statutory reporting. Further details are provided in note 10 to the consolidated financial statements.
4. Throughout the Annual Report, including the Strategic Report, adjusted measures are used to describe the Group's financial performance. These adjusted measures are not recognised under IFRS or other generally accepted accounting principles (GAAP). The Executive Committee and the Board manage and assess the performance of the business on these measures and believe that they are more representative of ongoing trading, facilitate year-on-year comparisons, and hence provide additional useful information to shareholders. Throughout this Report these non-GAAP measures are clearly identified by an asterisk (*) where they appear in text, and by a footnote where they appear in tables and charts. Definitions and reconciliations of these non-GAAP measures to the relevant GAAP measures can be found in the Group Financial Review on pages 31 to 33.

Overview

Strategic Report

Governance

Financial Statements

About us

As the world strives to make better use of limited resources, the demands on our materials, and on our materials science capabilities, are rapidly increasing.

Morgan's highly experienced scientists and application engineers actively engage with our customers to find new solutions for complex and technologically demanding problems.

This work is underpinned by a passion to develop the next generation of skilled individuals and teams, coupled with a commitment to the environment, to health and safety, and operating to high ethical standards.

We are building distinctive competencies in

- Leading technology and materials science capability and process know-how.
- Application engineering.
- Customer focus, reputation for quality and delivery and brand.

Where we have strong market positions, and with an inclusive culture with people at the centre.

Read more about our strategy in action pages 12 to 15

Our structure

We operate as two Divisions and five global business units.

Thermal Products Division	Carbon and Technical Ceramics Division
Thermal Ceramics	Electrical Carbon
Molten Metal Systems	Seals and Bearings
	Technical Ceramics

Read more about our Divisions pages 24 to 27 **and our products and markets** pages 4 and 5

How we differentiate ourselves

Through our Centres of Excellence, our materials are developed to exacting customer specifications and deliver ever-greater performance through materials and production process innovation.

We are producing materials that can work at higher temperatures, and higher pressures, in more corrosive and abrasive applications, at more precise tolerances and in smaller form factors, than ever before.

We use two fundamental sets of materials

Ceramics

Ceramics typically have high melting points and are used to make high-performance insulation. They are also hard, chemically resistant and abrasion resistant, are electrical insulators, and we use these structural properties in a range of applications.

We manufacture and install a wide range of thermal insulation products that significantly reduce energy consumption and emissions in a variety of high-temperature processing applications. Structural ceramics are used for implanted medical devices, exploiting their strength, abrasion resistance and chemical stability, to make power tubes for medical scanners, in the manufacture of semiconductors, glass and metals, and as valve components in demanding applications.

Carbon

We use carbon for its electrical conductivity, and produce leading carbon grades for power generation, rail collector and wind power applications. We use the inert and low-friction properties of carbon to make seals and bearings for a wide variety of applications from jet engines to automotive vacuum pumps. We also exploit the high temperature stability in inert atmospheres of carbon to produce insulation for vacuum furnaces, semiconductor applications and crucibles.

Chairman's statement

'The focus on operational efficiencies and improved sales force effectiveness has strengthened the business. The solid organic growth during 2018 demonstrates that the benefits of the strategy are showing through.'

Dear Shareholders,

I am pleased to be introducing Morgan's Annual Report for 2018 having taken over as Chairman of the Group on 1 January 2019.

I should first like to pay tribute to the stewardship of Andrew Shilston who retired from corporate life at the end of 2018 after having served as our Chairman for six years. During Andrew's tenure, he completely refreshed the Board of Directors and, through his guidance and the development of new Directors, cultivated an effective Board dynamic. With a new CEO and CFO in place, the Group embarked on a new strategy which, now three years in, is on track delivering a healthy and sustainable business. We wish him well in his retirement, and thank him for his wise and skilful chairmanship.

I served on the Board of Morgan Advanced Materials for five years as a non-executive Director before stepping up as Chairman and, during that time, the Group has continued to evolve to keep pace with the changing needs of our customers, adopt new technologies and reflect the needs of our wider stakeholders.

Our purpose

Morgan provides advanced materials to help make more efficient use of the world's resources and to improve the quality of life.

Over the last three years, Pete Raby as CEO and his team have focused on delivering the six strategic priorities with a view to securing the foundations for a sustainable future. In 2018 we further simplified the organisation with the planned divestment of the Composites and Defence Systems business. The focus on operational efficiencies and improved sales force effectiveness has strengthened the business. The solid organic growth during 2018 demonstrates that the benefits of the strategy are showing through.

The Group has continued to invest in customer-focused research and development in selected new advanced materials technologies to provide better solutions for our customers and platforms for growth in our key markets. A great example of this is the investments made in our Korea and Hudson, US sites in the manufacture of chemical vapour deposition silicon carbide for the semiconductor industry.

I should like to thank our employees for their commitment and the energy they are showing as we continue through this period of transition. I am particularly pleased with the sustained improvement in our safety record as a result of the continued focus this received at our sites during 2018. The Morgan Code, which defines how we work and demonstrates our commitment to ensuring a safe workplace and ethical behaviour, was launched during 2018 and every employee received a printed copy. I am committed to supporting our employees through robust governance and the promotion of ethical practice.

Our outlook

As we move into 2019, the outlook is more challenging as global economic growth rates seem to be slowing. However, the good progress made in the implementation of strategy and continued investments in research and development, our operational processes and our employees along with the focus on financial health, will serve the Group well during 2019 and beyond. I am excited to be part of that journey and look forward to seeing what can be achieved in 2019.

Douglas Caster CBE FIET
Chairman

Our products

Our purpose is to use advanced materials to help make more efficient use of the world's resources, and to improve the quality of life. It's why we exist, and why we are still here after 160 years, making products which solve difficult problems for our customers.

We help our customers manage heat. Our insulation products reduce energy usage in high-temperature processes – from aluminium production to ethylene to solar panel production. Our crucibles use less energy to hold molten metal for aluminium and copper casting.

We enable greener electricity generation. Our carbon brushes are integral to wind turbines and power generators, our ceramic rollers are used to make thin film solar panels, our insulation is used in solar towers and steam turbines, and our ceramic cores are used to make more efficient industrial gas turbines. Our self-lubricating seals and bearings and our ceramic shafts reduce the energy consumption of pumps in everything from domestic appliances to power stations to chemical plants.

We enable more efficient jet engines. Through production of more and more complex cores for casting turbine blades allowing those engines to run hotter and more efficiently. We enable electrification for cleaner public transport. Our products help reduce energy costs by enabling electrification in rail and metro systems, and by helping those systems to run ever more efficiently.

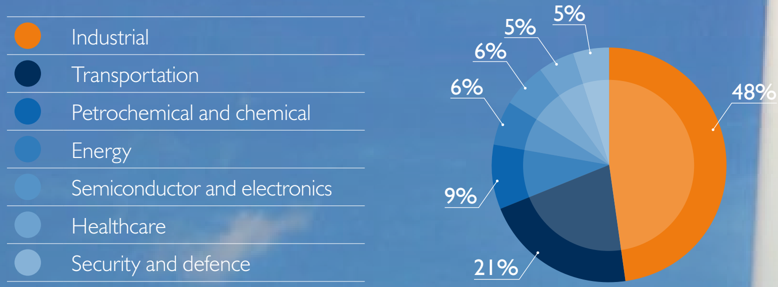
We enable medical diagnostics with our power tubes in medical scanners. Our feedthroughs are at the core of cochlear implants and our seals are used in blood pumps. These products transform peoples' lives.

We enable the production of more efficient and faster microprocessors. We enable the digital world and all the benefits to the environment and health that brings.

We help to keep people safe. We provide fire protection in everything from cars to tunnels to ships and oil platforms.

Read more about our Thermal Products Division on pages 24 and 25 **and Carbon and Technical Ceramics Division** on pages 26 and 27 →

% of revenue 2018



Our markets

We work in the industrial, transportation, petrochemical and chemical, energy, semiconductor and electronics, healthcare and security and defence markets, forming close collaborative relationships with our customers.

» Industrial

48% of revenue

Morgan designs and manufactures products with a wide range of performance characteristics including superior insulating properties, dimensional stability, strength and stiffness for use in a broad spectrum of challenging processes and manufacturing environments.

With these materials, the Group engineers components which are highly resistant to chemical and physical wear, corrosion and extreme temperatures. These components are at the heart of many industrial processes where they drive optimised process efficiency and productivity alongside reduced waste, improved safety and lower environmental impact.

» Transportation

21% of revenue

Morgan makes high-performance components and sub-assemblies to exacting standards for aerospace, automotive, marine and rail applications, including carbon brushes and collectors for trains and high-temperature fibre products used for emission control in vehicles.

» Petrochemical and chemical

9% of revenue

Morgan manufactures a range of components ideally suited to the uniquely demanding operating environments found in the global petrochemical industry. Our products and materials are routinely chosen to fulfil critical applications for on- and offshore exploration, drilling and downstream processing owing to their resistance to chemical and physical wear, corrosion and extreme heat.

» Energy

6% of revenue

Morgan manufactures products for power generation from renewable and traditional sources and insulation materials for heat management. Our advanced thermal insulation is used to insulate heat recovery steam generators in power and industrial plants, our carbon brushes offer world-leading performance in power generation applications, our newly developed carbon material grades are used for wind generation applications that extend life and reduce service costs.

» Semiconductor and electronics

6% of revenue

Morgan manufactures components that help the electronics industry in its drive towards higher performance and reliability in smaller, more efficient, more robust products. We work closely with customers to design and manufacture intricate components with specific electrical and thermal properties within restricted and challenging size constraints. Our ceramic metallisation processes have played a major role in the commercialisation of modern communication, signalling and control technologies, including ultra-high-frequency signal transmission.

» Healthcare

5% of revenue

Morgan manufactures a broad variety of components for use in medical instrumentation as well as in tools for treatment and surgery. Medical engineering demands the highest standards of precision, accuracy, reliability and performance. Equipment manufacturers and medical professionals choose our materials for their exceptional physical characteristics. Our deep understanding of ceramic material properties, together with expertise in braze alloy design, allows us to produce high-density, highly reliable feedthroughs for a range of medical applications, including cochlear implants and neuro-stimulation.

» Security and defence

5% of revenue

Morgan supplies precision-engineered materials and components to meet the exacting standards of security and defence markets.

Chief Executive Officer's review

'The Group has made good progress during the year with the implementation of our strategy going well.'

The Group has made good progress during the year with the implementation of our strategy going well. We have delivered organic revenue* growth of 7.4% and organic headline operating profit* growth of 9.4% while investing in R&D, sales and wider business infrastructure. We are now investing £10 million per year more in R&D than we were three years ago, a vital investment in the technical differentiation of the Group.

Safe and ethical working remains the top priority for the Group and I am very pleased with our progress during the year. We have started a refresh of our 'thinkSAFE' safety improvement programme during the year with a wide variety of safety improvements underway in 14 pilot sites across the Group. Our safety performance improved significantly with our Lost-time accident frequency (accidents per 100,000 hours worked) declining by 42% from 0.38 to 0.22. This is a great achievement and is testament to the hard work and focus from all of our employees.

To support our ethical working, we launched our Morgan Code during the year. The Morgan Code captures our expectations for the ethical standards that all our employees should meet in a concise and readily understandable document. We completed the training of all employees in the Morgan Code during the year. We also started the refresh of our suite of ethics and compliance related training programmes, launching the first set of modules in the fourth quarter of the year.

We have completed the third year of our initial three-year strategy implementation, and I am pleased with our progress. We completed the planned divestment of the Composites and Defence Systems business during the year and made further investments in R&D, sales and other functional capabilities, funded through operational improvements.

We continued the deployment of our sales effectiveness programme and made further changes to strengthen the leadership capability of the Group. These capability building and business changes will take time to fully deliver, however we are seeing the early impact of the changes in the financial results. We have met our goal of growing in line with our markets one year early delivering organic revenue* growth of 7.4% during 2018.

Group results

Trading conditions were good through the year with a strong macro-economic environment translating into growth in the majority of our end markets. This favourable market backdrop, coupled with the benefits of our strategy implementation has enabled us to deliver good organic growth during the year:

- Group revenue in 2018 was £1,033.9 million, 3.2% above prior year at reported rates. On an organic constant-currency* basis Group revenue was higher by 7.4%.
- The 2018 headline operating profit* margin was 12.1%, with organic growth of 9.4%.
- Group headline earnings per share* was 26.7p (2017: 22.8p).
- Capital expenditure was £53.1 million, (2017: £33.7 million) a significant increase over the prior year as we invested in new equipment to support operational efficiencies, improved the fabric of our plants and built new capacity in select areas where we had bottlenecks.
- Cash generated from operations was £131.3 million, (2017: £127.6 million before the one-off US pension payment).
- The net debt* to EBITDA* ratio at the year end was 1.2x. The Group remains well within its banking covenants and has good headroom and balance sheet capacity for appropriate future investment.
- On a statutory reporting basis operating profit was £107.3 million and profit before tax was £94.9 million. See pages 27 to 29 for further details.

Group strategy

Our long-term strategy is to build a Group with distinctive capabilities and performance in three areas:

- Materials science capability and technology.
- Application engineering capability.
- Customer and end-market focus.

We have strengths in these areas today to build on, and these distinctive capabilities will be our focus in the coming years. Through the application of our skills in these areas we will add value as a Group.

We will apply these skills in markets that are growing and where we can operate at scale, on a global basis. We will apply these skills to solve difficult materials-based problems for our customers, ethically and safely, and where they value our differentiated solutions. This set of capabilities provides a resilient and distinctive source of differentiation and is an enduring strategic goal for the Group.

In February 2016, we defined six execution priorities that would be our focus from 2016 to the end of 2018 and that would address the immediate issues that were holding the Group back. Our objective was to get the business growing in line with our markets in 2019.

We have made good progress against our objectives to date:

1. **Move to a global business structure.**
   We changed to a global organisation structure in March 2016 and have progressively changed the structures within the global business units (GBUs) to build larger units and create more customer and market focus. The change in structure has improved global co-ordination across the Group and has sharpened the accountability within each of our GBUs. This is an important change to enable the wider changes we need to make and we completed this without any loss of business momentum.

2. Improve technical leadership.
Our objective is to strengthen our technical teams and increase our annual investment in research and development by around 1% of sales (around £10 million), from our 2015 starting point.

At the end of 2018 our R&D spend is £10 million higher than the 2015 level. We have established two new Centres of Excellence to drive materials development activity in carbon science and the metallising and joining of ceramics. Both of these new centres are up and running with the teams working on new product developments to enhance our differentiation and accelerate the growth of the Group. We have also worked with our technical teams during the year to reduce the overall number of developments they are working on to get more resource and faster progress on a smaller number of projects.

3. Improve operational execution.
Our objective is to strengthen our operational capabilities, reduce operational costs to fund reinvestment in the business, and improve delivery and quality performance.

We have continued to make good progress with our operational improvements during the year. We generated net savings that funded reinvestment in the year. The savings came from a wide variety of projects in automation, procurement and small-scale waste elimination across all of our global business units. We have also launched a number of larger lean manufacturing projects to reduce waste and cost and improve delivery performance in select sites. Those projects have delivered cost savings and delivery improvements during the year and will continue into 2019.

4. Drive sales effectiveness and market focus.
Our objective is to strengthen our sales capability, and increase the intensity of effort with new customers and in new markets.

We have a sizeable programme of work underway to improve sales effectiveness: redesigning our sales processes and approach, building capabilities, deploying new segmentation and pricing tools, streamlining sales processes, increasing business development resources and changing sales incentives. These approaches have been developed through pilot activity in 2017 and in 2018 we have deployed these more widely across the business, typically starting with segmentation and sales structures and then moving to sales processes and incentives. We have developed training programmes for our sales and customer service teams and piloted those during the year, ahead of wider deployment in 2019.

5. Increase investment in people management and development.
We are aiming to strengthen our leadership capability and deepen functional capabilities across the business, including in sales and engineering.

We have made further progress in strengthening the senior leadership population across the Group and in developing our IT, EHS, finance and HR functions. We have also broadened our focus beyond the senior population with the design of new Group-wide development programmes for our future leaders, and we will launch those during 2019.

We have improved our approach to driving higher performance by integrating the leadership behaviours – launched in 2017 – into an enhanced, globally consistent performance management process. A stronger link between performance and reward has also been introduced to build the performance culture.

6. Simplify the business.
We have completed the planned divestment of the Composites and Defence Systems business in the year, the last of the priority divestments that we identified in 2016. Through these actions we have exited businesses where we were sub-scale or where there was limited synergy with the remainder of the Group. We have sharpened the focus on the core business and reduced overhead costs. We received consideration of £82.2 million from these sales and have used that to reduce our net debt* position, creating funds for reinvestment in the business in due course. Additionally in 2018 we have simplified our Thermal business in South America with the closure of our Thermal plant in Brazil and the exit of our Venezuelan business, and we have taken the decision to close our ceramic cores business in China.

The health of the business has improved significantly over the last three years, as has the financial position of the Group. We have completed significant investment in business capabilities, reduced debt, reduced the pension deficit and lowered the cost of long-term funding for the Group. Operating margins have improved while we have reinvested in the business, ROIC* has expanded from 16.0% to 18.1%. We have returned the business to growth delivering a second year of organic revenue* growth.

Looking forward

In 2019 we will continue to invest in the long-term health of the business and we have defined four priorities for the year, continuing the strategic developments of the last three years:

1. **Drive sales effectiveness and market focus.**
We will continue with the deployment of the tools, approaches and training that we have developed through our sales effectiveness programme, bringing the new approaches to more of the sales organisation.

2. **Increasing our technical differentiation.**
We will be working to embed our stage-gate process more deeply and to accelerate the development of new materials and new manufacturing processes. We have added resources to our technical teams and we have focused our teams on a smaller number of priority projects. Our focus will be managing those projects closely to ensure they are delivered at pace.

3. **Increasing investment in people management and development.**
We have significantly strengthened the leadership capability across the Group. Our focus now shifts to building strong leadership teams and enhancing the performance of our leadership teams as teams. We will also be launching new talent development programmes across the Group to support the development of our future leaders.

4. **Improving operational execution.**
We have strengthened our operations teams and have good momentum going into 2019. We expect to deliver further operational savings in the year to offset material and labour inflation and we will continue to improve on-time delivery in a small number of sites where that is the priority.

Looking forward to 2019, we are likely to see slower growth in the key industrial economies in which we participate, and there are several macro-economic and geopolitical uncertainties which could have a significant impact. However, based on our current assessment of business trends and orders, we expect to deliver modest revenue growth in 2019, with efficiency savings delivering benefits to Group headline operating profit*.

Finally, I would like to thank Andrew Shilston for his contribution to the business over the last six years, and I would like to thank our employees for their hard work and support during 2018.

Pete Raby
Chief Executive Officer

Our business model

Our business model is fundamental to our ability to create value and build a sustainable competitive advantage.

Our purpose

Our purpose is to use advanced materials to help make more efficient use of the world's resources and to improve the quality of life.

We fulfil our purpose through the products we make, and the way we make them.

Then and now

We've come a long way since 1856. Then, we changed the industrial landscape with the introduction of revolutionary new crucibles. Today, crucibles represent just 5% of Morgan, but we are still leading and innovating to help our customers. Then, as now, we've always had a commitment to embracing, adopting and driving change.

Our products and our markets

We work in the industrial, transportation, petrochemical and chemical, energy, semiconductor and electronics, healthcare and security and defence markets.

Read more about our products and markets on pages 4 and 5

How we differentiate ourselves

Our engineered solutions are developed to exacting specifications and deliver ever-greater performance through materials and production process innovation.

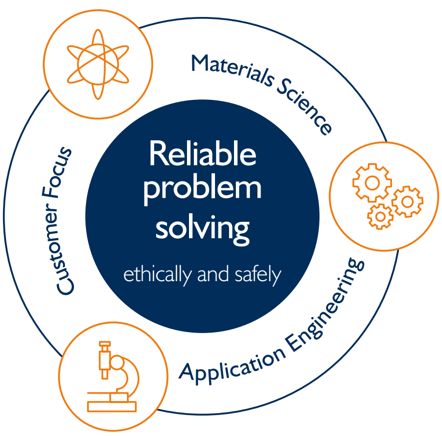
We are producing materials that can work at higher temperatures, higher pressures, in more corrosive and abrasive applications, at more precise tolerances and in smaller form factors than ever before.

We use two fundamental sets of materials – Ceramics and Carbon.

Read more about how we differentiate ourselves on page 2

Our strategy for growth

We have a strategy to make sure that we are the leaders in our field, with the customer and materials insight to apply our capabilities quickly and effectively. Our goal is to make the best possible use of advanced materials to drive progress and solve difficult problems – for our customers and the wider world. We will succeed because we have leading capability in three key areas:



Read more about our strategy in action pages 12 to 15

Adapt and thrive

Our world is changing at an extraordinary pace. We can and should be right at the forefront of that change because the world needs advanced materials more than ever. To fulfil our purpose we need to deliver the technologies the world needs. We must be agile, building leading materials understanding. And we need to anticipate customer needs before our competitors to become the clear first choice for materials performance, service and delivery.

Countries selling into
100

Countries manufacturing in
30

Approximate employees
8,800

Our business model foundations

Whilst the world and our business is changing our commitment to safety and ethics, and leading in the right way, is a constant, underpinning everything we do. We will not compromise on:

Safety

Our ultimate goal is zero harm. We are constantly looking for ways to make our factories, systems and people safer.

Ethics

Every one of us is responsible for the culture and reputation of Morgan and the environment in which we work. If we see examples of behaviours that do not reflect our ethical stance, we show courage, stand up, call it out and stop it.

Morgan behaviours

Our behaviours are central to the way we work. We live by them every single day. They are how we deliver our strategy.

- We are ambitious about the future.
- We build strong teams.
- We are relentless in driving performance.

Our behaviours determine our actions, our approach to managing our risks and opportunities and the stewardship of our leaders through sound governance and policies.

Creating value

Driving sustainable growth and ensuring our value is shared across all of our stakeholder groups.

- **Investors**
  Delivering sustainable shareholder returns.
- **Customers**
  Creating world-class solutions which build competitive advantage.
- **Employees**
  Developing and nurturing talent.
- **Communities**
  Delivering a positive contribution to the local communities in which we work.

Group strategy

We have a strategy to make sure that we are the leaders in our field, with the customer and materials insight to apply our capabilities quickly and effectively.

Our strategy

Our goal is to make the best possible use of advanced materials to drive progress and solve difficult problems – for our customers and the wider world.

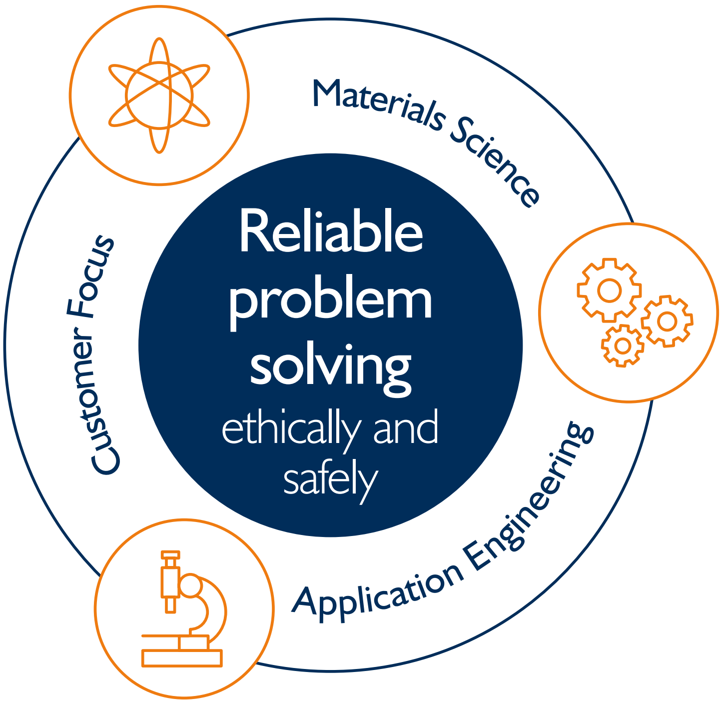
We'll succeed because we have leading capability in three key areas:

- Materials science
- Application engineering
- Customer focus

In February 2016 we defined six execution priorities which would be our focus from 2016 to 2018, and that would address the immediate issues holding the Group back.

The Group has completed its move to a global business structure (announced in 2016), and with the planned disposal of the Composites and Defence Systems business, completed the initial priorities to simplify the portfolio.

In 2019 we will continue to invest in the long-term health of the business, and we have defined four priorities for the year, continuing the strategic developments of the last three years.



The Group has set four execution priorities which will continue to drive strategic delivery:

Drive sales effectiveness and market focus

The Group is focused on improving a number of aspects of its sales capabilities: sales processes and their efficiency, the management of key customer accounts and distribution channels, and deeper understanding of end-markets and faster-growing segments.

See more page 12

Increasing technical differentiation

Research and development investment has been increased to build Morgan's technical lead and to accelerate new product development.

The Centres of Excellence allow for the concentration of development efforts in those areas which can deliver the greatest benefit globally to the Group.

See more page 13

Increase investment in people management and development

The Group aims to strengthen its leadership capability and deepen functional capabilities across the business, including in sales and engineering. New talent is being introduced and future leadership candidates identified from within the business. Performance management will be enhanced for the Group's top management. The Group will invest more in executive training and create clear career paths for its technologists and engineers.

See more page 14

Improving operational execution

There are a number of opportunities across the global business units to improve operational execution.
Resource and capital are allocated to target specific improvements to efficiency and effectiveness on a business-by-business basis.

See more page 15

Our strategy in action

Drive sales effectiveness and market focus

The Group is focused on improving a number of aspects of our sales activity and the capability of our sales teams: sales processes and their efficiency, the management of key customer accounts and distribution channels, deeper understanding of end-markets and faster-growing segments, enabling systems, and sales incentives plans. The Group is driving improvements in these areas through its sales effectiveness programme.

Throughout 2018 we have been deploying the approaches we developed in pricing, segmentation, sales incentive plans and training:

- **Pricing:** Continued work in Thermal Europe has yielded additional revenue to date. Our deployment workshop in Thermal North America has substantially improved the team's understanding of pricing strategy and created opportunity for 2019.
- **Segmentation:** Methods of market and customer segmentation are defined across each global business unit and are being used to help align service levels, manage sales teams and better understand our customer base.
- **Sales incentive programme:** Deployed four trials across the Group which has changed behaviours and helped to guide the overall Group deployment planned in 2019.
- **Training:** Completed a trial for sales teams in Thermal North America, with the programme design being finalised, sales team training has been delivered to the majority of senior leadership teams.

Sales effectiveness in Electrical Carbon

Our Electrical Carbon team carried out sales effectiveness diagnostic workshops across their major regions during 2018 to identify the most valuable improvement opportunities. In North America they have focussed on more rigorous customer segmentation, which has led to the tailoring of appropriate service levels to improve the way their customers are addressed. In Europe, assessments of sales activities and utilisation and adoption of the CRM system has increased selling efficiency and enabled them to spend more time on value-added activities for their customers. In China, focus on their route to market through development of an improved distributor strategy and appointment of a new channel manager is helping optimise profitable growth.

Sales effectiveness in Thermal Ceramics

Our Thermal Ceramics team in North America significantly enhanced its market, customer and service level focus in 2018 through account base segmentation. They've embedded this segmentation in various functional aspects of the sales process to improve the way in which they interact and meet the needs of the customer. Additionally, they've aligned appropriate service levels for their customers through use of segmentation and by listening to their customer feedback. Re-organisation of the sales team structures based on segmentation provided greater role clarity and is enabling faster customer response.

The Group's R&D strategy is governed by four objectives:

1. To be the acknowledged leader in materials science for our chosen technology families.
2. To understand the application of our materials science in our customers' products and processes, providing maximum benefit to them through advanced application engineering.
3. To demonstrate a clear understanding of where our technology competences are positioned today against competitors and emerging and competing technologies, forming a clear view of where we need to be.
4. To build the depth and the breadth of our understanding through a community whose culture is collaborative and which develops deep institutional knowledge.

The Group's commitment to technology is demonstrated by the Group's total R&D spend in 2018 of £36.2 million (2017: £34.3 million), equal to 3.5% of sales (2017: 3.4%). The spend has increased from 2.8% of sales in 2015.

A key underpinning principle of Morgan's R&D strategy is in the investment in four global materials Centres of Excellence (CoE): Insulating Fibre, Structural Ceramics, Carbon Science, Metals and Joining. These four CoEs consolidate the Group's R&D efforts around its core technologies, and provide the opportunity to create critical mass to increase the effectiveness of our R&D spend and accelerate key projects.

Increasing technical differentiation

Research and development (R&D) investment has been increased to build Morgan's technical lead and to accelerate new product development. The Centres of Excellence concentrate our development efforts in those areas that can deliver the greatest benefit globally to the Group and its customers.

The CoEs focus on the strategic priorities of the global business units and the Group. The global business units ensure the CoEs prioritise their efforts, and retain a strong commercial direction. This in turn enhances the R&D capability of the business by delivering core materials science platforms that the manufacturing sites transform into products.

The Insulating Fibre Centre of Excellence in Bromborough, UK, is focused on the continued development of the Group's fibre product range. Morgan's market-leading low bio-persistent Superwool® fibre technology and product range continue to be developed with patented materials science. Morgan is now extending the operational temperature range, allowing it to provide customers with superior insulation performance, improved fire protection and weight-saving opportunities in more applications. There has been particular success across a range of end-markets such as iron and steel, aluminium processing, automotive and passive fire protection.

The Structural Ceramics Centre of Excellence in Stourport, UK, oversees the major advanced ceramic science developments for the Group. The facility concentrates on ceramic materials developments to support both current and new markets. Initial focus has been on opportunities in the medical, aerospace and environmental sectors, whilst a focus on new emerging markets and technologies also ensures that the Group stays at the forefront of materials science. As part of this focus the CoE includes the R&D programme for Morgan's additive manufacturing of ceramic materials.

The Carbon Science Centre of Excellence supports both the Electrical Carbon and Seals and Bearings businesses and is located in the Innovation Park at Penn State University, Pennsylvania, US. The partnership with Penn State combines resources and experience, creating a synergy which will enable significant progress in the development of carbon materials for a range of sectors and applications.

The Metals and Joining Centre of Excellence is located in Hayward, California, US. The CoE supports the Technical Ceramics businesses which are involved in providing metallic joining solutions and joining ceramic and metal to metals to form hermetic seals. Hayward is Morgan's largest facility utilising this technology and hence this CoE benefits from close proximity to the business, production processes and customers. The CoE has already produced new patented technology that has led to new products starting trials with customers.

Our strategy in action

Increase investment in people management and development

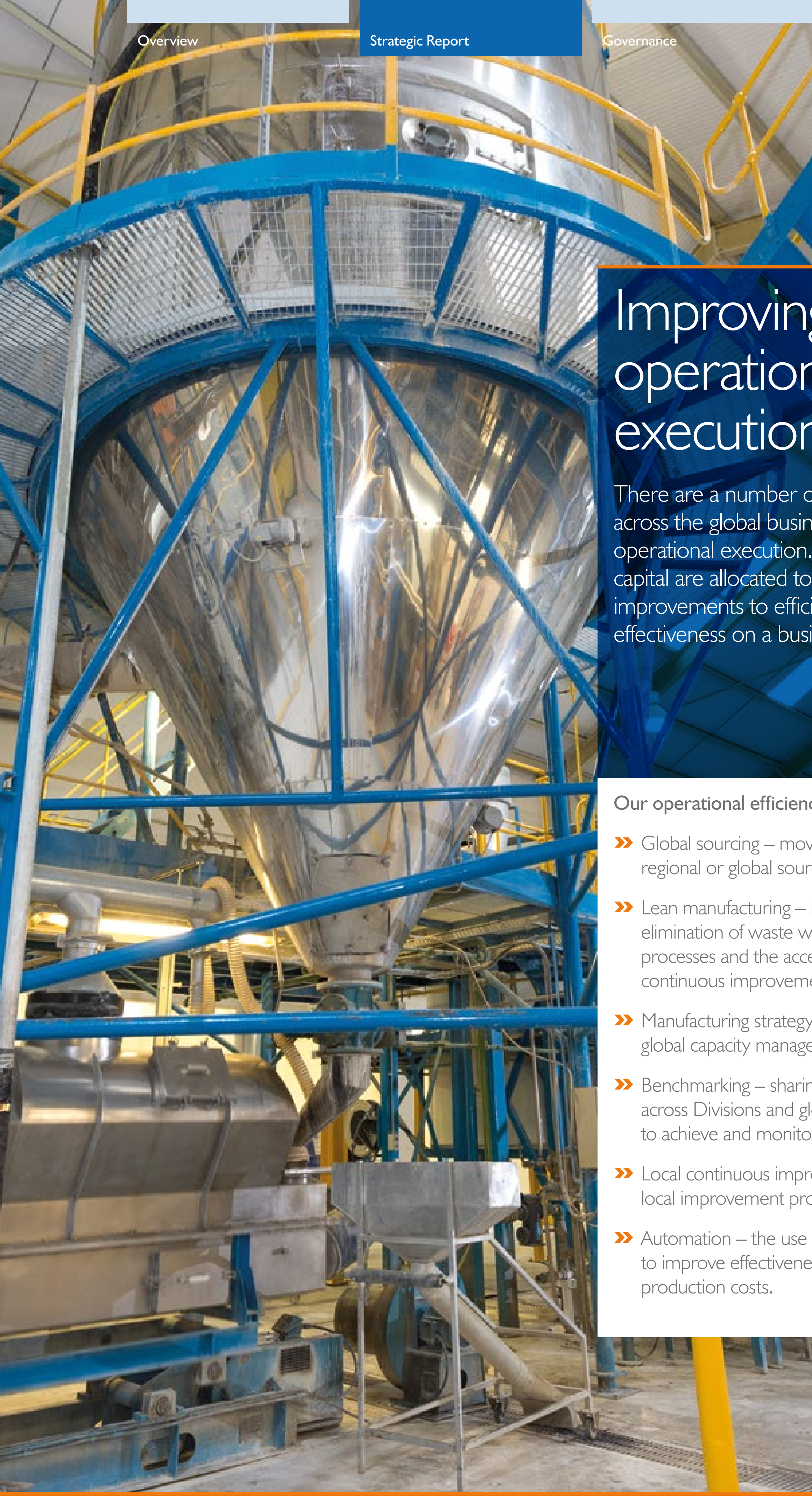
The Group aims to strengthen its leadership capability and deepen functional capabilities across the business.

There has been significant investment and progress on this execution priority in 2018. Building on previous years and the reorganisation to a global business structure, the focus has been placed on:

- Reinforcing our leadership behaviours with our top 100 leaders – through how they are measured and rewarded.
- External recruitment and internal promotion into new and existing senior leadership roles to strengthen leadership and deepen functional capability.
- Increased communication and engagement across all levels of the organisation and on a broad base of topics – from updates on strategy and change programmes, to our key focus areas of ethics and safety. For example, we held our first global employee engagement survey to hear what our people think about working at Morgan. This has given us valuable insight for the future development of our organisation. We have held conferences and workshops from a technology conference focused on developing an external mind-set to drop in sessions on topics like diversity and inclusion.
- Supporting our sales organisation to better support the business; by understanding their capabilities better, aligning resources to better serve the organisation, by rewarding them through a mechanism that is aligned to the role they play and by giving them more of the tools to improve in their roles.
- Continuing the investment in graduates and early career employees, and we are developing our programmes to be more aligned to the needs of our businesses and better serve our global organisation.

Following key hires, both external and internal, the focus will move to the integration of individuals into their new roles to enable a better transition to effective performance. We will continue to invest in our sales capability through the provision of training.

Read more about our people
pages 40 and 41



Improving operational execution

There are a number of opportunities across the global business units to improve operational execution. Resource and capital are allocated to support specific improvements to efficiency and effectiveness on a business-by-business basis.

Our operational efficiency programmes focus on:

- Global sourcing – moving from local to regional or global sourcing of raw materials.
- Lean manufacturing – identification and elimination of waste within the production processes and the acceleration of continuous improvement projects.
- Manufacturing strategy – improving global capacity management and sourcing.
- Benchmarking – sharing best practice across Divisions and global business units to achieve and monitor cost savings.
- Local continuous improvement – multiple local improvement projects to improve efficiency.
- Automation – the use of automation to improve effectiveness and reduce production costs.

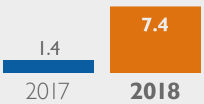
Key performance indicators

We assess our performance across a wide range of metrics. To support the Group's strategy and to monitor performance, the Board of Directors and the Executive Committee use a number of financial and non-financial key performance indicators (KPIs).

Financial KPIs

Organic constant-currency revenue growth[1,2,3]

7.4%

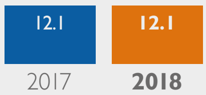


Why a KPI?
Creating consistent long-term value for shareholders. Focus on higher growth markets, where we are growing and have room to grow.

Performance
On an organic constant-currency* basis revenue improved 7.4%. See Review of operations on pages 22 to 27.

Group headline operating profit margin[1,2,3]

12.1%

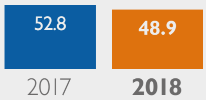


Why a KPI?
Creating consistent long-term value for shareholders. To have a culture of operational excellence and cost-efficiency.

Performance
Improving momentum with a second year of organic revenue* growth, underpinned by operational efficiencies, and reinvestment into the businesses, partially offset by the impact of prior year disposals.

Free cash flow before acquisitions, dividends, and US pension payment[1,2,3]

£48.9m

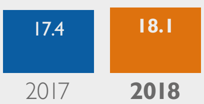


Why a KPI?
Creating consistent long-term value for shareholders.

Performance
Lower year-on-year as higher cash from operations (excluding the one-off US pension payment of £28 million in 2017), lower net interest paid and tax paid, were offset by increased capital expenditure.

Return on invested capital[1,2,3]

18.1%



Why a KPI?
Creating consistent long-term value for shareholders. providing an indication of capital efficiency.

Performance
Improvements in return on invested capital are primarily driven by improved business performance delivering increased operating profit.

Headline earnings per share[1,2,3]

26.7p

Why a KPI?
Creating consistent long-term value for shareholders.

Performance
Benefits from underlying business performance improvements, lower interest and tax supported year-on-year improvements.

Dividend per share

11.0p

Why a KPI?
Creating consistent long-term value for shareholders.

Performance
The Board has held the dividend flat during 2018 as it looks to rebuild dividend cover in the medium term.

Our KPIs provide a balanced set of metrics that give emphasis to both financial and non-financial measures. These help the Board and the Executive Committee assess performance and progress against our strategic priorities and business plans. Divisional and global business unit management use these and additional benchmarks and other KPIs to evaluate operating performance and make financial, strategic and operating decisions.

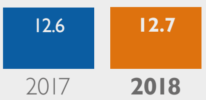
In order to measure the organic performance of the business, management further review the headline KPIs excluding the impacts of acquisitions and foreign exchange.

Financial and non-financial performance is reviewed in more detail in the 'Corporate responsibility', 'Review of operations' and 'Group financial review' sections of this Report.

Non-financial KPIs

Employee turnover

12.7%



Why a KPI?

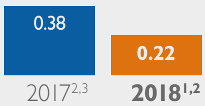
To attract, retain, and develop the right people in the right roles.

Performance

This is believed to be an appropriate level of employee turnover.

Lost-time accident frequency[4] (per 100,000 hours worked)

0.22



Why a KPI?

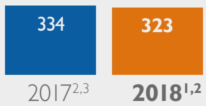
To maintain a workplace that focuses on the health and safety of its employees and others affected by the Group's operations.

Performance

The focus placed on health and safety at all sites and across all levels of the Group through 'thinkSAFE' has led to a lower total accident frequency, with a lower Lost-time impact.

Tonnes CO_2e per £m revenue[4]

323



Why a KPI?

To minimise the impact of the Group's business on the environment.

Performance

The Group benefited from a series of projects and environmental programmes focused on the sites identified as having the greatest environmental impact, overall CO_2e increased.

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.
2. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. The years ended 31 December 2018 and 2017 have been presented as Continuing operations throughout this Report. Further details are provided in notes 2 and 9 to the consolidated financial statements.
3. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.
4. This KPI uses revenue at constant-currency in its calculation.

Risk management

Morgan has an established risk management methodology which seeks to identify, prioritise and mitigate risks, underpinned by a 'three lines of defence' model comprising an internal control framework, internal monitoring, and independent assurance processes.

The Board considers that risk management and internal control are fundamental to achieving the Group aim of delivering long-term sustainable growth in shareholder value.

Risks are identified both 'top down' by the Board and the Executive Committee, and 'bottom up' through the Group's global business units (GBUs) and Divisions, and are quantified by assessing their inherent impact and mitigated probability to ensure that residual risk exposures are understood and prioritised for control throughout the Group.

Senior executives are responsible for the strategic management of the Group's principal risks, including related policy, guidelines and process, subject to Board oversight.

Throughout 2018, the Board reviewed the status of all principal risks with a significant potential impact at Group level. Additionally, the Audit Committee carried out focused risk reviews of each Division/GBU. These reviews included an analysis of the principal risks, and the controls, monitoring and assurance processes established to mitigate those risks to acceptable levels. As a result of these reviews, a number of actions were identified to continue to improve internal controls and the management of risk.

High-level guidance on the Board's appetite for different risks is included again this year. The Group is willing to take considered risks to develop new technologies, applications, partnerships and markets for its products, and to meet customer needs. The Group strives to eliminate risks to product quality and health and safety, which are essential to the success of our products and the safety of our people and contractors.

The appetite for risk in the areas of legal and regulatory compliance is extremely low and the Group expects its businesses to comply with all laws and regulations in the countries where they operate. The Group has a low appetite for financial risk. Certain risks, such as pension funding, are likely to take a longer period of time to be mitigated. During the year the Board monitored the Group's current risk exposure relative to the Board's appetite for different risks. There were no risks where the current risk exposure exceeded the Board's risk appetite.

As in 2017, an indication of the Board's assessment of the trend of each risk – whether the potential impact has increased, decreased or is broadly unchanged over the past year – is included. The Board has also identified new risks to the delivery of the Group's strategy and these are indicated in the table below.

The following are the Group's principal risks and uncertainties, representing those risks that the Board feels could have the most significant impact on achieving the Group's strategy of building a sustainable business for the long-term and delivering strong returns to the Group's shareholders.

Strategic and external risks

Risk description, assessment and trend from 2017

1. Technical leadership

The Group's strategic success depends on maintaining and developing its technical leadership in materials science over its competitors.

Unforeseen/unmitigated technology obsolescence, the emergence of competing technologies, the loss of control of proprietary technology or the loss of intellectual property/know-how would impact the Group's business and its ability to deliver on its strategic goals.

The advanced technological nature of the Group requires people with highly differentiated skillsets. Any inability to recruit, retain and develop the right people would negatively impact the Group's ability to achieve its strategic goals.

Trend
Unchanged

Mitigation

The Group has a dedicated technology team within each Global Business Unit which monitors relevant technology and business developments using technology roadmaps linked to 20 major technology families to ensure it remains at the leading edge of development. Three global Centres of Excellence were previously established, with a fourth Centre opened at Penn State University, Pennsylvania, US, in 2018. These Centres focus Morgan's expertise and research resources on core technologies. They are supported by a Technical Advisory Board comprising some of the world's leading academics in relevant fields, who provide continuing insight, advice and challenge to inform the Group's technology plans.

The technology team proactively manages the Group's technology pipeline and R&D investment in existing technologies, as well as actively managing the technology lifecycle. The technology pipeline and key R&D projects are regularly reviewed by the Executive Committee and the Board.

Where Group products are designed for a specific customer, they are developed in partnership with the customer in order to maintain leading-edge differentiation. The Group seeks to secure intellectual property protection, where appropriate, for its existing and emerging portfolio of products; external advisers manage this protection globally.

The Group continued its global leadership programme adding an advanced programme to develop more high-potential commercial, functional and technical leaders. The graduate leadership programme continued to run in 2018.

Further detail on our people can be found on pages 40 to 41.

Further detail on R&D can be found on page 13.

Risk Key

Increased Unchanged Decreased

Strategic and external risks

Risk description, assessment and trend from 2017	Mitigation
2. Operational execution / organisational change / sales effectiveness As part of the Group's strategy to improve the efficiency of its operations and organisation, various changes have been made to operational processes at individual sites, to the Group's structure, and the structure of and incentives for our sales force. Further improvements and changes are planned for future years. Failure to adequately manage these changes could result in interruption to operations or customer service, or a failure to maximise the Group's opportunities. Trend Unchanged	Changes to operational processes are carefully considered by site, GBU and Divisional management before implementation. Operational improvements and savings are monitored against budget by the Executive Committee to ensure that changes deliver the savings promised without disruption to business operations. New capital investments are approved at appropriate levels of the Group and delivery of these overseen by GBU and Group management. Organisational changes are assessed by the CEO, the Executive Committee and sometimes the Board before being implemented in line with local employment regulations. Changes to our sales structures and incentives are reviewed at various levels of the organisation before being launched. Further activities to improve sales effectiveness are being rolled out in 2019, including sales force training, more targeted incentives and pricing initiatives.
3. Portfolio management The Group operates across a range of product and technology families. These are subject to long-term market trends which may lead to either obsolescence or opportunities to further expand the Group. Failure to proactively manage the Group's portfolio of businesses in line with this technology profile could lead to the value of the Group's businesses being eroded over time or to a failure to exploit opportunities to acquire businesses with the capability to add further value to the Group. Trend Decreased	The Board performs regular reviews of the Group's portfolio. During 2018 the Group disposed of the Composites and Defence Systems business and exited its Thermal Ceramics site in Brazil, and announced the closure of its China ceramics cores business and Venezuelan Thermal Ceramics business. Opportunities to acquire businesses are reviewed on a continuing basis.
4. Macro-economic and political environment The Group operates in a range of markets and geographies around the world and could be affected by political, economic, social or regulatory developments or instability, for example an economic slowdown or issues stemming from oil and natural resources price shocks. The UK's exit from the EU may have an impact on the Group if subsequent tariff changes, or border effects, negatively impact the profitability of the Group's products. The current value of Group UK exports to the EU is approximately £25 million, and imports into the UK from the EU are approximately £15 million. Trend Increased	The Group's broad market and geographic spread helps to mitigate the effects of political and economic changes. Budgets and forecasts for Morgan's different businesses are used to monitor delivery against expectations and anticipate potential external risks to performance. These are subject to regular review by the Executive Committee and the Board. The overall macro-economic environment has improved during the course of the year as shown by the Group's strong organic sales growth. However some longer-term metrics are showing signs of potential weakness. Global issues considered by the Board this year include the impact of the UK's exit from the EU and US / China trade relations. The impact of the UK's exit from the EU could be mitigated in the medium term by moving production to alternative sites where tariffs are not applied to products.

Operational risks

Risk description, assessment and trend from 2017	Mitigation
5. Environment, health and safety (EHS) The Group operates a number of manufacturing facilities around the world. A failure in the Group's EHS procedures could lead to environmental damage or to injury or death of employees or third parties, with a consequential impact on operations and increased risk of regulatory or legal action being taken against the Group. Any such action could result in both financial damages and damage to reputation. Given the long history of many of the operations of the Group, there is also a risk that historical operating and environmental standards may not have met today's environmental regulations. In addition, the Group may have obligations relating to prior asset sales or closed facilities. Trend Unchanged	Managing its operations safely is the Group's number one priority. The Group has a comprehensive EHS programme managed by the Group EHS Director, with clear EHS standards and a refreshed programme of audits to assess compliance. The Group EHS Director sets annual priorities for EHS which are approved by the EHS Steering Group (comprising the Executive Committee and global business unit leads) These form the basis for individual sites' own EHS priorities and plans, and complement the Group's 'thinkSAFE' behavioural safety programme. EHS performance is monitored by the EHS Steering Group and the Board. As at 31 December 2018, the Group was managing projects to remediate legacy contamination at a number of former operational sites in conjunction with external specialists and relevant authorities. Further details of the EHS programme can be found on pages 36 to 39. Further information on the Group's provisions and contingent liabilities can be found in note 23 to the financial statements.

Risk management continued

	Risk description, assessment and trend from 2017	Mitigation
Operational risks	**6. Product quality, safety and liability** Products used in applications for which they were not intended or inadequate quality control/over-commitment on customer specifications could result in products not meeting customer requirements, which could in turn lead to significant liabilities and reputational damage. Some of our products are used in potentially higher risk applications, for example in the aerospace, automotive, medical and power industries. **Trend** Unchanged	Many of the Group's products are designed to customer specifications. Our businesses' quality management systems and training help ensure that all of Morgan's products meet or exceed customer requirements and national/international standards. The Group Legal Policy requires that contracts relating to products used in potential high-risk applications are subject to legal review to ensure that appropriate protections are in place for product quality risks. The Group insurance programme includes product liability insurance; this Group-level insurance is reviewed annually by the Board.
	7. IT and cyber security Information security/cyber risks are dynamic and ever-present in the external environment. If the Group were to lose critical data or information, including proprietary technology information, through inadequate data management or compromised information security, the business would be impacted and could suffer reputational damage. The effective management of the Group's Information Technology (IT) infrastructure is important in enabling our businesses to reliably deliver customer requirements. If a key business system were to fail or core systems implementation were to be ineffective, the ability of the business to deliver on its strategic goals might be impacted. **Trend** Unchanged	The Group has an IT Policy and guidelines in place as well as Group and business IT teams to manage the Group's infrastructure, IT systems and information security risks. A new Chief Information Officer was appointed in 2018 to further develop the Group's IT strategy. In 2018 the Group was required to comply with the National Institute of Standards and Technology (NIST) cybersecurity framework in the US and the EU's General Data Protection Regulations. The Group has successfully implemented programmes to deliver compliance with these requirements. The Group continues to deploy and upgrade enhanced enterprise resource planning (ERP) systems in those businesses where a need for improvement is identified. These deployments are managed in line with IT project management standards.
	8. Supply chain / business continuity The Group has a number of potential single-point exposure risks, which include: » Single-point supplier – a significant interruption of a key internal or external supply could impact business continuity. » Single-point customer – the unmitigated loss of a major customer could have an impact on Group profit. The Group's largest customer represents circa 2% of Group revenue. » Single-point site – a key site exposed to a strike, a natural catastrophe or serious incident, such as fire, could impact business continuity. One Group site, Hayward, is situated in the California earthquake zone, (US). Certain of the Group's businesses are important for intercompany supply purposes. **Trend** Unchanged	The Group has a diversified manufacturing, customer and geographic base which provides a level of resilience against single-point exposures. Were any site to be unavailable, production in many cases could be switched to other sites. Management of these risks also involves monitoring and reviewing supply chains (internal and external), dual/multiple sourcing of materials or strategic stock, site security and safety mechanisms, business continuity plans, maintenance of product quality and strong customer relationships. The Group insurance programme includes business interruption cover and specific cover in relation to the impact of an earthquake in California, US; this Group-level insurance is reviewed annually by the Board.
Financial risks	**9. Treasury** The Group's global reach means that it is exposed to uncertainties in the financial markets, the fiscal jurisdictions where it operates, and the banking sector. These heighten the Group's funding, foreign exchange, tax, interest rate, credit and liquidity risks as well as the risk that a bank failure could impact the Group's cash. **Trend** Decreased	The Group's treasury function operates on a risk-averse basis. Required controls over selection of banks, cash management and other treasury practices and payments globally are documented in Morgan's Treasury Policy and related procedures. The Group treasury team manages the Group's funding, liquidity, cash management, interest rate, foreign exchange, counterparty credit and other treasury-related risks. Treasury matters are regularly reviewed by the Board and Audit Committee. In 2018 the Group successfully refinanced its £200 million Revolving Credit Facility for a five-year term. Additionally the Group concluded a US Private Placement transaction, utilising shelf agreements already held with Private Placement lenders, raising $25 million and €25 million. The initial €25 million was funded on 27 December 2018, with the funding of the $25 million completed in January 2019. Further detail on our Treasury Policy is set out in the Group Financial Review, which can be found on page 29.

	Risk description, assessment and trend from 2017	Mitigation
Financial risks	**10. Tax** The Group operates in many jurisdictions around the world and could be affected by changes in tax laws and regulations within the complex international tax environment. The OECD's Base Erosion and Profit Shifting (BEPS) framework provides additional obligations and filing requirements for the Group as countries implement the actions in the framework. These could have an impact on the tax paid by the Group. Tax reform in the US could also impact the Group's tax rate. Trend Unchanged	The Group's tax function, working in conjunction with external specialists as required, closely monitors fiscal developments and changes such as BEPS, to ensure that the Group's tax arrangements and practices continue to comply with the requirements of all relevant jurisdictions whilst also enabling efficient management of the tax liability. The Group's Head of Tax reports twice-yearly to the Audit Committee on key tax issues and initiatives. The Group has published its tax strategy on its website in line with UK corporate governance requirements.
Financial risks	**11. Pension funding** The Group sponsors several defined benefit pension arrangements, (the Schemes), whose liabilities are subject to fluctuating interest rates, investment values and inflation. This coupled with the increased longevity of members will result in increased funding burdens on the Group in the future. The deficit in Morgan's global defined benefit pension schemes calculated on the basis required for IAS 19 accounting disclosures decreased from £218 million at 31 December 2017 to £190.4 million as at December 2018. Trend Unchanged	Morgan's primary means of mitigating pensions funding risk is proactive management of the pension scheme assets and liabilities through an integrated pension strategy focusing on funding, investment and benefit risk. This involves both internal management within the Group and also externally through the Scheme Trustees, corporate actuaries and professional advisers. In the UK, the Morgan Senior Executive Pension and Life Assurance Scheme closed to future accrual in April 2016 and the Morgan Pension Scheme closed to future accrual in April 2018. In consultation with the Company, the Trustees have also adopted a pro-active approach to the management of risk in the Schemes' investment portfolios, significantly reducing their unhedged interest and inflation rate exposure. In the US, in June 2016 one Defined Benefit Pension Plan completed a full legal termination, and for the other remaining Scheme, a formal offer of a present-value-equivalent, lump-sum cash payment was made to members. In December 2017, the Company made an additional contribution of $36 million to this Scheme.
Legal and compliance risk	**12. Contract management** As a global advanced materials business supplying components into critical applications, the Group may be exposed to liabilities arising from the use of its products. Ineffective contract risk management could result in significant liabilities for the Group and could damage customer relationships. Trend Unchanged	The Group has an in-house legal function supplemented by specialist external lawyers. The Group Legal Policy requires in-house legal review of high-value or high-risk contracts to ensure they contain appropriate protections for the Group. The Policy requires CEO approval before a business can enter into an unlimited liability contract or one where the liability cap exceeds £5 million. To the extent that risk cannot be mitigated through contractual arrangements, the Group has insurance cover in place, including product liability insurance.
Legal and compliance risk	**13. Compliance** The Group's global operations must comply with a range of national and international laws and regulations including those related to bribery and corruption, human rights, trade/export compliance and competition/anti-trust activities. A failure to comply with any applicable laws/regulations could result in civil or criminal liabilities and/or individual or corporate fines and could also result in debarment from government-related contracts or rejection by financial market counterparties and reputational damage. Trend Unchanged	The Group is committed to the highest standards of corporate and individual behaviour. To support this, in 2018 the Group issued the Morgan Code. The Morgan Code defines the Group's approach to doing business ethically and confirms Morgan's commitments to high standards of ethical behaviour. The Morgan Code is supported by a range of policies, standards and guidance; training materials; the provision of an ethics hotline for employees; and systems to support effective screening of and due diligence on third parties. Further improvements to the programme are planned in 2019, including enhanced training, a refresh of the ethics hotline and further reviews of businesses operating in higher risk locations. The Group also has an Export Compliance Director in the US whose role is dedicated to ensuring compliance with export controls. In addition to Group-level compliance specialists, our businesses are required to establish compliance officer roles, which are responsible for supporting local training and monitoring. Morgan also employs country-specific trade and export compliance specialists in higher risk businesses and jurisdictions. Further details on ethics and compliance can be found on page 35.

Review of operations

Group performance

Group revenue and operating profit

Group revenue was £1,033.9 million (2017: £1,001.4 million), an increase of 3.2% on a reported basis compared with 2017, driven by improvements in the underlying business, more than offsetting the impacts of prior year disposals and foreign exchange headwinds. On an organic constant-currency* basis revenue increased by 7.4%.

Group headline operating profit* was £124.8 million (2017: £120.7 million). Headline operating profit margin* was 12.1%, compared to 12.1% for 2017.

Operating profit was £107.3 million (2017: £159.1 million) and profit before tax was £94.9 million (2017: £136.8 million). Both of these included specific adjusting items charge of £9.5 million (2017: credit £45.7 million), explained in note 6 to the financial statements on pages 100 and 101.

	Revenue[1]		EBITA[2]		Margin %	
Statutory basis	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018**	2017
Thermal Ceramics	**433.6**	427.3	**52.9**	56.9	**12.2%**	13.3%
Molten Metal Systems	**48.6**	47.1	**6.6**	7.0	**13.6%**	14.9%
Thermal Products total	**482.2**	474.4	**59.5**	63.9	**12.3%**	13.5%
Electrical Carbon	**166.8**	156.9	**19.4**	16.7	**11.6%**	10.6%
Seals and Bearings	**132.7**	113.3	**23.7**	17.5	**17.9%**	15.4%
Technical Ceramics	**252.2**	256.8	**28.1**	28.3	**11.1%**	11.0%
Carbon and Technical Ceramics total	**551.7**	527.0	**71.2**	62.5	**12.9%**	11.9%
Divisional total	**1,033.9**	1,001.4	**130.7**	126.4	**13.0%**	12.6%
Corporate costs			**(5.9)**	(5.7)		
Group headline operating profit[2]			**124.8**	120.7	**12.1%**	12.1%
Amortisation of intangible assets			**(8.0)**	(7.3)		
Operating profit before specific adjusting items			**116.8**	113.4	**11.6%**	11.3%
Specific adjusting items included in operating profit			**(9.5)**	45.7		
Operating profit			**107.3**	159.1	**11.2%**	15.9%
Net financing costs			**(13.2)**	(22.5)		
Share of profit of associate (net of income tax)			**0.8**	0.2		
Profit before taxation			**94.9**	136.8		

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the financial statements.
2. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

Read more about our Thermal Products Division on pages 24 and 25 **and Carbon and Technical Ceramics Division** on pages 26 and 27 →

Specific adjusting items

In the consolidated income statement, the Group presents specific adjusting items separately. In the judgement of the Directors, as a result of the nature and value of these items they should be disclosed separately from the underlying results of the Group to allow the reader to obtain a proper understanding of the financial information and the best indication of underlying performance of the Group.

Details of specific adjusting items arising during the year and the comparative period are given in note 6 to the financial statements. Specific adjusting items in relation to discontinued operations are disclosed in note 9 to the financial statements.

Specific adjusting items after income tax were a charge of £11.2 million, (2017: credit of £50.7 million), and comprised the following:

2018: Net pension past service credit, UK

Early and late retirement adjustment
During 2018, the Group reviewed with the Trustees of Morgan Pension Scheme the factors applied on early and late retirement, and clarified the practice regarding the calculation of pension payments with members who elected to retire other than at the normal date of retirement. This was effected via a Deed of Amendment. This change resulted in a net gain of £7.6 million in the income statement.

Adjustment for Guaranteed Minimum Pensions (GMPs)
On 26 October 2018, the High Court ruled that the Trustee of the Lloyds Banking Group pension schemes needed to remove the inequalities in pension scheme benefits that arise from unequal GMPs. We have included a charge of £1.9 million to reflect the potential cost of removing the GMP inequalities for the Group's UK defined benefit pension schemes.

The net impact of these pension adjustments is a credit to the income statement of £5.7 million.

	2018 £m	2017 £m
Specific adjusting items		
Net pension past service credit	5.7	–
Business closure and exit costs	(15.2)	–
Net profit on disposal of businesses	–	45.7
Total specific adjusting items before income tax	(9.5)	45.7
Income tax (charge)/credit from specific adjusting items	(1.7)	0.9
Income tax credit from US Tax Cuts and Jobs Act	–	4.1
Total specific adjusting items after income tax	(11.2)	50.7

Business closure and exit costs

Brazil, Thermal Ceramics
In 2018 the Group announced its decision to close the Thermal Ceramics site in Rio de Janeiro. A £6.2 million charge has been recognised. This comprises cash exit costs of £2.6 million relating to site clean-up costs, professional and legal fees and staff redundancies and impairment costs of £3.6 million relating to the impairment of property, plant and equipment and other assets.

In the year ended December 2018 the business generated a headline operating loss* of £2.6 million on revenues of £3.0 million, (2017: headline operating loss* of £2.0 million on revenues of £6.5 million).

China, Technical Ceramics
The Group has decided to close its ceramic cores operations in China, a part of the Technical Ceramics global business unit. A £1.4 million impairment charge has been recognised relating to the impairment of plant and equipment and other assets.

In the year ended December 2018 the business generated a headline operating loss* of £0.9 million on revenues of £0.5 million, (2017: headline operating loss* of £0.9 million on revenues of £0.6 million).

Venezuela, Thermal Ceramics
The Group has decided to exit its Thermal Ceramics operations in Venezuela. A £7.6 million charge has been recognised, of which £7.3 million relates to the recycling of deferred foreign exchange translation losses in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates*, and £0.3 million relates to the impairment of assets.

In the years ended December 2017 and 2018 the business had negligible revenue and headline operating profit* (£0.0 million).

Review of operations continued

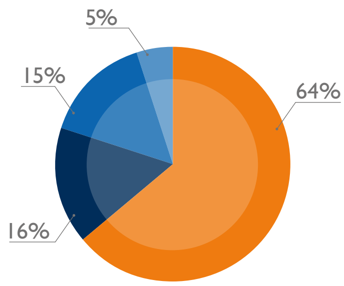
Divisional and global business unit performance

Thermal Products

Revenue[1] £m

Divisional EBITA* £m

Thermal Products % of revenue



- Industrial
- Transportation
- Petrochemical and chemical
- Energy

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the financial statements.

Highlights

- The Thermal Products Division 2018 reported revenue was £482.2 million (2017: £474.4 million), an increase of 1.6% compared to 2017.
- On an organic constant-currency* basis, revenue increased by 5.5% compared to 2017.
- Divisional EBITA margin* was 12.3% (2017: 13.5%).

Business description

The Thermal Products Division comprises the Thermal Ceramics and Molten Metal Systems global business units.

Thermal Ceramics manufactures advanced ceramic materials, products and systems for thermal insulation in high-temperature environments.

We engineer systems for the safety of people and equipment in demanding applications. Our products help customers, especially those operating energy intensive processes, to reduce energy consumption, emissions and operating costs.

Our products are used in high temperature industrial processing of metals, petrochemicals, cement, ceramics and glass, and by manufacturers of equipment for aerospace, automotive, marine and domestic applications. Our core strength is our ability to address individual customer problems, using our materials and our applications expertise to design, manufacture and install optimum thermal solutions.

Our product range includes high-temperature insulating fibre products, microporous products, firebricks, monolithic products, heat shields, fired refractory shapes and structural block insulation products.

Molten Metal Systems manufactures an extensive range of high-performance crucibles and foundry consumables for non-ferrous metal melting applications. We provide melting solutions for foundries, die-casters and melting facilities working with zinc, precious metals, aluminium, copper, brass, bronze and other non-ferrous metals.

With our extensive applications experience and process knowledge Molten Metal Systems helps customers put together the optimal system for their needs. The global business unit works with customers in non-ferrous castings, metal powder production, refining and recycling of precious metals and the production of pure aluminium for electronics applications.

Our product range includes crucibles, foundry products and furnace industries furnace ranges.

Footprint

As at 31 December 2018 Thermal Products comprised 28 operating sites employing approximately 3,240 people, with manufacturing sites across the world. It also has a comprehensive network of sales offices allowing immediate access to and facilitating direct working with end-users. Some sales, particularly for the insulating fibre and crucible product ranges, are made through a well-established distributor network.

Performance and business review

Revenue for Thermal Products for the year was £482.2 million, representing an increase of 1.6% compared with £474.4 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased by 5.5%. Divisional EBITA* for Thermal Products was £59.5 million (2017: £63.9 million) with a Divisional EBITA* margin of 12.3% (2017: 13.5%).

The statutory operating profit for the Thermal Products Division was £43.2 million in 2018, (2017: £61.9 million), and included £13.8 million of charges related to the exit of the Brazilian and Venezuelan businesses, see note 6 to the financial statements for additional information.

Revenue for Thermal Ceramics for the year was £433.6 million, representing an increase of 1.5% compared with £427.3 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased by 5.3%. Strong growth in Asia was led by China and India. North America experienced lower demand while Europe was slightly ahead of prior year. Growth was primarily in insulation projects for the petrochemical industry, and in the metals and industrial market segments.

Thermal Ceramics 2018 EBITA* was £52.9 million (2017: £56.9 million) with EBITA margin* of 12.2% (2017: 13.3%). The margin decline was driven by two factors. First a mix impact, with increased lower margin petrochemical project business in Asia offset by lower volume in North America. Secondly, the profitability of the South American business declined in 2018 reflecting the challenges in that market. The Thermal Ceramics manufacturing site in Brazil was closed in the second half of 2018.

Revenue for Molten Metals Systems for the year was £48.6 million, representing an increase of 3.2% compared with £47.1 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased by 7.3%. Growth was driven primarily by the Asia and North America regions. The core crucibles business grew year-on-year, primarily driven by strong performance in India. Industrial equipment sales increased as well as consumable sales into the strengthening precious metal fire assay markets.

Molten Metal Systems 2018 EBITA* was £6.6 million (2017: £7.0 million) with EBITA margin* of 13.6% (2017: 14.9%). During 2018 we continued our investment in technology, product development and sales capability, which depressed the margins compared to the prior year.

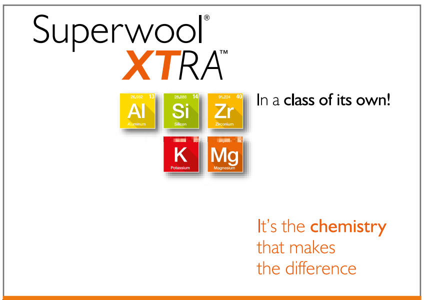
Strategy

The priorities for the Division remain in line with the execution priorities of the Group. During the course of 2018, the Division undertook work to develop a market-driven business strategy to deliver sustainable and profitable growth. As a result of this work, we have put increased emphasis on growth markets where we bring clear technological differentiation. We have invested in changes in our customer-facing organisation to improve our understanding of customer needs and market drivers and to develop sales effectiveness as a distinctive capability.

We recognise the key advantages we have in the markets we serve and will build on these – our global manufacturing footprint, broad product range, application experience, and technological advancements. We will further leverage our global footprint for optimisation, while continuing to drive operational excellence through lean manufacturing, process efficiency, and automation. We continue to invest in product and process technology to optimise our products and processes to serve the challenging performance needs of our customers. We need to continue to invest in this differentiation as we see increasing competition which is putting pressure on the margins for our standard products.

Outlook

The market outlook is mixed for 2019, the Thermal Products Division will continue to focus on product and end market growth opportunities, sales effectiveness and new product introduction.



Superwool XTRA

Our new low biopersistence fibre, Superwool XTRA, has low thermal conductivity and thermal mass, low density and ease of installation, critical for insulating iron and steel kilns. Its high temperature tolerance, improved pollutant resistance and a chemical formulation meets stringent health and safety requirements, reshaping the oil and gas industry.

Molten Metal Systems

Our Salamander ladle liners are designed for use with the steel ladle shells used in metal foundries. Made from super clay graphite or Excel silicon-bonded silicon carbide and available in a wide range of sizes, these high endurance liners are easy to fit and offer long life with no need for patching.

Review of operations continued

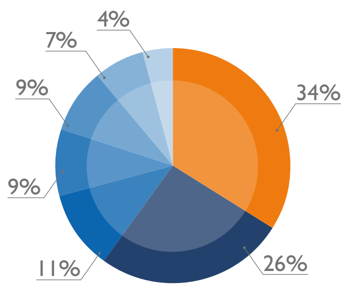
Divisional and global business unit performance

Carbon and Technical Ceramics

Revenue £m

Divisional EBITA*

Carbon and Technical Ceramics
% of revenue



- Industrial
- Transportation
- Semiconductor and electronics
- Security and defence
- Healthcare
- Energy
- Petrochemical and chemical

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the financial statements.

Highlights

» The Carbon and Technical Ceramics Division 2018 reported revenue was £551.7 million (2017: £527.0 million), an increase of 4.7% compared to 2017.

» On an organic constant-currency* basis revenue increased by 9.2% compared to 2017, with increases across each of the businesses.

» Divisional EBITA margin* was 12.9% (2017: 11.9%).

Business description

The Carbon and Technical Ceramics Division comprises the Electrical Carbon, Seals and Bearings and Technical Ceramics global business units.

Electrical Carbon develops and manufactures a wide range of electrical carbon brushes and collectors, brush holders, slip rings and linear transfer systems, which are used to transfer electrical current between stationary and rotating or linear moving parts in motor, generator, and current collector applications. Our products are engineered for specific customer applications and they are often required to operate in harsh or extreme environments. Electrical Carbon's main markets are rail, industrial drives, power generation, iron and steel, mining and wind. The business's core strength is its longstanding materials and applications experience and its ability to engineer appropriate, reliable solutions for individual customer requirements.

Seals and Bearings makes high-performance self-lubricating bearing and seal components, used predominantly in pumps, industrial and domestic, or other sealing applications. We use advanced carbon/graphite, silicon carbide, alumina and zirconia materials to engineer lightweight, low-friction bearings and seals. These materials help solve the problems associated with use of lubricants in extreme temperatures, corrosive or hygienic environments and where access is restricted, and are engineered into products which provide customer-specific solutions.

The business's components often help to extend the operating life of customers' equipment and make it more energy-efficient. The main markets served are specialist applications in the oil and gas, automotive, industrial, water pump, aerospace and home appliance sectors.

Our product range includes seals, bearings and general pump components (shafts, vanes, rotors and washers).

Technical Ceramics engineers high performance functional and structural ceramic materials, components and sub-assemblies to address customer-specific technical challenges. The business employs advanced materials science and applications expertise to produce parts that enhance reliability or improve the performance of its customers' products. Much of what the global business unit makes is used in demanding, harsh or critical environments. The global business unit works in selected segments of the electronics, energy, healthcare, industrial, petrochemicals, security and transport markets, typically in close collaborative customer relationships.

Our product range includes semiconductor products, engineered coatings, ceramic to metal assemblies including brazed and metallised assemblies, zirconia products, ceramic injection moulded products, ceramic cores, braze alloys and the Haldenwager range of ceramic tubes and rollers.

Footprint

As at 31 December 2018 the Carbon and Technical Ceramics Division comprised 50 operating sites employing approximately 5,420 people, with manufacturing sites across the world. As a result of the customer-specific nature of most of the products sold and the importance of staying very close to the market, most sales are made directly by the Division's sales force and application engineers, with limited use being made of distributors. The global spread of operating sites supplemented by a comprehensive network of sales offices allows immediate access to, and facilitates direct working with customers and the products' end-users.

Performance and business review

Revenue for the Carbon and Technical Ceramics Division for the year was £551.7 million, representing an increase of 4.7% compared with £527.0 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased 9.2%.

Divisional EBITA* for the Carbon and Technical Ceramics Division was £71.2 million (2017: £62.5 million) with Divisional EBITA margin* of 12.9% (2017: 11.9%).

Revenue for the Electrical Carbon global business unit in 2018 was £166.8 million, representing an increase of 6.3% compared with £156.9 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased by 12.6%.

The strong year-on-year growth was driven primarily by the rail, industrial and semiconductor market segments. The rail segment benefited from good market conditions, primarily from sales of our carbon collector strip products for electrified rail applications.

On a regional basis, growth in Asia was driven by sales of specialty graphite products accompanied by good growth in the industrial and rail sectors. Double digit growth was also seen in North America across all sectors, supported by the strong economy. Europe saw good growth in the wind power and rail segments offsetting a slight decline in the industrial market.

Electrical Carbon EBITA* was £19.4 million (2017: £16.7 million) with an EBITA margin* of 11.6% (2017: 10.6%). Strong revenue growth, supported by operational efficiency actions, more than offset the dilutive impacts of the 2017 divestment of the Rotary Transfer Systems business. These actions enabled Electrical Carbon to re-invest in sales effectiveness, research and development and wider business infrastructure.

Revenue for the Seals and Bearings global business unit in 2018 was £132.7 million, representing an increase of 17.1% compared with £113.3 million in 2017. On an organic constant-currency* basis year-on-year revenue increased by 18.9%. The business saw strong growth in most key markets, offsetting continued weakness in the Korean automotive market. In a continuation of the contracts awarded in 2017, sales of ceramic armour increased significantly, from £6.6 million in 2017 to £24.0 million in 2018. Excluding armour, organic revenue* growth on the core business was 3.3%. The business saw organic revenue* growth in the water, petrochemical, medical and aerospace markets.

Seals and Bearings EBITA* was £23.7 million (2017: £17.5 million) with an EBITA margin* of 17.9% (2017: 15.4%).

The increase in volume and a strong continuous improvement projects pipeline yielded incremental savings which offset cost inflation and investments in the production base. Additionally the business continued to invest in sales effectiveness training, research and development and the functional capabilities in support of its growth strategy.

Revenue for the Technical Ceramics global business unit in 2018 was £252.2 million, a decrease of (1.8)% compared with £256.8 million in 2017. On an organic constant-currency* basis, year-on-year revenue increased by 2.8% primarily driven by increased demand for ceramic cores in the aerospace market and supply of ceramic parts into the semiconductor and medical markets. This demand growth was partially offset by sharp slow-down in the industrial gas turbine (IGT) market

Technical Ceramics EBITA* was £28.1 million (2017: £28.3 million) with an EBITA margin* of 11.1% (2017: 11.0%). Margins expanded slightly with the benefit of higher volume offsetting the significant reduction in IGT volume, and the dilutive impact of the 2017 divestment of the Electro-ceramics business

Strategy

The priorities of the Carbon and Technical Ceramics Division, and of the three global business units of which it comprises, remain in-line with the execution priorities of the Group. The Division remains focused on delivering operational efficiencies to support reinvestment in product development and sales effectiveness, in support of growth in our selected markets and drive margin expansion.

The focus on operating costs is reflected in the Division's results, most notably in the improved EBITA margins*. Plant-specific initiatives include a focus on reducing scrap and improving yields, which when combined with the benefits of global footprint management, and the increased use of low-cost manufacturing operations, underpin the reductions in the operational cost base of the business. A significant part of the Division's capital expenditure is on investments which will improve the operational efficiency of the Division.

Carbon and Technical Ceramics has two global Centres of Excellence – Carbon Science and Metals and Joining. Their focus will be on ensuring a strong pipeline of innovation for the businesses within the Carbon and Technical Ceramics Division.

Outlook

The Division's focus in 2019 will be on embedding sales effectiveness across the global business units and delivery of product development innovations through the Centres of Excellence. The Division will also continue its efforts to deliver operational efficiencies.

Technical Ceramics

We offer unique brazing and active-brazing capabilities for the production of medical assemblies. Our products can be manufactured using the Ultinex brazing process, which delivers real world benefits such as better thermal transport within surgical tools, allowing surgeons to work longer and faster.

Seals and bearings

Capable of unprecedented performance in extreme conditions, our carbon and silicon carbide components optimise the performance of chemical processing and refinery set-ups worldwide. With exploration companies drilling into evermore challenging environments, our components offer the outstanding dimensional stability and high thermal conductivity needed.

Electrical Carbon

With our extensive range of high performance, low wear electrical rail components and industry-leading applications expertise we help our customers to optimise the performance of their rail systems from trams and metros to high speed and freight trains.

Group financial review

Foreign currency impact

The principal exchange rates used in the translation of the results of overseas subsidiaries were as follows:

	2018		2017	
	Closing rate	Average rate	Closing rate	Average rate
USD	1.28	1.33	1.35	1.29
€	1.11	1.13	1.13	1.14

The potential impact of changes in foreign exchange rates is given in note 21 to the financial statements on pages 116 to 124.

Retranslating the 2018 full year results at the January 2019 closing exchange rates would lead to revenue of £1,026.2 million and headline operating profit* of £123.1 million.

Amortisation of intangible assets

The Group amortisation charge was £8.0 million (2017: £7.3 million), with the higher year-on-year charge driven by increased software licenses.

Finance costs

The net finance charge was £13.2 million (2017: £22.5 million), primarily comprising net bank interest and similar charges of £8.5 million (2017: £15.6 million), and the finance charge under IAS 19 (revised), being the interest charge on pension scheme net liabilities, which was £4.7 million (2017: £6.9 million).

The impact of potential changes in interest rates on profit or loss are stated in note 21 to the financial statements on pages 116 to 124.

Taxation

The Group tax charge, excluding specific adjusting items, was £29.0 million (2017: £26.9 million). The effective tax rate, excluding specific adjusting items, was 27.8% (2017: 29.5%). Note 8 to the financial statements, on pages 102 and 103, provides additional information on the Group's tax charge.

Looking forward to 2019, we anticipate that the effective tax rate will remain at around 28%, with cash tax paid slightly higher than the charge to the income statement.

Earnings per share

Headline earnings per share* was 26.7 pence (2017: 22.8 pence), and basic earnings per share from continuing operations was 20.0 pence (2017: 38.1 pence). Details of these calculations can be found in note 10 to the financial statements on pages 104 and 105. Headline earnings per share* is a non-GAAP measure. A reconciliation from IFRS profit to the profit used to calculate headline earnings per share* is included in note 10 to the financial statements on pages 104 and 105.

Dividend

The Board is recommending a final dividend, subject to shareholder approval, of 7.0 pence per share on the Ordinary share capital of the Group, payable on 24 May 2019 to Ordinary shareholders on the register at the close of business on 3 May 2019. Together with the interim dividend of 4.0 pence per share paid on 23 November 2018, this final dividend, if approved by shareholders, brings the total distribution for the year to 11.0 pence per share (2017: 11.0 pence). A total dividend of 11.0 pence per share represents a dividend cover of headline EPS* 2.4x in 2018 (2017: 2.0x).

The Board has held the dividend flat as it looks to rebuild dividend cover in the medium term.

Note 41 to the financial statements, on page 149, provides additional information on the Company's distributable reserves.

Cash flow

Cash flow from operations was £131.3 million (2017: £127.6 million excluding the one-off US pension payment of £28 million), an improvement on 2017. Free cash flow before acquisitions and dividends was £48.9 million (2017: £52.8 million excluding the one-off US pension payment of £28 million). Net debt* at the year end was £180.0 million (2017: £181.3 million), representing a net debt* to EBITDA* ratio of 1.2x (2017: 1.2x).

	2018[1] £m	2017[1] £m
Cash flow from operations[2]	131.3	99.6
Capital expenditure	(53.1)	(33.7)
Net interest	(8.4)	(16.6)
Tax paid	(20.9)	(24.5)
Free cash flow before acquisitions, disposals and dividends[2]	48.9	24.8
Dividends paid to external plc shareholders	(31.4)	(31.4)
Net cash flows from other investing and financing activities	(5.2)	(18.2)
Net cash flows from divestments and discontinued operations	(1.2)	77.7
Exchange movement	(9.8)	8.3
Movement in net debt in period[2]	1.3	61.2
Opening net debt[2]	(181.3)	(242.5)
Closing net debt[2]	(180.0)	(181.3)

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the financial statements.
2. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

Commitments for property, plant and equipment and computer software for which no provision has been made are set out in note 25 to the financial statements on page 134.

Capital structure

At the year end total equity was £277.2 million (2017: £234.3 million) with closing net debt* of £180.0 million (2017: £181.3 million).

Non-current assets were £549.2 million (2017: £535.9 million) and total assets were £964.5 million (2017: £929.7 million).

Details of undiscounted contracted maturities of financial liabilities and capital management are set out in note 21 to the financial statements on pages 116 to 124.

Since the balance sheet date, there has been one subsequent event. In December 2018, the Group agreed the issuance of a new US private debt placement, raising $25 million with a duration of seven years, at a coupon of 4.87%. This was used to refinance existing financial indebtedness. Funding was completed on 28 January 2019.

Capital structure is further discussed in note 21 to the financial statements on pages 116 to 124 under the heading Capital management.

Pensions

The Group operates a number of pension schemes throughout the world, the majority of which are of a funded defined benefit type. The largest of these are located in the UK and the US with the majority of others in continental Europe.

The charge before specific adjusting items incurred in relation to the Group's defined benefit arrangements is summarised in the table below.

	2018 £m	2017 £m
Operating costs:		
Service costs	**(3.3)**	(4.5)
Administration costs	**(1.4)**	(2.4)
Total operating costs	**(4.7)**	(6.9)
Net finance charge	**(4.7)**	(6.9)
Total before specific adjusting items	**(9.4)**	(13.8)

The Group pension deficit has decreased by £27.6 million since last year end to £190.4 million on an IAS 19 (revised basis) as employer contributions and changes in assumptions more than offset investment losses.

- The UK Schemes deficit decreased by £25.9 million to £140.1 million (2017: decrease of £14.5 million), as employer contributions and changes in assumptions more than offset investment losses (discount rate 2018: 2.74%; 2017: 2.38%).
- The US Schemes deficit decreased by £2.3 million to £8.8 million (2017: decrease of £37.9 million), (discount rate 2018: 4.34%; 2017: 3.65%).
- The European Schemes deficit increased by £0.2 million to £36.9 million (2017: decrease of £0.8 million), (discount rate 2018: 1.70%; 2017: 1.60%).
- The Rest of World Schemes deficit increased by £0.4 million to £4.6 million (2017: decrease of £0.1 million), (discount rate 2018: 2.60%; 2017: 3.20%).

Note 22 to the financial statements, on pages 124 to 132, provides additional information on the Group's pension schemes.

Treasury policies

The following policies were in place across the Group throughout the year. The manager of each global business unit is required to confirm compliance as part of the year-end process.

Financial Risk Management and Treasury Policy

Group Treasury works within a framework of policies and procedures approved by the Audit Committee. It acts as a service to Morgan Advanced Materials' businesses, not as a profit centre, and manages and controls risk in the treasury environment through the establishment of such procedures.

Group Treasury seeks to align treasury goals, objectives and philosophy to those of the Group. It is responsible for all of the Group's funding, liquidity, cash management, interest rate risk, foreign exchange risk and other treasury business. As part of the policies and procedures, there is strict control over the use of financial instruments to hedge foreign currencies and interest rates. Speculative trading in derivatives and other financial instruments is not permitted.

Foreign exchange risks

Currency transaction exposures exist as a result of the global nature of the Group. The Group has a policy in place to hedge all material firm commitments and a large proportion of highly probable forecast foreign currency exposures in respect of sales and purchases over the following 12 months, and achieves this through the use of the forward foreign exchange markets. A significant proportion of the forward exchange contracts have maturities of less than one year after the balance sheet date. The Group continues its practice of not hedging income statement translation exposure.

There are exchange control restrictions which affect the ability of a small number of the Group's subsidiaries to transfer funds to the Group. The Group does not believe such restrictions have had or will have any material adverse impact on the Group as a whole or the ability of the Group to meet its cash flow requirements.

Currency translation risks are controlled centrally. To defend against the impact of a permanent reduction in the value of its overseas net assets through currency depreciation, the Group seeks to match the currency of financial liabilities with the currency in which the net assets are denominated. This is achieved by raising funds in different currencies and through the use of hedging instruments such as swaps, and is implemented only to the extent that the Group's gearing covenant under the terms of its loan documents, as well as its facility headroom, are likely to remain comfortably within limits. In this way, the currencies of the Group's financial liabilities become more aligned to the currencies of the trading cash flows which service them.

Interest rate risk

The Group seeks to reduce the volatility in its interest charge caused by rate fluctuations. This is achieved through a combination of fixed rate debt and interest rate swaps. The proportions of fixed and floating rate debt are determined having regard to a number of factors, including prevailing market conditions, interest rate cycle, the Group's interest cover and leverage position and any perceived correlation between business performance and rates.

Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Group is exposed to credit risk on financial instruments such as liquid assets, derivative assets and trade receivables.

Cash balances held by companies representing over 75% of the Group's revenue are managed centrally through a number of pooling arrangements. Credit risk is managed by investing liquid assets and acquiring derivatives in a diversified way from high-credit-quality financial institutions. Counterparties are reviewed through the use of rating agencies, systemic risk considerations, and through regular review of the financial press. Credit risk is further discussed in note 21 to the financial statements on pages 116 to 124.

Capital investment

The Group has well-established formal procedures for the approval of investment in new businesses and for capital expenditure to ensure appropriate senior management review and sign-off.

Borrowing facilities and liquidity

All of the Group's borrowing facilities are arranged by Group Treasury with Morgan Advanced Materials plc as the principal obligor. In a few cases operating subsidiaries have external borrowings but these are supervised and controlled centrally. Group Treasury seeks to obtain certainty of access to funding in the amounts, diversity of maturities and diversity of counterparties as required to support the Group's medium-term financing requirements and to minimise the impact of poor credit market conditions.

The Group's debt and maturity profile is provided in notes 20 and 21 to the financial statements on pages 115 to 132.

Tax risks

The Group follows a tax policy to fulfil local and international tax requirements, maintaining accurate and timely tax compliance whilst seeking to maximise long-term shareholder value. The Group adopts an open and transparent approach to relationships with tax authorities and continues to monitor and adopt new reporting requirements arising from the implementation of the OECD action plan on Base Erosion and Profit Shifting proposals within tax legislation across various jurisdictions.

The tax strategy is aligned to the Group's business strategy and ensures that tax affairs have strong commercial substance. Tax risks are set out in the Risk management section on page 21.

Directors' statements

Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position are set out in the Strategic Report on pages 4 to 41. The financial position of the Group, its cash flows, liquidity position and borrowing facilities, are described earlier in this Financial Review. In addition, note 21 to the financial statements, includes the Group's policies and processes for managing financial risk; details of its financial instruments and hedging activities; and details of its exposures to credit risk and liquidity risk.

The Group meets its day-to-day working capital requirements through local banking arrangements underpinned by the Group's £200 million unsecured multi-currency revolving credit facility maturing September 2023. The Group's forecasts and projections, taking account of reasonably possible changes in trading performance and exchange rates, show the Group operating within its debt financial covenants for the next 12 months.

The current economic climate continues to have an impact on the Group, its customers and its suppliers. The UK's exit from the EU may have an impact on the Group if subsequent tariff changes, or border effects, negatively impact the profitability of the Group's products or the ability to manufacture or distribute products on a timely basis. However, given the current value of the Group's UK exports to the EU (ca. £25 million) and imports into the UK from the EU (ca. £15 million), it is not considered that this will have a significant impact overall on the Group's liquidity or operations.

The Board fully recognises the challenges that lie ahead but, after making enquiries, and in the absence of any material uncertainties, the Directors have a reasonable expectation that the Company and the Group have adequate resources to continue in operational existence for a period of 18 months from the date of signing of this Annual Report and Accounts. Accordingly, they continue to adopt the going concern basis in preparing the Annual Report and Accounts.

Viability statement

In accordance with provision C.2.2 of the UK Corporate Governance Code, the Directors have assessed the viability of the Group over a three-year period, taking into account the Group's current position and the potential impact of the principal risks documented on pages 18 to 21 of the Annual Report. Based on this assessment, the Directors confirm that they have a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the period to 31 December 2021.

The Directors have determined that an assessment period of three years to 31 December 2021 is an appropriate period over which to provide its viability statement. This is the period reviewed by the Board in the strategic planning process and is considered to be appropriate given the dynamics in the markets in which we operate.

To allow the Directors to make this assessment, a business base case has been built up, initially using a detailed bottom up approach and then applying what the Directors consider to be an appropriate set of assumptions in respect of growth, margins, working capital flows, capital expenditure, dividends and all other matters that could have a significant impact on the financial performance and liquidity of the Group. The resulting base case provides the Directors with an EBITDA*, debt and finance charge headroom relative to current bank covenants.

The Directors assessment included a review of the principal risks facing the Group, their potential impact and the adequacy of the financial headroom relative to a severe but plausible combination of these risks. While the review has considered all the principal risks identified by the Group, the following were focussed on for enhanced stress testing: political and macro-economic environment, trade compliance and pension funding.

The geographical and product diversification of the Group's operations helps minimise the risk of serious business interruption or a catastrophic damage to our reputation. The impact of the UK's exit from the EU was considered in the assessment, however given the footprint and small size of the UK operations it has not changed our overall assessment of the Viability of the Group. Furthermore, the spread of the Group's end-markets is such that it is not reliant on one particular group of clients or sector.

Whilst this review does not consider all of the possible risks that the Group could face, the Directors consider that the approach adopted and the work performed is reasonable in the circumstances of the inherent uncertainty involved and that it allows the Board to confirm that they have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period to 31 December 2021.

Definitions and reconciliations of non-GAAP measures to GAAP measures

Reference is made to the following non-GAAP measures throughout this Strategic Report. These measures are shown because the Directors consider they provide useful information to shareholders, including additional insight into ongoing trading and year-on-year comparisons. These non-GAAP measures should be viewed as complementary to, not replacements for, the comparable GAAP measures.

The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15, the year ended December 2017 has been restated to reflect the adoption of IFRS 15. The disposal of the Composites and Defence Systems business is presented as discontinued operations in accordance with IFRS 5, the year ended 31 December 2017 has been restated to present the Group excluding the Composites and Defence Systems business. Further details on the disposal of Composites and Defence Systems and the adoption of IFRS 15 are provided in notes 1, 2, 9 and 27 to the financial statements.

Headline profit and earnings measures

Group headline operating profit is stated before specific adjusting items and amortisation of intangible assets. Specific adjusting items are excluded on the basis that they distort trading performance. Amortisation is excluded as the charge arises primarily on externally acquired intangible assets since the adoption of IFRS and does not therefore reflect all intangible assets consistently.

Earnings before interest, tax and amortisation (EBITA) is stated before specific adjusting items, amortisation of intangible assets, restructuring costs and other items. Segment EBITA is stated before unallocated corporate costs.

2018	Thermal Ceramics £m	Molten Metal Systems £m	**Thermal Products Division £m**	Electrical Carbon £m	Seals and Bearings £m	Technical Ceramics £m	**Carbon and Technical Ceramics Division £m**	**Segment total £m**	Corporate costs[1] £m	**Group £m**
Operating profit/(loss)	36.9	6.3	**43.2**	18.7	23.3	22.3	**64.3**	**107.5**	(0.2)	**107.3**
Add back: specific adjusting items included in operating profit	13.8	–	**13.8**	–	–	1.4	**1.4**	**15.2**	(5.7)	**9.5**
Add back: amortisation of intangible assets	2.2	0.3	**2.5**	0.7	0.4	4.4	**5.5**	**8.0**	–	**8.0**
Group headline operating profit										**124.8**
Corporate costs[1]									5.9	**5.9**
Divisional EBITA/global business unit EBITA	52.9	6.6	**59.5**	19.4	23.7	28.1	**71.2**	**130.7**		

2017	Thermal Ceramics £m	Molten Metal Systems £m	**Thermal Products Division £m**	Electrical Carbon £m	Seals and Bearings £m	Technical Ceramics £m	**Carbon and Technical Ceramics Division £m**	**Segment total £m**	Corporate costs[1] £m	**Group £m**
Operating profit/(loss)	55.1	6.8	**61.9**	16.2	17.2	23.8	**57.2**	**119.1**	40.0	**159.1**
Add back: specific adjusting items included in operating profit	–	–	**–**	–	–	–	**–**	**–**	(45.7)	**(45.7)**
Add back: amortisation of intangible assets	1.8	0.2	**2.0**	0.5	0.3	4.5	**5.3**	**7.3**	–	**7.3**
Group headline operating profit										**120.7**
Corporate costs[1]									5.7	**5.7**
Divisional EBITA/global business unit EBITA	56.9	7.0	**63.9**	16.7	17.5	28.3	**62.5**	**126.4**		

Definitions and reconciliations of non-GAAP measures to GAAP measures continued

Group organic growth

Group organic growth is the growth of the business excluding the impacts of acquisitions, divestments and foreign currency impacts. This measure is used as it assists management in understanding the underlying trends in operational performance (revenue and EBITA) on a comparable year-on-year basis.

Year-on-year movements in Segment revenue

	Thermal Ceramics 2017 versus 2018 £m	Molten Metal Systems 2017 versus 2018 £m	Thermal Products Division 2017 versus 2018 £m	Electrical Carbon 2017 versus 2018 £m	Seals and Bearings 2017 versus 2018 £m	Technical Ceramics 2017 versus 2018 £m	Carbon and Technical Ceramics Division 2017 versus 2018 £m	Segment Total 2017 versus 2018 £m
2017 Revenue	427.3	47.1	474.4	156.9	113.3	256.8	527.0	1,001.4
Impact of foreign currency movements	(15.4)	(1.8)	(17.2)	(4.1)	(1.7)	(6.0)	(11.8)	(29.0)
Impacts of disposals	–	–	–	(4.6)	–	(5.5)	(10.1)	(10.1)
Impact of underlying business	21.7	3.3	25.0	18.6	21.1	6.9	46.6	71.6
Underlying %	5.3%	7.3%	5.5%	12.6%	18.9%	2.8%	9.2%	7.4%
2018 Revenue	433.6	48.6	482.2	166.8	132.7	252.2	551.7	1,033.9

Year-on-year movements in Segment and Group EBITA

	Thermal Ceramics 2017 versus 2018 £m	Molten Metal Systems 2017 versus 2018 £m	Thermal Products Division 2017 versus 2018 £m	Electrical Carbon 2017 versus 2018 £m	Seals and Bearings 2017 versus 2018 £m	Technical Ceramics 2017 versus 2018 £m	Carbon and Technical Ceramics Division 2017 versus 2018 £m	Segment Total 2017 versus 2018 £m	Corporate costs[1] 2017 versus 2018 £m	Group Total 2017 versus 2018 £m
2017 Segment and Group EBITA	56.9	7.0	63.9	16.7	17.5	28.3	62.5	126.4	(5.7)	120.7
Impact of foreign currency movements	(2.2)	(0.3)	(2.5)	(0.6)	(0.4)	(0.7)	(1.7)	(4.2)	–	(4.2)
Impacts of disposals	–	–	–	(1.3)	–	(1.1)	(2.4)	(2.4)	–	(2.4)
Impact of underlying business	(1.8)	(0.1)	(1.9)	4.6	6.6	1.6	12.8	10.9	(0.2)	10.7
Underlying %	(3.3)%	(1.5)%	(3.1)%	31.1%	38.6%	6.0%	21.9%	9.5%	–	9.4%
2018 Segment and Group EBITA	52.9	6.6	59.5	19.4	23.7	28.1	71.2	130.7	(5.9)	124.8

1. Corporate costs consist of the cost of the central head office.

Group EBITDA

Group EBITDA is defined as operating profit before specific adjusting items, restructuring costs, other items, depreciation and amortisation of intangible assets.

The Group uses this measure as it is a key metric in covenants over debt facilities.

A reconciliation of operating profit to Group EBITDA is as follows:

	2018 £m	2017 £m
Operating profit:	107.3	159.1
Add back: specific adjusting items included in operating profit	9.5	(45.7)
Add back: depreciation	31.3	30.0
Add back: amortisation of intangible assets	8.0	7.3
Group EBITDA	156.1	150.7

Cash flow from operations and free cash flow before acquisitions, disposals and dividends

Cash flow from operations excludes the cash flows associated with restructuring activities and is shown because it illustrates the timing of the outflows relating to restructuring charges that may be incurred over more than one reporting period.

Free cash flow before acquisitions is defined as cash generated from operations less capital expenditure, net interest paid and tax paid.

The Group discloses free cash flow before acquisitions and disposals as this provides readers of the financial statements with a measure of the cash flows from the principle revenue generating operations of the business before corporate-level cash flows (acquisitions and dividends).

A reconciliation of cash generated from operations to cash flow from operations and free cash flow before acquisitions and dividends is as follows:

	2018 £m	2017 £m
Cash generated from operations[1]	131.3	99.6
Capital expenditure	(53.1)	(33.7)
Net interest	(8.4)	(16.6)
Tax paid	(20.9)	(24.5)
Free cash flow before acquisitions, disposals and dividends	48.9	24.8
Free cash flow before acquisitions, disposals, dividends and one-off US pension payment	48.9	52.8

1. In 2017 cash generated from operations includes a one-off payment to the US pension scheme of £28.0 million, see note 22 to the financial statements on pages 24 to 132. Free cash flow is presented both before and after this payment.

Net debt

Net debt is defined as interest-bearing loans and borrowings and bank overdrafts less cash and cash equivalents. The Group discloses this metric as it is a key metric in covenants over debt facilities.

	2018 £m	2017 £m
Cash and cash equivalents	67.6	50.4
Non-current interest-bearing loans and borrowings	(164.8)	(192.7)
Current interest-bearing loans and borrowings and bank overdrafts	(82.8)	(39.0)
Net debt	**(180.0)**	(181.3)

Constant-currency revenue and Group headline operating profit

Constant-currency revenue and Group headline operating profit are derived by translating the prior year results at current-year average exchange rates. These measures are used as they allow revenue to be compared excluding the impact of foreign exchange rates. Page 28 provides further information on the principal foreign exchange rates used in the translation of the Group's results to constant-currency at average exchange rates. The potential impact of foreign exchange movements is provided in note 21 to the financial statements on pages 116 to 124.

Headline earnings per share

Headline earnings per share is defined as operating profit adjusted to exclude specific adjusting items and amortisation of intangible assets, plus share of profit of associate less net financing costs, income tax expense and non-controlling interests, divided by the weighted average number of Ordinary shares during the period. This measure of earnings is shown because the Directors consider it provides a better indication of headline performance.

Whilst amortisation of intangible assets is a recurring charge it is excluded from these measures on the basis that it primarily arises on externally acquired intangible assets and therefore does not reflect consistently the benefit that all of Morgan's businesses realise from their intangible assets, which may not be recognised separately.

Further information on earnings per share can be found in note 10 to the financial statements on pages 104 and 105.

Return on invested capital

Return on invested capital (ROIC) is defined as Group headline operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the 12-month average adjusted net assets (third-party working capital, plant and equipment, land and buildings, intangible assets and other balance sheet items).

Since 1 January 2016 ROIC has been used by the Group instead of ROCE as an indication of capital efficiency and the return obtained from the Group's asset base.

	2018 £m	2017 £m
Operating profit	107.3	159.1
Add back: specific adjusting items included in operating profit	9.5	(45.7)
Add back: amortisation of intangible assets	8.0	7.3
Group headline operating profit	**124.8**	120.7
12-month average adjusted net assets:		
Third-party working capital	169.3	170.4
Plant and equipment	180.9	174.6
Land and buildings	116.3	114.5
Intangible assets	214.0	219.3
Other assets (net)	9.6	16.4
12-month average adjusted net assets	**690.1**	695.2
ROIC	**18.1%**	17.4%

Return on operating capital employed

Return on operating capital employed (ROCE) is defined as Group headline operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the sum of working capital as defined below and the net book value of plant and equipment and land and buildings. Goodwill and other intangible assets are excluded.

The Group uses ROIC as its key measure of return from the Group's asset base. ROCE has been provided as it continues to be a measure for pre-existing Long-Term Incentive Plan awards, as disclosed in the Remuneration Report on pages 58 to 75.

	2018 £m	2017 £m
Operating profit	107.3	159.1
Add back: specific adjusting items included in operating profit	9.5	(45.7)
Add back: amortisation of intangible assets	8.0	7.3
Group headline operating profit	**124.8**	120.7
Inventories	145.3	141.6
Trade and other receivables	200.5	194.4
Net derivative financial assets	–	0.4
Trade and other payables	(190.5)	(193.7)
Plus deferred consideration, third-party dividends payable and other sundry items	1.3	0.1
Working capital as used in the calculation of ROCE	**156.6**	142.8
Plant and equipment	**192.1**	181.9
Land and buildings	**122.4**	115.9
	471.1	440.6
ROCE	**26.5%**	27.4%

Corporate responsibility

Corporate responsibility is integral to Morgan; it means a commitment to behaving with integrity and having a positive impact on employees, stakeholders and the communities in which we work.

Doing business the right way, safely and ethically, is fundamental to how we work. It is the top priority for Morgan. This firm commitment to doing business in the right way is integral to the Group in continuing to be a leading advanced materials company, where corporate responsibility is a differentiator. Three core Group-wide programmes – the Group's ethics and compliance (E&C) programme, environment, health and safety (EHS) programme and the approach to Morgan's people, all support the aim of creating long-term sustainable shareholder value.

Non-financial information

This Strategic Report includes certain non-financial information. We measure non-financial information in alignment with our strategy, our execution priorities and our principle risks.

The information which follows is intended to help our stakeholders understand our non-financial information, Most of our reporting on these topics is contained within the Corporate responsibility, risk management and business performance sections of the Strategic Report. Cross-references to sections containing further information are provided below.

- **Our business model** can be found on pages 8 and 9.
- **Environmental information** on pages 36 to 39.
  - Related policies which govern our approach – EHS Policies; The Morgan Code, 'always working safely.'
  - Principle risks – Environment, health and safety.
  - KPIs – Lost-time accident frequency; Tonnes CO_2e per £m revenue.
- **Employee information** on pages 40 and 41.
  - Related policies which govern our approach – Employee Policies; The Morgan Code, 'treating our people fairly'.
  - KPIs – Employee turnover.
- **Respect for human rights information** on page 35.
  - Related policies which govern our approach – Human Rights Policy; The Morgan Code, 'treating our people fairly' and 'always working ethically'.
  - Principle risks – Compliance.
- **Anti-bribery and anti-corruption information** on page 35.
  - Related policies which govern our approach – The Morgan Code, 'always working ethically'.
  - Principle risks – Compliance.
- **The Business performance section** on pages 24 to 27 includes, where appropriate, references to, and additional explanations of, amounts included in the entity's annual accounts.

Tone from the top

The Board is ultimately accountable for corporate responsibility and receives regular reports on the E&C programme, the EHS programme and global talent management initiatives. The senior management team recognises the need to lead by example. The Executive Committee take the lead on doing business in the right way, they are supported by the Divisional and global business unit executive teams together with functional heads with specific responsibility for EHS, legal compliance and human resources.

During 2018, the emphasis on ethical behaviour was enhanced by the launch of the Morgan Code, a set of principles supported by policies and guidelines that lay out how we should conduct ourselves. The Morgan Code applies to all employees and, to the extent appropriate, to Morgan's business partners including agents, joint venture partners and third-party representatives.

The principles of the Morgan Code fall under four areas:

- Working safely.
- Working ethically.
- Treating our people fairly.
- Protecting our business.

The ethics and compliance programme

At Morgan we understand that our reputation and name are key assets which take a long time to build but could be quickly lost through corrupt or unethical behaviour.

The Group-wide E&C programme is in place to protect the Group, providing a framework underpinning the Group's commitment to doing business in the right way. The core elements of the programme are tone-from-the-top; policies; training; control processes; and monitoring and assurance.

Policies

Copies of Morgan's ethics-related policies are available to all employees in key languages, together with related manuals and guidelines. These require employees to operate not only in accordance with applicable laws and regulations, but also in line with internal rules and reporting requirements relating to areas such as ethical business behaviour, trade compliance, hospitality, gifts, donations and sponsorships.

Training

Group-wide e-learning took place in 2018 for the majority of staff on the Morgan Code, anti-bribery and corruption, and anti-competitive practice. This e-learning programme is planned to continue into 2019 covering other key topics including trade compliance, conflicts of interest, confidentiality, and anti-money laundering. Face-to-face training on the Morgan Code was held at selected sites. Sanction screening training for high-risk countries was held for all export managers.

Control processes

Control processes are in place at the site level to ensure the policies are effectively implemented. Of note this year was that the high-risk country protocol was updated, to ensure that sanction screening is correctly performed and that trade controls are complied with.

Monitoring and assurance

Divisional and global business unit presidents and all functional heads are required on an annual basis to certify that the businesses/functions they are responsible for have implemented and complied in full with Group policies or declared any exceptions. This certification forms an integral part of the Group's system of internal controls. No material exceptions were declared in respect of 2018.

Morgan's internal audit function monitors adherence to key E&C processes including completion of induction training and compliance with key policies. Internal audit also ensures that the ethics hotline and its availability are adequately promoted at site level.

Ethics 'speak-up' hotline (ethics hotline)

The ethics hotline, operated by the independent third-party company Expolink, enables employees and others who are aware of, or suspect, misconduct, illegal activities, fraud, abuse of Group assets or violations of any Group policy to report these confidentially without fear of retribution should they feel they cannot use a local channel. The hotline includes local free-phone numbers in each of the countries in which the Group operates, with real-time translators available as necessary.

Issues raised through the hotline, or via other channels, and which may be anonymous, are followed up by the internal audit, Group compliance, and human resources functions, or members of senior management teams as appropriate. Further investigation may be conducted through internal audit. The Audit Committee monitors and reviews a summary of the results generated. The hotline will be refreshed during 2019 to ensure it fully achieves its objectives.

Human rights

As an international business, the Group supports the UN's Universal Declaration of Human Rights, and the Group's Human Rights Policy applies to all our businesses worldwide. The Policy is available on our website and covers child labour, forced labour, health and safety, freedom of association, discrimination, discipline, working hours and compensation. The Group's Modern Slavery Act Transparency Statement, which is published annually on our website, details action taken to support the elimination of modern slavery and human trafficking.

Group compliance plans for 2019

During 2019, the Group will continue to raise the profile of ethical working, with initiatives including an update of the ethical Policies, a refresh of the hotline, a continuation of new modules in the e-learning training programme, and further training on trade controls.

In 2019 the Group will also update its Modern Slavery Act Transparency Statement.

Corporate responsibility continued

Environment, health and safety

Morgan is committed to protecting the health and safety of employees and others affected by its operations. We seek to minimise the environmental impacts of our activities and maximise the positive effects of our products and services through our environmental, health and safety (EHS) programmes.

Under the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013, the Group is required to report its annual greenhouse gas emissions for the year in its Directors' Report. This information is shown on page 39 and includes CO_2 emissions from energy use, which are further analysed in this section, together with other sources of greenhouse gases emissions.

2018 highlights

- In 2018 the total number of accidents was 581 (2017: 655), a lower proportion of these were Lost-time accidents (42) than in 2017 (LTA 2017: 75; 2016: 53). The Group Lost-time accident rate was 0.22, (2017: 0.38; 2016: 0.26).
- Environmental performance saw an improvement in the year, with the Group exceeding the CO_2e, energy and water intensity targets and meeting its recycling targets, however it did not achieve its waste intensity target.
- The Group achieved a 12.4% reduction in water use intensity, and a 3.7% reduction in energy intensity. The proportion of total waste recycled was consistent with prior year after a large improvement in 2017. CO_2e intensity improved by 3.3% whilst total CO_2e increased by 3.5%.
- Morgan 'thinkSAFE', the Group's behavioural safety performance improvement programme was refreshed in 2018, with a phased implementation planned across all Morgan sites. There was particular Group wide focus with respect to a number of key hazard awareness and risk control topics, 'hand and finger safety', 'slips, trips and fall hazard' and the use of Personal Protective Equipment. Other programmes included the reporting of near miss and hazards, 'Take 5 for Safety' and 'Bright, Clean and thinkSAFE'. The level of individual engagement was positively endorsed by employees as the recent Group-wide Employee Engagement Survey safety feedback achieved an 85% engagement score.

EHS Policy

Morgan's EHS Policy sets out the Group's commitment to protect and enhance the environment and to safeguard the health and safety of all those affected by our operations. The Policy is regularly reviewed and is communicated across all sites within the Group and is applied to all businesses worldwide. A copy of it is available on the Company's website.

EHS Policy governance

Governance of Morgan's EHS Policy is achieved through performance monitoring, risk assessment and the management and mitigation of identified risks to help provide continuous improvement in EHS performance in support of the Group's strategic priorities.

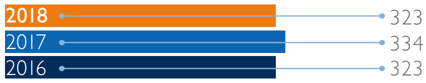
The Group is committed to providing effective leadership in pursuit of an injury-free and environmentally responsible work place. The Chief Executive Officer and the operational management teams are responsible and accountable for EHS performance. The Group's Director, EHS is responsible for Group direction and the oversight of the Group's EHS strategic programmes. There are EHS leaders and resources in each of the global business units and their locations.

Morgan's Group level EHS management processes include:

- Monthly review of performance and progress in the implementation of our improvement plans by the Executive Committee and business leaders.
- Regular review of EHS performance by the Board.
- The EHS Compliance Audit Programme is conducted against the Morgan EHS Framework, Systems and KPIs with a focus on high-risk items. All the Group's manufacturing facilities are reviewed on a four-year rolling cycle. In 2018 Morgan brought its EHS auditing in house to drive an improved focus on safety culture as well as compliance and risk management (see pags 18 to 21). The new audit packages are still being refreshed and revised and have been run as pilots at seven sites, four in Europe and three in the US.

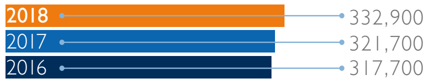
CO_2[1] intensity due to energy usage[2]

Tonnes CO_2/£m revenue[3]



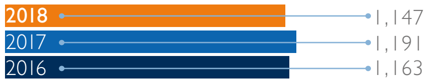
CO_2 due to energy usage[2]

Tonnes[3]



Energy intensity[4]

MWh/£m revenue[3]



Energy use[4]

GWh[3]

1. CO_2e. Carbon Dioxide Equivalent – the amount of carbon dioxide or the amount of non-CO_2 greenhouse gas with the equivalent global warming potential.
2. Scope 1 CO_2e emissions from fossil fuel usage and Scope 2 CO_2 emissions using market-based methodology and country-specific electricity factors as CO_2e factors are not consistently available for electricity use in all countries.
3. Calculated on a constant-currency* revenue basis, updated to reflect clarifications and changes in reporting methodology to ensure year-on-year consistency.
4. Energy from all sources.

EHS Policy effectiveness

The Group monitors the effectiveness of its EHS Policy through its internal EHS audit programme and reviewing its performance against a series of Group-wide KPIs.

The charts on pages 36 to 38 represent the Group's EHS performance, covering all production sites during the year.

The Group also participates in external initiatives that help to benchmark the effectiveness of and progress against its EHS Policy e.g. The Carbon Disclosure Project (CDP) in respect of the Group's climate-change-related strategies, risks, management and performance. In 2018, Morgan achieved a score of B for the second year.

The Group has also made filings in respect of the Group's UK facilities under the UK Government's Carbon Reduction Commitment (Energy Efficiency) Scheme.

Environmental performance

The Group is committed to protecting the environment. Morgan includes environmental impact in its business decisions, promotes efficiency programmes and seeks to minimise the environmental impact of its operations and protect the environment of the sites and communities where we operate and maximise the positive environmental benefits of its products.

The Group monitors the impact of its operations on the environment as measured by its Scope 1 and 2 CO_2e emissions, its energy, water and waste usage and relative intensity per £million of revenue, plus the proportion of total waste which is recycled.

Morgan sets Group-wide intensity and recycling targets for improvement in environmental performance, whilst each production site sets specific local targets which are reviewed as part of the annual budget process to ensure they are aligned with and contribute to the Group's targets.

Throughout 2018, the Group undertook a series of projects and environmental programmes focused on those sites identified as having the greatest environmental impact. These are subject to regular review and follow-up by the Executive Committee to ensure key opportunities and risks are addressed. In addition, local programmes covering topics such as energy and waste awareness help to enhance business and environmental performance and competitiveness.

The Group achieved its targets to reduce energy and water intensity in the year. However the waste intensity target was not met, whilst the percentage of waste recycled was maintained at 2017 levels.

In absolute terms, the 2018 CO_2e emissions from energy use was 332,900 tonnes, an increase from previous years. Based on organic revenue at constant-currency* CO_2e intensity decreased by 3.3% compared to prior year. Energy intensity in 2018 decreased by 3.7% compared to the prior year. Absolute energy use in 2018 was up by 3%.

The Group continues to work on a number of production improvement projects which include energy-efficiency programmes, such as investment in new technology to reduce the energy involved in the manufacture of extruded carbon products in Europe and China, and a kiln heat recovery project in China.

Such projects are aimed at driving year-on-year performance improvement in energy and CO_2e intensity.

Morgan did not achieve its waste intensity reduction target for the year. In 2018 total waste reported was 46,600 tonnes, an increase of 3.1% compared to 2017. However, waste intensity reduced by 3.6% compared to 2017.

The proportion of total waste which was recycled in 2018 was 56%, maintaining 2017 performance against a back drop of challenging waste recycling markets, following a 24.9% improvement from 2016 to 2017.

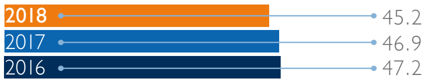
Absolute water use in 2018 was 2.17 million m^3, a reduction of 6.4% compared to 2017 (and 10.9% compared to 2016). Water use intensity reduced by 12.4% compared with 2017. A significant part of the improvement was from water conservation programmes and investment within our North America facilities.

2019 environmental performance priorities

- Continue to develop and track environmental improvement programmes that focus on sites that have the biggest environmental impact, whilst maintaining underlying improvement targets at all sites.
- Develop the benchmarking of sites with similar production technologies to encourage implementation of best practice and improvement plans.
- Focus on robust monitoring and validation of reported metrics to drive ownership and delivery of environmental targets at site, business and Divisional levels. Review and develop opportunities to increase the use of renewable energy.
- Through external ISO standards, external and internal audit programmes drive the development of robust and effective management systems to manage environmental aspects and impacts.

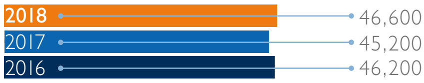
Waste intensity[1]

Tonnes waste/£m revenue[3]



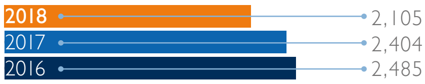
Waste[1]

Tonnes[3]



Water intensity[2]

m^3/£m revenue[3]



Water use[2]

million m^2

1. Hazardous and non-hazardous waste, including recycled material.
2. Water from all sources, including process, irrigation and sanitary use.
3. Calculated on a constant-currency* basis, updated to reflect clarifications and changes in reporting methodology and disposals to ensure year-on-year consistency.

Corporate responsibility continued

Health and safety performance

With the long-term aim of an injury-free workplace, Morgan is committed to health and safety conducting all our activities in a manner that achieves high standards of health and safety for all employees and stakeholders. The Group's long-term objective is 'zero harm'. We aim to deliver year-on-year improvements in performance as we progress towards this objective.

In 2018, the Group's accident prevention and training programmes were supported and re-focused through the introduction of the new safety improvement plan. The focus was the provision of a sustainable approach to reducing accident occurrences by reinvigorating and strengthening behavioural safety initiatives and training as part of the 'thinkSAFE' programme.

The Group's total accident frequency per 100,000 working hours was 2.98, a reduction of 13% on 2017.

The Group's Lost-time accident rate was 0.22, (2017: 0.38; 2016: 0.26).

Reported Lost-time from accidents and work-related illnesses as a percentage of working time decreased to 0.06 in 2018 (2017: 0.13; 2016: 0.06). The number of working days lost during 2018 was 1,387 (2017: 3,025; 2016: 1,417).

The charts on page 38 represent the Group's health and safety performance, covering all production sites during the year.

2019 health and safety priorities

Continue to implement the new safety improvement plan and strategy, in particular:

» Consistency

Drive greater consistency across the Group in safety standards, processes and communications through a 'thinkSAFE' refresh including more consistent presentation of information in safety corners, standard Group-wide briefings at safety corners, improved signage and messaging, further training and reengagement of 'thinkSAFE' champions.

» Compliance

Review and update the Group EHS framework to address differing site application, relevant to size and risk factors, be more effective and provide a more focused set of requirements. Rollout of an audit programme against the new standard.

» Clarity

Provide better data and accountability through the use of new data capture and tracking systems. Review and update the leading and lagging EHS metrics for the Group and specify and implement an improved data capture and analysis tool.

» Communications

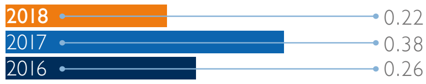
A range of changes to communications including improving the Group-wide quarterly briefing materials, establishing quarterly and monthly reviews and calls with EHS practitioners, build on the effectiveness of the newly launched safety alert process, so that serious incidents and near misses are communicated, and lessons learned are actioned Group-wide.

» Competency

Review and refresh the EHS and 'thinkSAFE' capabilities, skills and competence of all employees in the Group, and review and change reporting structures as appropriate.

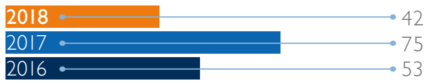
Lost-time accident frequency[1,3]

LTAs/100k hours worked[1]



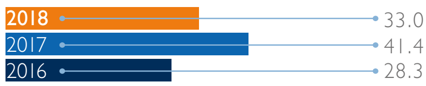
Lost-time accidents[1,3]

Number of LTAs



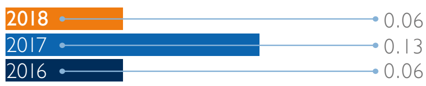
Lost-time per LTA[1,2,3]

Days per LTA[2]



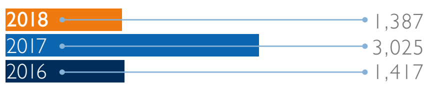
Health and safety lost-time[1,3]

% of working time



Health and safety-related lost-time[1,3]

Days lost due to LTAs



1. A Lost-time accident (LTA) is defined as an accident or work-related illness which results in one or more days' Lost-time.
2. Total-time lost from health and safety in the year divided by the number of LTAs reported in the year.
3. Calculated to update for clarifications and changes in reporting methodology and disposals to ensure year-on-year consistency.

Greenhouse gas emissions

Under the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 (the Regulations) the Group is required to report its annual greenhouse gas (GHG) emissions in tonnes of carbon dioxide equivalent (CO_2e) in its Directors' Report.

Morgan has published information on its emissions from the combustion of fossil fuels and the electricity purchased by the Company for its own use in its annual EHS Report since 2004 and in its Annual Report since 2005. The Group has participated in the Carbon Disclosure Project (CDP) since 2006 and in 2018 achieved a score of B.

The Regulations require the Group to disclose its emissions from the combustion of biomass, as a result of process and fugitive emissions which are in addition to the emissions from energy use reported on page 36 of this Annual Report.

In the table below CO_2e is a standard unit for measuring the amount of CO_2 and the amount of non-CO_2 GHG with the equivalent global warming potential. Data is rounded to the nearest 100 tonnes of CO_2e.

As required under the Regulations, the Report includes the material emission sources from the operations and activities covered by the Group's financial statements. As noted, the Report excludes emissions from Company owned and leased vehicles and emissions relating to steam supplied by third parties to two sites in China and one in Europe, which are in total estimated to account for less than 1% of total emissions. The Directors consider that these sources of emissions are not material to the total of the Group's emissions.

The Group's reporting methodology is based on the internationally-recognised Greenhouse Gas Protocol. It uses emission factors for standard grid electricity by country and year from the International Energy Agency together with other factors published by the UK Department for Environment, Food and Rural Affairs to calculate the CO_2e emissions included in this Report.

	2018 Tonnes CO_2e	2017 Tonnes CO_2e
Emissions from combustion of fuels and operation of facilities[1]		
Combustion of fossil fuels	**130,600**	128,600
Operation of facilities, including process emissions[2]	**33,200**	34,700
Electricity, heat, steam and cooling purchased for own consumption[3]		
Purchased electricity[2]	**202,200**	193,100
Intensity measurement[4]		
Tonnes CO_2e from fossil fuels and purchased electricity per £ million revenue	**323**	334
Tonnes GHG per £ million revenue	**355**	370

CO_2e is the amount of CO_2 and the amount of non-CO_2 greenhouse gases with the equivalent global warming potential.

Data is rounded to the nearest 100 tonnes of CO_2e.

1. Excludes emissions from company-owned and leased vehicles and leased vehicles.
2. Calculated using the market- based method with electricity from renewable sources at zero tonnes CO_2e per kWh. Emissions increase by 2,469 tonnes CO_2e at grid average rates using the location based method (2017: 1,816).
3. Excludes steam supplied to two sites in China and one in Europe.
4. Constant-currency* basis.

Corporate responsibility continued

Our people

Recruiting and retaining the best people from the widest possible talent pool is a priority.

We value our employees and the contribution they make, and we are committed to creating an inclusive culture where everyone can fulfil their potential. This is essential if we are to attract and retain talented people, and drive creativity and innovation to solve our customers' demanding materials challenges.

Our approach

Our Company strategy and execution priorities put people at the centre of what we do. Our approach of building and nurturing our talent has benefited from increased focus over the past two years and we are now moving to an embedding phase.

People policies

We support the UN's Declaration of Human Rights and our Human Rights Policy commits us to protect the rights of everyone who works for us and all those who have dealings with us. The principles of the Policy cover child labour, forced labour, health and safety, freedom of association, discrimination, discipline, working hours and compensation. The Policy is published on our website.

We do not unfairly discriminate and we respect human rights. Our Employee Policies are set locally to comply with local law within the overall Group framework. The ethics hotline enables employees who are aware of, or suspect, issues under our Human Rights Policy to report these confidentially.

Diversity and inclusion

We promote equal opportunities for all employees and job applicants and do not unlawfully discriminate on the grounds of gender, pregnancy/maternity leave, marriage/civil partnership status, gender reassignment, race, disability, sexual orientation, age, religion or belief.

We make reasonable adjustments to accommodate any employee who may have a disability within the meaning of all global equality legislation and where the Company is aware of such disability.

The UK Government has introduced gender pay gap reporting regulations for companies with more than 250 employees. In 2018, the average gender pay gap for our UK workforce was 18.6%, compared to the 2017 gender pay gap of 24.7%.

Our gender pay gap exists because a greater proportion of our senior leadership is male. We continue to work hard to increase the number of women we employ, develop and promote to improve our gender balance and become a more diverse organisation. Part of the reduction in the gender pay gap between 2018 and 2017 is because some of our senior male leaders have moved to a different legal entity that is not in the scope of the reporting requirements.

We are determined to bridge the historical gender gap in our industry by encouraging more women to join us and by promoting development so that we ultimately increase the number of women in senior roles.

Identifying and recruiting talent

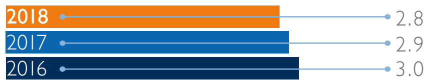
We need to recruit a diverse range of professionals to help solve our customers' challenges, including material scientists, applications engineers, functional specialists and sales people. We look to draw people from a wide range of backgrounds and cultures.

Our increased presence on external websites has grown (69% growth) the number of individuals taking an interest in Morgan. This provides a wider pool of talent from which to strengthen our teams.

Within the technology function, an assessment of capability has provided role clarity and allowed us to align individuals to roles where they can use their strengths to add greater value.

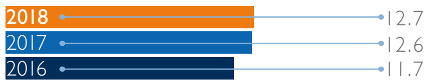
Total lost-time

% of working time



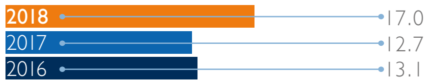
Employee turnover

% per year



Training

Hours per employee



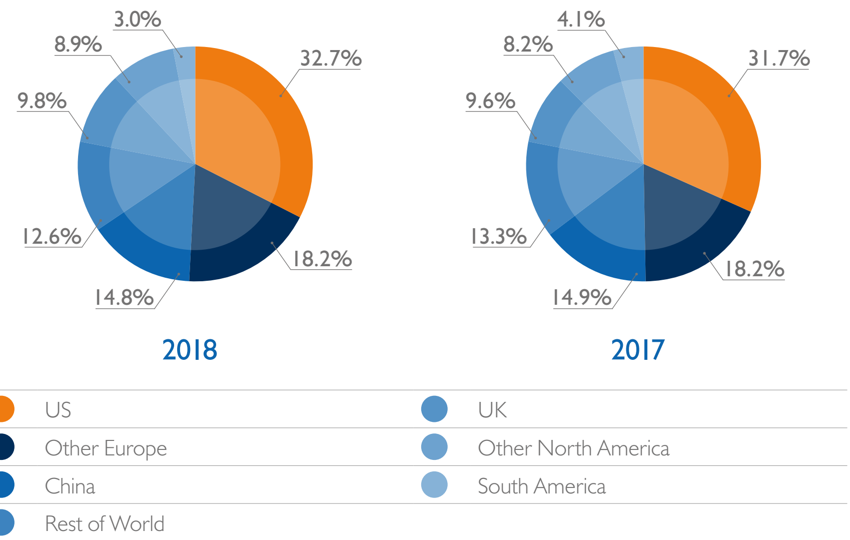
Reward

We recognise the accomplishments of our people individually and as teams, and make awards to acknowledge achievement, loyalty, and innovation. For senior management, awards are also linked to business performance.

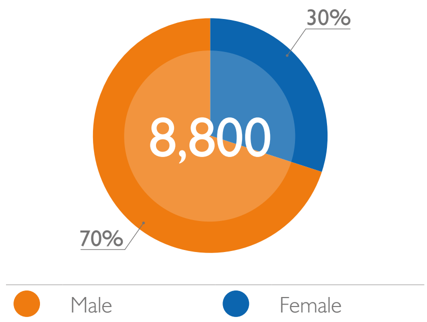
The principle of pay for performance underpins our compensation approach and we set compensation levels using external benchmarking and relevant commercial considerations (that are both competitive in the countries in which they operate and affordable). We offer short-term performance incentives globally to managers, and technical and functional experts.

The Executive Committee and senior management also have long-term incentives tied to business performance. At manufacturing plant level, most sites offer incentives to their workforce that result in payments based on meeting locally-set performance targets. We regularly review bonus arrangements and benefits to ensure they encourage and reward commercial and personal performance.

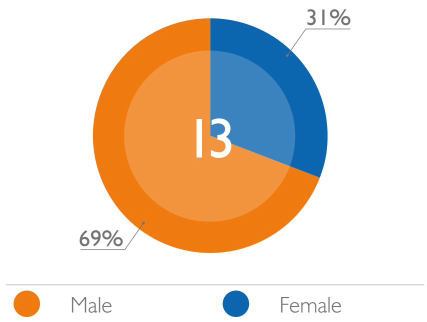
Geographical spread



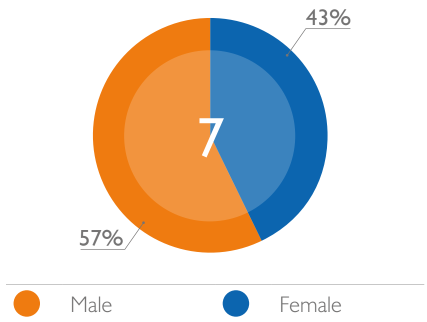
Total workforce



Senior managers



Directors



Developing our people

We want every employee to perform at their best, reach their full potential and feel rewarded for what they do.

In 2018, our top 400 leaders participated in our globally consistent performance management process measuring both what is achieved and how it is achieved, through the assessment against our leadership behaviours. This sets clear expectations for this population, aimed at driving a culture of performance feedback and development coaching to improve performance in role. In 2019, we plan to expand this approach to a wider population in management roles.

One crucial element of these expectations is our commitment and approach to keeping our employees safe at work and working ethically. We have refreshed 'thinkSAFE' and are placing an increased focus on safety awareness with new training planned for 2019. We have relaunched our ethics training with a regular quarterly schedule to maintain a focus for all employees. Having aligned individuals in sales roles to our future requirements in 2017, in 2018 we developed and started implementation of a comprehensive suite of training materials to raise the capability of our sales teams. This implementation will continue through 2019.

Development of teams is just as important as ensuring individuals have the capability to perform in their roles. Further investment is planned for our global business unit management teams now that those teams have strong individuals in role.

We also identify and develop individuals with the potential to take on bigger or more complex roles in the future. To date we have focused on succession for our senior leadership population, identifying successors with the potential to take on senior leadership roles in the near term as well as those individuals with potential earlier in their career. In 2018 we reviewed our existing leadership programmes to drive greater global consistency and alignment to our future capability needs and leadership behaviours. These programmes will be launched in 2019 and will develop individuals' performance in their current roles as well as increasing their readiness for future roles. We have also continued to support leadership and management development through promotion of our global e-learning platform, expanded implementation of our supervisor training, and our graduate development programme.

Engagement and communications

Effective engagement enables our employees to contribute to improving Morgan's business performance. We have introduced a new global employee engagement survey to help us gauge our success in creating an environment in which everyone can fulfil their potential.

We keep employees informed about what is happening across the business, including Company results, major business decisions, and other matters which affect them. We are using a variety of media for this purpose, including our intranet, email, newsletters, peer-to-peer social media, and also local team briefings – where we also seek to listen to employees' views and opinions. We seek to maintain constructive relationships with all trade unions and labour unions across the geographies in which we work. In Europe, we also hold an annual employee forum, inviting site representatives to meet with senior leaders and engage in discussion on important topics.

The Strategic Report, as set out on pages 4 to 41, has been approved by the Board.

On behalf of the Board.

Stephanie Mackie
Company Secretary

26 February 2019

Corporate governance

Chairman's letter to shareholders

'The Board has been strengthened and our corporate governance framework is keeping pace with the new governance requirements as we focus on the implementation of our strategy.'

Dear Shareholder

After six years as our Chairman, Andrew Shilston retired from the Board on 31 December 2018. Using his wealth of experience, Andrew renewed the Board during his tenure, driving Board development, and supported executive management's pursuit of the execution priorities. I am excited and privileged to continue in Andrew's footsteps to enhance the breadth and depth of skills, knowledge and diversity of the Board.

I am pleased to report to you on the Board's development and activities, including some of the governance matters reviewed and considered, at the Board meetings that took place during 2018:

- We continue to focus on safety, environment and health matters. At every Board meeting there is an update on this key area, either by the Chief Executive Officer, or with specific updates on safety and environmental issues, by the Director of EHS.
- With active engagement from the Board, the Committee approved the introduction and roll-out of the Morgan Code of Conduct, setting the tone from the top.
- Reviewed and approved the 2018 Modern Slavery Act Transparency statement, a copy of which is available on the Company's website.
- Douglas Caster's appointment as Chairman created a vacancy on the Board for a new Non-executive Director. The Nomination Committee in conjunction with the Executive Directors decided it could strengthen the Board by recruiting a new Director with direct specific experience of operating in Asian markets. Spencer Stuart were engaged to help with the search process.
- The Board meeting in September 2018 was convened at the Morgan site in Waldkraiburg, Germany and incorporated a demonstration of the facility and a presentation, which provided an understanding of the market, the technology and the processes. It also gave the Board an opportunity to meet local management in a less formal environment. A similar visit was arranged for the November 2018 Board meeting at the Technical Ceramics business in Corby, UK.
- Following briefings from the Company Secretary and the Company's corporate lawyers, the Board discussed aspects of corporate governance and the corporate environment, including future requirements and how best to embrace the essence of these within Morgan.
- The Board discussed the feedback from the independent, externally facilitated 2018 Board performance review, conducted by Jack Telfer of Auxesis Consulting. The annual performance reviews continue to give the Board insight into potential areas for development.

It is evident from the results provided in this report that the strategies formulated of recent times are working. In 2019, we will continue to implement those strategies within the culture embodied in the Morgan Code and wider corporate governance.

Douglas Caster CBE FIET
Chairman

Board of Directors

Douglas Caster
Non-executive Chairman

Pete Raby
Chief Executive Officer

Peter Turner
Chief Financial Officer

Douglas Caster CBE FIET
Non-executive Chairman

Appointed: Non-executive Director in February 2014. Non-executive Chairman and Nomination Committee Chairman on 1 January 2019.

Skills and contribution: Douglas is a highly experienced electronic systems engineer with a strong track record of managing and driving growth within electronics businesses. He is an experienced Chairman and Chief Executive having performed these roles at Ultra Electronics Holdings plc.

Career and experience: Douglas began his career with the Racal Electronics Group in 1975, before moving to Schlumberger in 1986 and then to Dowty as Engineering Director of Sonar & Communication Systems in 1988. In 1992, he became Managing Director of that business and, after participating in the management buy-out that formed Ultra Electronics, joined the Board in October 1993. In April 2000, he became Managing Director of Ultra's Information & Power Systems division. In April 2004 he was appointed Chief Operating Officer and became Chief Executive in April 2005. He was appointed Deputy Chairman in April 2010 and became Chairman of Ultra in April 2011 until 28 January 2019 when he retired from Ultra as Chairman. Douglas was Morgan Advanced Materials plc's Senior Independent Director from January 2015 until December 2017. He was appointed to the role of Chairman in January 2019 and stepped down as Chair of the Remuneration Committee at the same time.

Additional appointments:
Chairman of Metalysis Limited.

Committees: N R

Pete Raby
Chief Executive Officer

Appointed: August 2015.

Skills and contribution: Pete has a strong technical background and extensive prior experience in planning and executing business strategy across global technology and manufacturing operations.

Career and experience: Pete joined Morgan Advanced Materials in August 2015 as Chief Executive Officer. Before joining Morgan Advanced Materials, Pete was President of the Communications and Connectivity sector of Cobham plc. Pete demonstrated strong leadership across a range of senior strategy, technology and operational positions at Cobham over a nine-year period. Prior to Cobham, Pete was a partner at McKinsey & Company in London, specialising in strategy and operations in the aerospace, defence and power & gas sectors. He has a PhD in satellite navigation and an M. Eng. from the Department of Electronic and Electrical Engineering at the University of Leeds.

Additional appointments: None.

Committees: None.

Peter Turner
Chief Financial Officer

Appointed: April 2016.

Skills and contribution: Peter has significant financial experience combined with a strong track record of driving improved business performance in multiple large-scale and complex organisations.

Career and experience: Peter joined Morgan Advanced Materials in April 2016 as Chief Financial Officer. Before joining Morgan Advanced Materials, Peter was Finance Director at Smiths Group plc from 2010 to 2015. During this time he was responsible for driving restructuring programmes across the Group to enhance operating margins with a strong focus on improving operating cash flow. Prior to Smiths, Peter was Finance Director from 2007 to 2009 at Venture Production plc, before it was acquired by Centrica plc in 2009. From 1995 to 2006, Peter held several senior positions at The BOC Group plc, including Finance Director of the Industrial & Special Products division. Peter started his career as an auditor at Price Waterhouse. He holds a degree in chemistry from Oxford University.

Additional appointments: None.

Committees: None.

Jane Aikman
Non-executive Director

Helen Bunch
Non-executive Director

Laurence Mulliez
Senior Independent Director

Jane Aikman
Non-executive Director

Appointed: Non-executive Director and Audit Committee Chair in July 2017.

Skills and contribution: Jane brings to the Board significant financial experience and knowledge of growing manufacturing and technology businesses. She also brings to the Board a valuable external perspective as a serving executive.

Career and experience: Since July 2018, Jane has been Chief Financial Officer of Arqiva Group Limited, a communications infrastructure company, and prior to this she was the Chief Financial Officer of KCOM Group plc, a listed communications services and IT solutions provider. She was Chief Financial Officer and Chief Operating Officer of Phoenix IT Group plc until its acquisition by Daisy Group in 2015. Jane has also held Chief Financial Officer positions at Infinis plc, Wilson Bowden plc and Pressac plc and a senior finance position at Asia Pulp and Paper in south-east Asia. Jane was a non-executive Director of Halma plc from 2007 and chaired its audit committee from 2009 until her departure in July 2016. Jane holds a civil engineering degree and qualified as a Chartered Accountant with Ernst & Young.

Additional appointments: Chief Financial Officer of Arqiva Group Limited

Committees: A N R

Helen Bunch
Non-executive Director

Appointed: Non-executive Director in February 2016. Remuneration Committee Chair on 1 January 2019.

Skills and contribution: Helen has significant experience of driving business performance and building businesses in new markets. Helen also brings to the Board a valuable perspective as a serving executive.

Career and experience: At the start of her career, Helen spent 17 years working in global businesses serving a wide variety of industries from automotive to household products: 11 years with ICI and the remainder with a successor company, Lucite International Ltd. In 2006, Helen joined Wates Group, the privately-owned construction and property services company, as Group Strategy Director and became Managing Director of Wates Retail Limited in January 2011. Since 2015, Helen has been Managing Director of Wates Smartspace Limited, the enlarged business following a merger with another Wates company and the acquisition of a facilities management business.

Additional appointments: Managing Director of Wates Smartspace Limited

Committees: A N R

Laurence Mulliez
Senior Independent Director

Appointed: Non-executive Director in May 2016. Senior Independent Director in December 2017.

Skills and contribution: Laurence has significant experience in growing, simplifying and unifying complex international and industrial manufacturing businesses.

Career and experience: Laurence started with Banque Nationale de Paris in 1988 followed by M&M Mars Inc. in 1992 and then Amoco Chemical Inc. in 1993, which was acquired by BP p.l.c. in 1998. She spent a further 11 years at BP in a variety of roles including Chief Executive of Castrol Industrial Lubricants and Services. After BP, Laurence became Chief Executive of independent power producer Eoxis UK Limited from 2010 to 2013. Through a number of non-executive positions both in the UK and internationally, Laurence also brings valuable knowledge of the energy, steel and infrastructure industries and insight into some of Morgan's key markets.

Additional appointments: Chairman of Voltalia S.A., Chairman of Globeleq Ltd, non-executive Director of Aperam S.A., and member of the supervisory board of SBM Offshore N.V.

Committees: A N R

Committees

- ■ Committee Chairman
- A Audit
- N Nomination
- R Remuneration

Corporate governance

Statement of compliance with the April 2016 UK Corporate Governance Code

The main principles of the UK Corporate Governance Code focus on Leadership, Effectiveness, Accountability, Remuneration and Relations with Shareholders. This statement describes how the Company has applied the main principles of the Code. It should be read in conjunction with the Strategic Report on pages 4 to 41 and the other sections of the Directors' Report on pages 42 to 78.

Other than in respect of the areas noted below, throughout the year ended 31 December 2018 the Company has complied with the relevant provisions of the April 2016 edition of the UK Corporate Governance Code (the Code) which is applicable to the 2018 financial year:

- Provision A.4.2 – The non-executive Directors did not meet during the year to consider the performance of Andrew Shilston as Chairman, as he retired from the Board on 31 December 2018.
- Provision B.2.4 – Neither an external search consultancy nor open advertising were used in the appointment of Douglas Caster as Chairman. In this regard, the Board's view was that having recently appointed a new CEO and CFO that have performed a deep and thorough strategic review of the Company, their focus was to ensure continuity of strategy of the Company. While a new Chairman could invest in that strategy, an appointment from within ensured the smooth continuation of the adopted strategic approach.

The Code, together with the July 2018 edition of the Code, which will apply to the 2019 Annual Report, is published by the Financial Reporting Council (FRC) and is available on its website **www.frc.org.uk**.

Leadership

The role of the Board

The Board is collectively responsible to the Company's shareholders for the long-term success of the Company. The Board is satisfied it has met the Code's requirements for its effective operation. The Board has continued to monitor progress against the key execution priorities set in 2016, with specific agenda items at Board meetings. The Board ensures that there is a robust framework of prudent and effective controls, which enables risks to be assessed and managed. The Board sets the Company's standards, which are contained in the Morgan Code, and which are referred to on pages 34 to 41 of the Corporate responsibility section of this Report.

Matters reserved

There is a schedule of matters specifically reserved for the Board, which includes: setting the Group's strategic aims and objectives; approving significant contractual commitments and capital expenditure (including the acquisition or disposal of companies/businesses, and treasury and intellectual property transactions); reviewing the effectiveness of risk management and internal controls processes; and corporate governance matters. The schedule of matters reserved for the Board is available to view on the Company's website. The Board also regularly reviews the limitations of authority within the Group, to ensure they remain appropriate. The last review and update of the Limits of Authority Policy took place at the February 2018 Board meeting.

Delegation of authority

The Board is aided by three principal Committees, namely the Audit, Nomination and Remuneration Committees, each of which deals with matters the Board considers suitable for delegation, as defined within the respective terms of reference. The memberships, roles and activities of the principal Committees are described in their respective reports: the Report of the Audit Committee is set out on pages 51 to 55; the Report of the Nomination Committee is set out on pages 56 and 57; and the Report of the Remuneration Committee is set out on pages 58 to 75. The full terms of reference of these principal Committees are available on the Company's website.

The Board delegates the day-to-day management of the Group and operational matters to the Chief Executive Officer and the Chief Financial Officer. The two executive Directors together with the Group Human Resources Director, the Group General Counsel, the Group IT Director, and the Divisional or global business unit Presidents, form the Executive Committee.

The Board has delegated authority for certain other specific matters including approvals to a General Purposes Committee at which a non-executive Director must be present. The General Purposes Committee meets as required.

The Disclosure Committee met on an ad-hoc basis during the year to assess whether information which directly concerns the Group is inside information, (as defined by the Market Abuse Regulation, which came into force in 2016), and to discharge other responsibilities relating to the control and disclosure of inside information. The membership of the Disclosure Committee comprises all the Directors and the Company Secretary.

Board meetings

In 2018, the Board met formally on eight occasions. A summary of the matters addressed at these meetings is set out below.

During the year, there were several dedicated agenda items on Group strategy to monitor performance and delivery against the agreed execution priorities. The Board received presentations on the strategic plan for each of the Divisions / global business units and separate reviews on talent, technology, sales effectiveness and safety.

Attendance at meetings

The attendance of each Director at Board, and Audit, Remuneration and Nomination Committee meetings (based on membership of those Committees, rather than attendance as an invitee) is set out in the table below.

Director	Board		Audit Committee		Remuneration Committee		Nomination Committee	
	Eligible to attend	Attended	Eligible to attend	Attended	Eligible to attend	Attended	Eligible to attend	Attended
Andrew Shilston[1, 2]	8	8	–	–	4	4	4	2[3]
Pete Raby	8	8	–	–	–	–	–	–
Peter Turner	8	8	–	–	–	–	–	–
Jane Aikman[1]	8	8	4	4	4	4	4	4
Helen Bunch[1]	8	8	4	4	4	4	4	4
Douglas Caster[1]	8	8	4	4	4	4	4	3[3]
Laurence Mulliez[1]	8	8	4	4	4	4	4	4

1. Indicates a Director deemed by the Board to be independent or, in the case of the Chairman, independent on appointment.
2. Retired from the Board on 31 December 2018.
3. Andrew Shilston as retiring Chairman and Douglas Caster as an interested party were not eligible to attend the Nomination Committee meeting held in July 2018, which discussed the Chairman's succession. Andrew Shilston was not present during the November 2018 meeting, which specifically discussed the selection of a new non-executive Director to join the Board in 2019 (when Andrew Shilston would have stepped down from the Board). The two Nomination Committee meetings at which Andrew Shilston was not present, were chaired by Laurence Mulliez, the Senior Independent Director.

Should a Director have concerns about the running of the Company or a proposed action, which are not resolved, their concerns would be recorded in the Board minutes. An appropriate Directors' and Officers' liability insurance policy is in place.

Summary of the Board's work during the year:

- Monitoring of environmental, health and safety performance and improvement plan.
- Continued focus on the delivery of the strategic execution priorities, which included presentations on the strategic plans for each of the Divisions and global business units.
- A review of the risk appetite and risk management strategy including potential level of exposure for all principal risks.
- Approval of major capital expenditure and an update on technology projects.
- Review and approval of the Group's half-year results, trading statements and preliminary announcement of final results.
- Approval of the 2019 budget.
- Review of the Group's treasury arrangements including approval of the refinancing of the Group's Revolving Credit Facility and the issue of US Dollar and Euro Senior Notes.
- Approval of the appointment of Douglas Caster as Chairman.
- Review of outcomes of the 2018 Board performance evaluation and agreement on actions for further improvement, as well as monitoring of progress against actions arising from the 2017 performance review.
- Received an update on the talent strategy and potential future leadership capability, which is a Group execution priority, looking at how best to train and build the optimum talent pool for the future development of the business.
- Received a report on the Group's IT strategy and performance from the newly appointed Chief Information Officer, focusing on four key elements to align IT requirements with the Company's ongoing strategy.
- Approval of matters in relation to pensions valuations, funding arrangements and the pensions strategy, in the UK and US, including the closure of the Morgan Pension Scheme in the UK to the future accrual of benefits from April 2018 and replacement pension arrangements (see note 22 for more information).
- Considered a report on the potential impact of the business of US sanctions against Iran and Russia.
- Approval of the Morgan Code.
- Approval of an action plan to promote diversity across the Group and build a sustainable inclusive culture, commencing with gender diversity.
- Approval of the planned divestment of the Composites and Defence Systems business, completed in November 2018. Further information on the divestment is available on page 104.
- Considered the impact the July 2018 edition of the Corporate Governance Code would have on the Group in 2019.

Corporate governance continued

Chairman and Chief Executive Officer

The roles of Chairman and Chief Executive Officer are separate, clearly established, set out in writing and agreed by the Board.

The Chairman is responsible for the leadership and effectiveness of the Board and the individual Directors, shaping Boardroom culture, ensuring the Board has effective decision-making processes and applies sufficient challenge to major proposals. The role includes setting the Board's agenda and ensuring sufficient time is available for all agenda items, particularly regarding strategic issues; promoting a culture of open debate and constructive challenge which results in sound decision-making; encouraging all Directors' effective contributions drawing on their skills, experience and knowledge; and ensuring constructive relationships between executive and non-executive Directors. Following the announcement in July 2018 that Douglas Caster would succeed Andrew Shilston as Chairman, Douglas and Andrew have worked closely together to ensure a smooth transition and handover of the role. Andrew Shilston, who was Chairman up until 31 December 2018, met the independence criteria set out in the Code on appointment as Chairman on 1 August 2012. Douglas Caster, who was appointed Chairman on 1 January 2019, was also considered independent on appointment as Chairman.

The Chief Executive Officer is responsible for the management of the Group, including the delivery of the Group's business plan, the formulation and implementation of strategy, chairing the meetings of the Executive Committee and ensuring the implementation of the Group's policies, all within the authorities delegated by the Board. The Chairman and Chief Executive Officer maintain a strong working relationship and open dialogue, which ensures coherent leadership of the Group.

Non-executive Directors

Non-executive Directors are appointed for a term of three years, subject to annual re-election in accordance with the Code. The independence, commitment and effectiveness of any non-executive Director who has served for two three-year terms is subject to rigorous review prior to reappointment for a final three-year term. Further information on the non-executive Directors can be found in their biographies on pages 44 and 45.

The Chairman and the non-executive Directors met without the executive Directors present on one occasion during the year. In addition, the Senior Independent Director and the other non-executive Directors met without the Chairman present.

Effectiveness

Board balance and independence

During 2018, the Board continued to comprise five non-executive Directors (including the Chairman) and two executive Directors. This is considered to be the appropriate number of members for the Board, given the scale of the Group's operations at this time. Owing to Andrew Shilston stepping down as Chairman on 31 December 2018 and being replaced by Douglas Caster, this has left a vacancy on the Board, which has meant that since 1 January 2019 there are four non-executive Directors (including the Chairman). Further information on the ongoing recruitment process for a new non-executive Director is included in the Report of the Nomination Committee on pages 56 and 57. Biographies of the Directors in post at the date of this Report, including details of their skills, career and experience and any other significant external commitments, are set out on pages 44 and 45.

The size, structure and composition of the Board were reviewed during the year, taking into account succession planning and the need to progressively refresh the membership and update the knowledge and range of skills and experience of the Board, which are regularly reviewed. The Board wishes to ensure that it maintains a good blend of views and skills as well as a cohesive and informed decision-making process. The Board comprises members with a breadth and depth of professional and sector experience, and with varied and relevant backgrounds: it has Directors with skills in strategy, finance and technology, as well as global commercial experience, and working knowledge of other Boards or executive roles.

Throughout the year, the Company complied with the requirement of the Code that at least half the Board, excluding the Chairman, should comprise non-executive Directors determined by the Board to be independent. In addition to considering the factors set out in the Code, the Board's assessment of a non-executive Director's independence and effectiveness covers their total number of commitments, and any relationships with major suppliers or with charities receiving material support from the Company.

Commitment

Prior to undertaking an additional external role or appointment, the Chairman and the non-executive Directors are asked to confirm that they will continue to have sufficient time to fulfil their commitments to the Company. From 1 January 2019, in accordance with the July 2018 edition of the Code, Directors will be asked to seek Board approval prior to accepting any additional external appointments.

Information and support

The Company Secretary, with the Chairman, is responsible for ensuring the Board has full and timely access to all appropriate information to enable it to fully discharge its duties. Board papers are generally made available electronically at least five working days prior to each meeting. Non-executive Directors also receive information and updates between formal Board meetings.

During the 2018 financial year, the quality of Board papers have been reviewed and improved, with particular focus on risk review related papers, following the recommendations arising out of the 2017 Board performance review. From 2019 onwards any submitted Board papers will also take into consideration the Directors duties under section 172 of the Companies Act 2006.

The Directors have access to the advice and services of the Company Secretary who, with the Chairman, is responsible for ensuring that Board procedures are followed, and that applicable rules and regulations are observed. A procedure is in place to enable the Directors to seek independent professional advice at the Company's expense in fulfilling their duties as Directors should the need arise.

Induction and professional development

New Directors receive a full, formal and tailored induction on joining the Board. A new Director's experience and background is taken into account in developing a tailored induction programme, which will usually include: an information pack with pertinent documents; meetings with external advisers, senior executives and functional heads; and a number of site visits. All non-executive Directors have access to management and employees at all levels and are encouraged to visit operational sites. Each year at least one Board meeting is held at an operating facility. In 2018, Board visits were made to the Technical Ceramics sites in Waldkraiburg, Germany and Corby, England.

The Chairman considers the individual training and development needs of each Director. The Company Secretary keeps the suitability of external courses under review and facilitates the continuing training and development of all Directors as necessary. Training may be provided via presentations at Board meetings to keep the Board's knowledge up-to-date. In 2018 this included a presentation on developments in the corporate environment of relevance to listed companies and on the requirements under the 2018 UK Corporate Governance Code at the November Board meeting.

Performance evaluation

As anticipated in the 2017 Annual Report, the Board conducted an externally facilitated Board performance evaluation during 2018, complying with the Code requirements to have an independent external evaluation every three years. Prior to this, the most recent externally facilitated Board evaluation took place in 2015. The next externally facilitated Board evaluation is due in 2021. An internal Board performance evaluation, led by the Chairman, which included input from the external evaluator, took place in 2016 and 2017.

The aim of the external evaluation of the Board's performance and that of its Committees and individual Directors was to identify ways to improve effectiveness.

The 2018 external evaluation was led by the Chairman and carried out by Jack Telfer of Auxesis Consulting. Jack Telfer is not involved in any other business relationship with the Company and is independent.

The process for the external evaluation of the Board and its Committees was as follows:

- All Board members completed online questionnaires.
- Auxesis Consulting reviewed Directors' responses and met with each Director individually.
- Auxesis Consulting produced a report summarising the results of the questionnaires and highlighting any significant changes from last year, discussing the finding with the Chairman initially.
- The final report was made available to the Board and the findings were presented by Jack Telfer and the Chairman at the December Board meeting.
- The Board subsequently agreed an action plan.

The Board continuously monitors its own performance to ensure that it provides the Group with the right blend of leadership and strategic oversight, enabling it to carry out its duties effectively. The Board believes that there is scope for further development and improvement to oversee the delivery of the Group's strategy and to ensure that the Board operates effectively and in a timely manner during a period of change. Proposed actions arising from the 2018 Board performance evaluation process include the following:

- Consider the skills mix on the Board, and specifically representation of Asian experience, commencing with the recruitment of an additional non-executive Director.
- Continued focus on succession planning and the development of leaders, building on the work of the two previous years, and monitoring initiatives implemented by executive management.
- Recognising the amount of organisational change within the business, provide more opportunities for interaction with the senior management team including an additional visit to facilities outside of Europe.
- Continue to review the information provided to the Board to assess performance and the Group's risk profile.
- Continue to schedule reviews of major decisions with a view to improving future decision-making.

Actions were taken during the year to implement the recommendations made following the 2017 internal Board performance review and in the case of execution of the strategic priorities and focus on business leadership, the work continues to progress.

Recommendations from the 2017 Board performance review and actions implemented during 2018

Recommendations from 2017	Action taken/progress made during 2018
Board recruitment – consideration of the mix of skills and experience required on the Board to support the priorities and challenges facing the Group.	The relevant blend of skills and experience on the Board has been considered in the selection of a new non-executive Director.
Succession planning and developing leaders – Continued focus on talent management and development, one of the Group's strategic priorities.	A number of key appointments were made in 2018 through both external hires and internal promotion to increase the talent pool and strengthen capabilities and succession potential. A range of tools have been provided to senior managers to assist them in developing teams and conducting more effective performance reviews.
Contact with senior managers – Board to spend more time with the Executive Committee and other senior managers.	Opportunities to interact with senior managers were provided during the year through various site visits including Board meetings held in Waldkraiburg, Germany and Corby, England. A number of senior managers presented at Board meetings throughout the year, which on occasions included a pre Board meeting dinner.
Assessing the risk profile of the Group.	The Group's appetite for risk was reviewed at the June Board meeting. Improved Board papers have also helped facilitate the risk review process.
Ensuring a review and assessment of major decisions.	All capital expenditure and acquisition / disposal decisions made by the Board were and will continue to be reviewed one year after implementation.
Dialogue with shareholders – improving the communication of major shareholders views to the Board.	Brokers presented shareholder views to the Board at the April meeting and will to do so annually going forward with the broker notes being shared prior to each Board meeting. The executive Directors met with a number of investors during the year and Douglas Caster had a programme of meetings with shareholders in January 2019 as part of his induction as Chairman.

Corporate governance continued

Owing to the change of Chairman at the beginning of 2019, the non-executive Directors did not meet during 2018 to evaluate Andrew Shilston's performance as Chairman as noted on page 46 of this report.

Conflicts of interest

The Board has procedures in place to address the requirements of the Companies Act 2006 concerning the duty of the Directors to avoid conflicts of interest. Accordingly, the Directors are required to:

- Disclose proposed outside commitments and to seek Board approval before accepting any additional external appointments in order to enable a prior assessment of any actual or potential conflict.
- Disclose without delay any situation which gives rise to an actual or potential conflict.

The Board reviews the outside interests of the Directors annually, including any disclosed conflicts and authorisations. Should an actual or potential conflict be identified, the Board considers whether to authorise the situation in accordance with the Company's Articles of Association and, if so, the terms of any authorisation. In the event of an actual conflict arising, the Director concerned must notify the Chairman (the Chairman would notify the Senior Independent Director) and the Director would be denied access to the relevant information and excluded from any associated debate and decision.

Following the 2018 review, it was confirmed that no potential or actual conflicts had occurred during the year under review. Neither of the current executive Directors holds any external non-executive directorships of other publicly-quoted companies.

Accountability

Financial reporting

A summary of the statement of Directors' responsibilities in respect of the Annual Report and the financial statements is set out on page 78 and the Going Concern and Viability statements are set out in the Strategic Report on page 30.

Business model and strategy

Details of the Group's business model, how it is working to generate and sustain long-term value and details of the Board's strategy for ensuring the Group meets its objectives are set out in the Strategic Report on pages 4 to 41.

Internal control

The Board has overall responsibility for establishing and maintaining a sound system of internal control to safeguard shareholders' investment and the Group's assets and for reviewing the effectiveness of this system. The system of internal control, and the role of the Audit Committee in ensuring its effectiveness, are set out in the Report of the Audit Committee on pages 51 to 55.

Relations with shareholders

Following the announcement of the Group's results and after other significant statements and presentations, investor opinion is canvassed and any feedback is made available to the Board. In addition, the Board is provided with brokers' reports and feedback from any shareholder meetings on a regular basis. On an annual basis the Company's appointed house stockbrokers also present the major shareholder's views to the Board; in 2018 this took place at the April Board meeting. The Chief Executive Officer and Chief Financial Officer met with a number of investors in 2018. Douglas Caster (then Chairman designate) met with analysts in December 2018 and attended a programme of meetings with investors in January 2019 as part of his induction as Chairman.

To help facilitate dialogue with shareholders, the Investors section of the Company's website includes details of Regulatory News Service announcements, press releases, presentations, webcasts and other relevant Company and shareholder information.

Constructive use of the Annual General Meeting

The Annual General Meeting (AGM) is usually attended by all members of the Board and by a representative of the external auditor. At the AGM held in May 2018, the Chief Executive Officer made a short business presentation. Shareholders were invited to ask questions during the meeting and had the opportunity to meet the Directors and other members of senior management before and after the formal meeting. The results of the proxy voting on all resolutions were released to the London Stock Exchange and published on the Group's website as soon as practicable after the AGM.

Information on share capital and other matters

The information about share capital required to be included in this statement can be found on pages 76 to 78 in the Other disclosures section.

Report of the Audit Committee

This Report gives an insight into the responsibilities, activities and workings of the Audit Committee and how it discharged its duties during 2018

Committee members

Jane Aikman (Chair)
Helen Bunch
Douglas Caster[1]
Laurence Mulliez

1. Stepped down from the Committee on 31 December 2018.

All members of the Audit Committee are independent non-executive Directors and Jane Aikman (Committee Chair), has the requisite financial experience and competence in accounting and auditing. In accordance with the 2016 and 2018 UK Corporate Governance Code, Douglas Caster stepped down from the Audit Committee on 31 December 2018, prior to his appointment as non-executive Chairman of the Board on 1 January 2019. Biographies of the current Committee members, including details of relevant sector experience, are set out on pages 44 and 45.

On behalf of the Board, I am pleased to present my Report of the Audit Committee for Morgan Advanced Materials plc. During the year the Committee's primary function has been to ensure the integrity of the Group's financial reporting and audit processes and the maintenance of sound internal control and risk management procedures. The Committee continues to monitor and address any changes in governance and reporting requirements, whilst responding to the ongoing challenges of ensuring consistent and robust financial controls across a global business, as it continues to fulfil its strategic priorities.

The matters below have been the key areas of focus for the Committee during 2018:

- Continued to oversee the internal audit function, including the scope, purpose and resource of the function, its programme of work and the status of actions arising from audit findings, including their relative risk and progress in resolving them. At its February 2018 meeting the Committee reviewed the effectiveness of the internal audit and agreed that there should be more focus on risk-based audits for 2018, both at Group and local entity level. During the latter part of 2018 an external review was performed of the effectiveness of the internal audit function. Further information on the process and conclusions of the review, including recommended improvements and actions to be taken, can be found on page 53.
- Recommended the draft Morgan Code for approval by the Board of Directors and monitored the activity related to its launch across the Group.
- Continued to monitor closely our risks and internal controls and received a presentation from each Division (including in December 2018, from each of the three separate business units within the Carbon and Technical Ceramics Division). The presentations were delivered by Divisional and global business unit management, as appropriate, who presented their findings to the Committee either in person or by conference call, which gave the Committee the opportunity to ask questions directly and gain further insight into the internal control environment and risk management approach of our businesses. For any issues which were raised, the Committee fully considered the cause, potential or actual impact and response by management.
- Reviewed the Group's tax strategy prior to approval by the Board, as published on the Company's website from December 2018.
- Reviewed the potential impact of IFRS 16 *Leases* and how best to manage and implement the required changes associated with IFRS 16.
- Assessed the key areas of significant judgement in relation to the 2018 financial statements which were specific adjusting items, intangible asset impairment testing, provisions and contingent liabilities and tax balances. These are set out in detail on page 53 within this Committee Report.
- Reviewed and approved the proposed external audit tender process which commenced in 2018.

This is my first full year as Committee Chair, and I am pleased to report that the Committee is continuing to work well and is fully discharging its responsibilities, whilst contributing effectively to the Group's overall governance framework.

Jane Aikman
Committee Chair

Report of the Audit Committee continued

Meetings

At the end of every meeting, members of the Committee also meet the external auditor, the Head of Internal Audit and the Director of Ethics and Compliance, without the executive Directors or other members of management present. Between meetings, the Chairman of the Audit Committee keeps in contact with the Chairman of the Board, the Chief Executive Officer, the Chief Financial Officer, the Group Financial Controller, the external auditor, the Head of Internal Audit and the Director of Ethics and Compliance as necessary.

Information and support

The Committee may request the attendance at meetings of any Director or employee as may be considered appropriate by the Committee. The Chairman of the Board, the Chief Executive Officer, the Chief Financial Officer, the Head of Internal Audit, the Group Financial Controller, the Group General Counsel and the Director of Ethics and Compliance and senior representatives of the external auditor attend meetings by invitation.

The Committee identifies and ensures that it receives the information it needs to enable it to fulfil its responsibilities. Training and development information is made available to the members of the Audit Committee as appropriate.

Audit Committee terms of reference

The Audit Committee has a clear set of responsibilities and these are set out in its terms of reference and agreed by the Board. The terms of reference were reviewed and approved without changes during the year. The terms of reference remain wholly compliant with the April 2016 version of the UK Corporate Governance Code, which applied to the 2018 financial year and are consistent with the FRC's Guidance on Audit Committees, also published in April 2016, as well as with the Disclosure Guidance and Transparency Rules. The Committee's terms of reference are available on the Company's website and the responsibilities of the Audit Committee are summarised below:

- Monitoring and making appropriate recommendations to the Board with regard to the financial reporting process, the integrity of the financial statements of the Group, including any formal announcements relating to the Group's financial performance.
- Reviewing accounting policies used by the Group and their consistent application across the Group.
- Reviewing whether the Group has followed appropriate accounting standards and made appropriate estimates and judgements, taking into account the views of the external auditor.
- Appropriateness to adopt the going concern basis of accounting in preparing financial statements.
- Whether there is a reasonable expectation, taking the Group's position and principal risks into account, that the Group will be able to continue in operation and meet its liabilities as they fall due over the period covered by that assessment.
- Reviewing the content of the Annual Report and Accounts and advising the Board on whether, taken as a whole, it is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy.
- Reviewing and monitoring the Group's whistleblowing arrangements and systems and controls for the prevention of bribery.
- Considering the effectiveness of the Group's internal audit function, and remit of the function.
- Making recommendations to the Board, for it to put to shareholders for their approval at the AGM, in relation to the appointment, reappointment and removal of the external auditor and the approval of the remuneration and terms of engagement of the external auditor.
- Subject to the current transitional provisions, ensuring that the audit services contract is put out to competitive tender every 10 years, supervising any such process and overseeing the selection process for a new auditor.
- Reviewing the effectiveness of the process for the statutory audit (taking into consideration relevant UK professional and regulatory requirements).
- Reviewing and monitoring the external auditor's independence and objectivity.
- Oversight of the engagement of the external auditor to supply non-audit services.

The Committee has the authority, in accordance with its terms of reference, to investigate any matters and may obtain external advice at the cost of the Company, but did not seek or require any such advice during the year.

Areas of focus in 2018

During 2018, in addition to the areas of work outlined in the Chairman's letter above, the Committee:

- Received a report from KPMG on the conclusions of the FRC's review of the Company's 2017 audit and noted KPMG's proposed actions.
- Reviewed the Group's half-year and full-year statements prior to Board approval.
- Made a recommendation to the Board that it is appropriate to prepare the accounts for the year on a going concern basis.
- Reviewed the methodology for preparation of the Company's Viability statement, see page 30 of the Strategic Report, and agreed an appropriate time period for that statement, and a reasonable financial 'base case' for that period, together with an in-depth evaluation of the risks affecting the financial viability of the Company over that timeframe, all for recommendation to the Board.
- Reviewed the results of the detailed impact assessment in relation to IFRS 15 *Revenue from contracts with customers*, including specific tests to ascertain where differences in accounting treatment will be required, concluding that there will not be a significant impact.
- Reviewed the implementation and impact of new accounting standard, IFRS 16 *Leases*.
- Reviewed the scope of the external audit, and confirmed the external auditor's terms of engagement and fee structure.
- Assessed the findings of the external audit, including any potential major issues and noting the key audit risks.
- Assessed the effectiveness of the external audit process, including all aspects of the service provided by the external auditor, whilst noting the auditor's view of interactions with senior management.
- Monitored the level of non-audit work undertaken by the external auditor, which in 2018 included services amounting to £0.1 million mainly in connection with tax services, equating to 4.0% of the audit fees. See note 4 on page 99 for further information.
- Reviewed the controls and assurance processes that are in place to mitigate the Group's key risks.
- Reviewed the effectiveness of, and received reports from management on, the Group's internal audit and risk management systems.

- Reviewed and approved the plan, work and overall effectiveness of the internal audit function, monitored its progress against the plan and ensured that the appropriate resource was deployed within the function.
- Reviewed the systems of internal controls of, and risks managed in, the Divisions, see Risk management section on pages 18 to 21 for further information.
- Reviewed the Group's whistleblowing process, and related procedures and policies.
- Reviewed material litigation.
- Reviewed the status of the Group's export controls compliance programme.
- Reviewed the status of the Group's risk from third-party representatives (agents and distributors).
- Reviewed reports from the Head of Internal Audit and the Director of Ethics and Compliance, on the calls made to the Group's ethics hotline and reports to management related to ethical conduct and/or compliance and noted the outcome of investigations into those.
- Reviewed executive management's assessment of the potential impact of the United States Tax Cuts and Jobs Act on the Group and US tax positions.
- Considered executive management's decision to close the Thermal Ceramics site in Brazil.
- Monitored the judgements made by executive management in relation to the accounting treatment and provisions associated with the disposal of the Composites and Defence Systems business, which completed in November 2018.
- Reviewed and approved the plan, work and overall effectiveness of the internal audit function, monitored its progress against the internal audit plan and ensured that appropriate resources were utilised and deployed within the function. At the December 2018 meeting, the Committee reviewed an independent third-party review of the effectiveness of the internal audit function and considered the report and its findings and how the function could be further improved in 2019.

Public reporting

The Committee, as requested by the Board, considered the Code requirement for the Board to make a statement on whether the Annual Report and Accounts taken as a whole is fair, balanced and understandable. The Committee approached this as follows, and:

- Considered the questions which need to be answered in order to evaluate whether the Annual Report and Accounts meets the fair, balanced and understandable test.
- Reviewed the methodology used to construct the narrative sections of the Annual Report.
- Reviewed the disclosure judgements made by the authors of each section and considered the overall balance and consistency in the Annual Report.
- Received confirmation from external advisers that all regulatory requirements are satisfied.
- Received confirmation of verification of content from the authors of each section.
- Received confirmation from the Chief Financial Officer that the narrative reports and financial statements are consistent.
- Made a recommendation to the Board to assist it in determining whether it is able to make the statement that the Annual Report and Accounts taken as a whole is fair, balanced and understandable.

The significant areas of judgement considered by the Committee in relation to the 2018 financial statements, and how these were addressed, were as follows:

Specific adjusting items

In the consolidated income statement, the Group has presented specific adjusting items separately in order to provide the best indication of the underlying performance of the Group, and details of the nature and quantum of the individual items are provided in note 6 to the financial statements. This comprised the disposal on 20 November 2018 of the Composites and Defence Systems business, the exit from the Thermal Ceramic businesses in Brazil and Venezuela, and the exit of the ceramic cores part of Technical Ceramics operating segment in China. The Committee fully considered the principle of disclosure for specific adjusting items and the individual items. Taking into account guidelines issued by the FRC and peer-group disclosure of similar items, the Committee concluded that it is the best way to present the Group's results.

Provisions and contingent liabilities

The level of provisioning for known and contingent liabilities, including those arising from trading, environmental issues and litigation, is an issue where management and third-party judgements are important. These are addressed by the Committee and the Board discussing with various members of senior management the key judgements made, supported, where appropriate, by relevant external advice. KPMG LLP also reports regularly on all material provisions and contingent liabilities. During the year the Group recorded redundancy and restructuring provisions in the ordinary course of business, which are disclosed separately in note 23 to the financial statements to provide investors with additional information to assist in their assessment of the Group's performance.

Tax balances

Accounting for current and deferred tax involves a range of judgements. The Committee and the Board address these issues through reporting from the Chief Financial Officer and the Director of Group Tax, supported as necessary by external professional advice.

The Committee reviewed the content of the Annual Report and Accounts and advised the Board that, taken as a whole, it is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy.

Report of the Audit Committee continued

Internal financial control and risk management systems

The Committee assists the Board in fulfilling its responsibilities relating to the adequacy and effectiveness of the control environment and risk management systems. The Group's system of internal control has been in place for the year under review and up to the date of approval of the Annual Report.

Through the Audit Committee, the Board reviews the effectiveness of the internal control system annually and did so again for the year under review. This system is consistent with the FRC's guidance on the internal control requirements of the Code. This review covered all material controls, including financial, operational and compliance controls, and risk management systems. The Audit Committee and Board receive regular risk management reports and together they ensure that there are adequate internal controls in place and that these are functioning effectively.

The Directors considers that the Group's system of internal financial control provides reasonable, but not absolute, assurance in the following areas: that the assets of the Group are safeguarded; that transactions are authorised and recorded in a correct and timely manner; and that such controls would prevent or detect, within a timely period, material errors or irregularities. The system is designed to mitigate and manage risk, rather than eliminate it and to address key business and financial risks.

The main features of the Group's system of internal control and for assessing the potential risks to which the Group is exposed are summarised as follows:

Control environment

The Group's control environment is underpinned by the Group's policy set. This covers financial procedures, environmental, health and safety practice, compliance (e.g. anti-bribery and corruption, and trade compliance) and other areas such as IT and HR. There is a Limit of Authorities Policy, which describes the matters reserved for the Board and the delegations granted to the Chief Executive Officer and other executives. The Group operates various programmes to improve the control environment and management of risk. These include the Group's Ethics and Compliance Programme, which includes relevant training, the provision of systems to help businesses manage risk consistently, and reporting processes. The external ethics hotline is available to employees to raise concerns and any reports made to the hotline are investigated by senior management. The Divisional and business unit Presidents and other senior operational and functional management make an annual statement of compliance to the Board, confirming that, for each of the businesses for which they are responsible, the financial statements are fairly presented in all material respects, appropriate systems of internal controls have been developed and maintained, and the businesses comply with Group policies and procedures or have escalated known exceptions to an appropriate level of management. In addition, the Audit Committee receives an annual presentation on business risk and internal controls from Divisions and global business units.

Financial reporting

Risk management systems and internal controls are in place in relation to the Group's financial reporting processes and the process for preparing consolidated accounts. These include policies and procedures which require the maintenance of records which accurately and fairly reflect transactions and disposal of assets, provide reasonable assurance that transactions are recorded as necessary to allow the preparation of financial statements in accordance with International Financial Reporting Standards (IFRS), and the review and reconciliation of reported data. Representatives of the businesses are required to certify that their reported information gives a true and fair view of the state of affairs of the business and its results for the period. The Audit Committee is responsible for monitoring these risk management systems and internal controls.

Performance monitoring

Performance is monitored through regular meetings of the Board and of the Executive Committee, a comparison of forecast and actual results is considered, including cash flows and comparisons against budget and the prior year. Divisional management teams also meet regularly to review performance. The members of the Executive Committee also visit sites on a regular basis.

Risk management

The Board undertakes a formal assessment of the Group's principal risks at least twice a year. The identification, assessment and reporting of risks is a continuous process carried out in conjunction with operational management and appropriate steps are taken to mitigate and manage all material risks including those relating to the Group's business model, solvency and liquidity. The Board, either directly or through the Audit Committee, receives updates on risks, internal controls and future actions from both Divisional and Group perspectives. The Executive Committee collectively reviews risk management and internal controls for all principal Group risks. The Group's risk management system, as set out in the Risk management section on pages 18 to 21, supports the Going concern statement and the Viability statement on page 30.

Risk factors

The Group's businesses are affected by a number of factors, many of which are influenced by macro-economic trends, although, as described above and in the Strategic Report, the identification and mitigation of such risks are regularly reviewed by the Executive Committee and the Board. These are further discussed in the Risk management section on pages 18 to 21.

Internal audit

The Group's internal audit function reviews internal control and risk management processes. The Audit Committee approves the annual internal audit plan and receives regular reports showing the results of the audits. Actions arising from internal audit reviews are agreed with management and the Audit Committee monitors progress of any outstanding actions. The Head of Internal Audit has direct access to the Chairman of the Audit Committee and meets separately with the Audit Committee without executive management at least twice a year.

External auditor, including non-audit services policy

The external auditor, KPMG LLP, has processes in place to safeguard its independence and objectivity, including specific safeguards where it is providing permissible non-audit services, and has confirmed in writing to the Audit Committee that, in its opinion, it is independent. After considering such procedures, the opinion of the Audit Committee was that the auditor's objectivity and independence were safeguarded despite the provision of a limited number of non-audit services by KPMG LLP.

The policy on the provision of non-audit services by the external auditor (which was revised in 2016 following the implementation of the EU Audit Regulation and Directive) is summarised below:

- Certain non-audit services may not be provided. The external auditor may not: review their own work; make any management decisions; create a mutuality of interest; and/or put themselves in the position of advocate.
- Any permissible non-audit work proposed to be placed with the external auditor with a total fee between £50,000 and £200,000 must be approved in advance by the Chairman of the Audit Committee. Projects in excess of £200,000, must be approved in advance by the Audit Committee, with any such proposal being submitted in writing to the CFO, who would in turn seek approval from the Audit Committee. All permissible non-audit work, regardless of value, must be approved by the Group Financial Controller. Work which includes multiple phases is treated as a single project for approval purposes.
- The prior approval of the Audit Committee is required for any non-audit work which, when added to the fees paid for other non-audit work, would total more than 60% (previously 80%) of the audit fee.
- The value of non-audit fees must not under any circumstances exceed 70% of the average Group statutory audit fee incurred in the last three consecutive financial years.

In 2018, the proportion of the auditor's fees for non-audit work relative to the audit fee was 4.0% (2017: 8.0%).

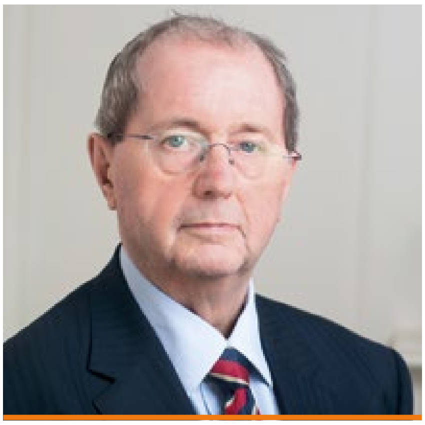
The Committee's policy is to undertake an annual review of the effectiveness of the audit process and of all aspects of the external auditor's performance and independence before determining whether to undertake a formal review of the auditor, including a re-tender presentation, or whether to put the Group's audit work out to full third-party tender.

The Group last changed its auditor in late 2001. The external auditor rotated the partner responsible for the Group's audit work in 2008, 2013 and 2018. As noted in the 2017 Annual Report, 2017 was the last financial year that Mr Sykes acted as the senior audit engagement partner, with Mr Sawdon, the new senior audit engagement partner having been appointed in March 2018, following completion of the 2017 financial year external audit.

Having overseen the transition of the senior audit engagement partner and reviewed the effectiveness of the audit process, and all aspects of the service provided by the external auditor, and taking account of the assurance given by the external auditor as to its independence, the Committee once more discussed and reviewed the external audit tender position. In December 2018, the Committee reviewed a proposed plan with regard to the external audit tender process and subsequently recommended to the Board that the intention was to commence a formal and rigorous tender process after the completion of the 2018 financial year-end audit process. The intention is that following the tender process, the chosen audit firm will shadow KPMG LLP during the 2019 year-end audit and formally perform the audit for the financial year ending 2020.

The Company has complied with the provisions of the Competition and Markets Authority's Order on statutory audit services.

Report of the Nomination Committee



The Nomination Committee continued to evaluate the blend of skills, diversity and experience of the Board during the year, confirming the appointment of a new Chairman of the Board, a new Chair of the Remuneration Committee and commenced the search for a new non-executive Director.

Committee members

Douglas Caster (Chairman)[1]
Andrew Shilston[2]
Jane Aikman
Helen Bunch
Laurence Mulliez

1. Appointed Chairman of the Committee (and the Board) with effect from 1 January 2019.
2. Chair of the Committee until 31 December 2018 when he retired from the Committee (and the Board)

The Committee is composed solely of non-executive Directors.

Throughout 2018, the Committee was chaired by Andrew Shilston. However, meetings during which matters pertaining to the appointment of his successor were discussed were chaired by Laurence Mulliez, the Senior Independent Director, to avoid any conflict of interest. Andrew Shilston and Douglas Caster were not present during discussions regarding their respective succession or potential appointment.

I became Chair of the Nomination Committee and of the Board on 1 January 2019, following Andrew Shilston's retirement from the Board at the end of 2018.

The primary task of the Committee during the year was to appoint a new Chairman. Neither Andrew Shilston nor I were involved in the selection process, with Committee meetings regarding the appointment being chaired by Laurence Mullliez, Senior Independent Director. The Committee concluded that the new Chairman should be an internal appointment for the reasons set out in the Corporate Governance Report on page 46 and referenced later in this report.

I stepped down as Chairman of the Remuneration Committee on my appointment as Chairman of the Board and, on the recommendation of the Committee, the Board agreed to appoint Helen Bunch as the Remuneration Committee Chairman with effect from 1 January 2019.

A key objective for the Committee in 2019 is to appoint a new non-executive Director to fill the vacancy following Andrew Shilston's retirement from the Board. Before commencing the selection process, the Board reviewed the mix of skills and experience of Board members, taking into account the future needs of the Board to support the Group's strategy. The Committee identified a blend of desirable skills and attributes for a new non-executive Director which includes knowledge and experience of doing business in the Asian-Pacific region.

The Committee considered the broader remit introduced by the new UK Corporate Governance Code, which will include oversight of executive succession planning and promotion of diversity when considering future appointments to the Board, as reflected in its new terms of reference adopted in December 2018. I look forward to continuing the good work done by my predecessor, Andrew Shilston, in developing an effective Board, which will support the Group's strategy and secure the Group's long-term success.

Douglas Caster CBE FIET
Committee Chair

Meetings

The Committee met formally four times during 2018 and members' attendance is set out in the table on page 47. In addition, certain members of the Committee met between scheduled meetings to progress the recruitment of a new independent non-executive Director.

Nomination Committee terms of reference

The Committee's terms of reference were reviewed in December 2018 and updated to reflect changes introduced by the 2018 UK Corporate Governance Code, which applies from 1 January 2019. The updated terms of reference are available to view on the Company's website.

Main areas of work during 2018

On behalf of the Board, the Committee monitors and regularly reviews the balance of skills, knowledge, experience, independence and diversity of the Board and its Committees. During 2018, the Committee's key activities included:

- Leading the process and recommending for approval by the Board, the appointment of Douglas Caster as non-executive Chairman.
- Recommending the appointment of Helen Bunch as Chair of the Remuneration Committee.
- Overseeing a search for an additional non-executive Director with the right blend of skills, knowledge, diversity and experience, with the assistance of an external search consultant, Spencer Stuart.
- Considering whether each Director continued to be able to allocate sufficient time to discharge their responsibilities effectively.
- Considering the Directors' annual re-election at the 2018 AGM.
- Considering the skills mix on the Board, including geographical representation.
- Reviewing the Board's diversity policy and monitoring its effectiveness.
- Reviewing the structure, size and composition of the Board and its Committees, ensuring that they remain appropriate.
- Reviewing the results of the annual performance evaluation of the Committee.
- Updating the Committee's terms of reference in accordance with the July 2018 UK Corporate Governance Code.

Appointments to the Board

As announced on 2 July 2018, Douglas Caster succeeded Andrew Shilston as non-executive Chairman of the Board with effect from 1 January 2019, following Andrew's retirement from the Board on 31 December 2018. No external search consultant was utilised in the search for the new Chairman and no open advertising was utilised in connection with this appointment. The Board's view regarding the appointment of Douglas Caster as non-executive Chairman, was that he had the requisite experience and skill set and could ensure continuity of the operation of Morgan's strategy. It will be recalled that the Board appointed a new CEO in 2015 and CFO in 2016 who subsequently completed a strategic review that was endorsed by the Board. The implementation of that new strategy has now been underway for three years. The internal appointment would ensure the continuity of the Group's strategy implementation without the potential interruption that might be caused by an external candidate.

Douglas Caster was appointed as an independent non-executive Director in February 2014 and served as Chairman of the Remuneration Committee from his appointment until 31 December 2018 when he became Chairman. Between January 2015 and December 2017, Douglas Caster was the Senior Independent Director.

The Committee recommended to the Board that Helen Bunch, as serving non-executive Director, be appointed as Chair of the Remuneration Committee with effect from 1 January 2019. Helen brings valuable perspective as a serving executive and has been a member of the Remuneration Committee since her appointment to the Board in February 2016.

The search for a non-executive Director to join the Board was progressed by the Committee during the year. The process for selection of a non-executive Director is described below:

- The Committee formulates a candidate specification for the role taking into account the balance of skills, knowledge, experience, diversity and geographical representation on the Board, and considering the desired skills and experience required to complement the existing membership and to support the implementation of the Group's strategy.
- The external search agent produces a long-list of candidates for the role, taking the identified requirements into consideration.
- Interviews with members of the Nomination Committee take place with short-listed candidates.
- Interviews with other Board members take place with the final three candidates.
- The Committee will make a recommendation for the appointment to the Board taking into account the views of the Board members.

Spencer Stuart were retained to facilitate the search for an additional non-executive Director. Spencer Stuart have signed up to the voluntary code of conduct for executive search firms, which includes provisions on diversity. Spencer Stuart have no other connection with the Company.

The terms and conditions of appointment of non-executive Directors are available for inspection. Non-executive Directors, including the Chairman, are asked to confirm that they will allocate sufficient time to meet their commitments to the Company and that their other appointments and significant time obligations are disclosed to the Board prior to appointment, with an indication of the level of time commitment involved. The Board is informed of any subsequent changes, and additional commitments must be disclosed before they are accepted.

Board Diversity Policy

The Board recognises the benefits that diversity and inclusion brings at all levels of the Company. During the selection process for new non-executive Directors, the Committee uses a search agent who has signed up to the voluntary code of conduct for executive search firms, which ensures that diversity is considered when developing a candidate pool.

The Board monitors closely whether it is taking diversity in its broadest sense into account when planning executive succession and appointing new Board members, the Board performance review process also considers diversity.

When monitoring the development of leadership and considering the succession planning for executive management, the Board will take into account diversity as well as the need for talented leaders with the skills to both lead a global company with a presence in the key world economies and manage the associated challenges.

In terms of progress in promoting diversity in the year, and without setting any targets, three of the six Board Directors are female, equating to 50% female representation on the Board and over half of the non-executive Directors. Of these, one is the Senior Independent Director, one is the Chairman of the Remuneration Committee and one is Chairman of the Audit Committee. These appointments demonstrate the Board's commitment to greater diversity. At 31 December 2018, 31% (2017: 15% and 2016: 14%) of senior managers are female. At the graduate recruitment level, the Group successfully attracts a diverse group of good candidates. In 2018, 32% (2017: 32% and 2016: 37%) of the graduate intake were female and the 2018 cohort was represented by eight nationalities (2017: 10 and 2016: 8).

The Committee takes diversity into account in broader discussions on succession planning and talent development and supports management in their wider commitment to promoting diversity.

Remuneration report

A statement to shareholders from the Chair of the Remuneration Committee.

Committee members

Helen Bunch (Chair)[1]
Andrew Shilston[2]
Douglas Caster[3]
Laurence Mulliez
Jane Aikman

1. Helen Bunch was appointed Chair of the Remuneration Committee effective 1 January 2019.
2. Andrew Shilston retired from the Board on 31 December 2018.
3. Douglas Caster was appointed Chairman of the Board effective 1 January 2019 and stepped down as Chair of the Remuneration Committee on 31 December 2018.

I am pleased to present the Remuneration Report for the year ended 31 December 2018, my first as Committee Chair. I would like to take this opportunity to thank Douglas for his service as Committee Chair over the past five years and wish him continued success in his new role as Chairman of the Board.

The past year has seen significant progress in the implementation of the Group's strategy. Morgan delivered 7.4% organic revenue growth for the 2018 financial year while investing further in R&D, sales, and the wider business infrastructure for sustainable, long-term growth. The foundation of the organisation also continues to strengthen with a significant reduction in lost-time accidents, relaunch of the 'thinkSAFE' programme, launch of the Morgan Code of Ethics and investment in our leaders.

2018 has also seen significant change in the investment landscape; the FRC issued an update to the UK Corporate Governance Code and several investor proxy groups issued interpretations and guidance on the updated Code. Within this context and the requirement to put the Remuneration Policy to a binding vote at the 2019 AGM, the Committee conducted a thorough review of the current Remuneration Policy in 2018. This review concluded that the current framework continues to support Group strategy and culture, and provides strong alignment of executive Director and shareholder interests. It also highlighted the appropriateness of making a number of changes to reflect the significant shift in the external landscape and as such, I wrote to our largest shareholders in December 2018 to consult on the changes that are being proposed to the Remuneration Policy for 2019 onwards.

2018 Committee Activity

During the year, the Committee met four times, and its activities included:

- Determination of whether the 2017 bonus and 2015 LTIP were achieved, and, if so, to what extent.
- A review of external benchmarking of executive Directors' remuneration packages.
- Determination of the remuneration packages for the executive Directors and other senior executives, considering remuneration of the wider workforce and applying consistent guiding principles.
- A review of whether the measures for the bonus and share incentive schemes remain appropriate.
- Determination of appropriate performance targets for the bonus and share incentive schemes.
- A review of the Group's Remuneration Policy, changes required, and how its implementation can best support the Group's business strategy and performance-based culture.

2018 remuneration outcomes

In reviewing performance in 2018, the Committee determined that payouts of 67.4% and 67.4% of the 2018 annual bonus opportunity for the CEO and CFO, respectively, were appropriate. The 2016 LTIP award will also partially vest, resulting in a 42.9% achievement of the maximum. These outcomes are consistent with the Group performance, details of which are summarised later in this Report.

Implementation of Policy in 2019

The Remuneration Committee decided that, taking into account the continued exceptional performance of the Group in 2018, labour market conditions, and the below-median salary of the Chief Executive Officer (CEO), the appropriate level of salary increase for the CEO would be 4.81% and for the Chief Financial Officer (CFO) it would be 2.0%. The process for reviewing executive Director salaries takes into account individual and Group performance and salary position relative to the relevant market, which is consistent with the approach taken for the entire senior population. There will also be an inflationary increase to the fees for the Chairman and non-executive Directors of 2% for 2019 as determined by the Committee (for the Chairman) and the Chairman and executive Directors (for the non-executive Directors).

The Committee also reviewed the structure of the annual bonus and LTIP plans, and concluded that the existing framework remains appropriately aligned with our strategic aims, motivates and rewards management for delivering sustainable out performance, and supports retention. Accordingly, no changes are proposed to the performance linkage of the annual bonus or LTIP for 2019. For the LTIP, it is proposed to retain an EPS performance range of 4%-11% pa; the Committee considers this to remain appropriate in the context of the Group's strategic plan, external market factors and broker forecasts. No changes are proposed to the TSR benchmarks and relative TSR performance range (median-upper quartile), but it is proposed to increase the ROIC* range for that element of the 2019 LTIP (to 17%-20%) to reflect our latest expectations for performance over the three-year performance period. Annual bonus targets are considered to be commercially sensitive at this time, but will ordinarily be disclosed in next year's Remuneration Report.

Proposed changes to Remuneration Policy in 2019

In line with the remuneration reporting regulations, the Directors' Remuneration Policy must be submitted for shareholder approval at least every three years. The Policy was last approved by shareholders at the 2016 AGM, and therefore is required to be put to a new binding vote at the 2019 AGM.

During 2018, the Committee reviewed the Remuneration Policy for executive Directors in the context of our remuneration philosophy, the updated UK Corporate Governance Code released in 2018, and recent developments in remuneration governance. The Committee concluded from its review that the 2016 Policy framework continues to reinforce our strategy and culture, and provides strong alignment of executive Director and shareholder interests. However, the Committee recognises that the remuneration governance landscape – and the views of some shareholders on the subject of executive remuneration – continues to evolve at pace. Accordingly, I wrote to our largest shareholders in December 2018 to consult on the changes that are being proposed to the Remuneration Policy for 2019 onwards:

- Aligning pension contributions for executive Directors appointed after 1 January 2019 with those for the wider workforce.
- Introducing a timeframe for executive Directors to achieve the share ownership guidelines.
- Implementing a post-exit shareholding requirement of one year for executive Directors when they leave the Group. The Committee believes the proposed level and length of the holding period to be appropriate in the context of Morgan, in particular the short cycle nature of our business.
- Clarifying that any dividends accruing on deferred shares over the vesting period and LTIP shares over the post vesting holding period will be paid in shares.
- Confirming that a two-year holding period will apply to future LTIP awards to the executive Directors (as implemented since 2017).
- Providing further clarification on situations where malus and clawback may apply.

Further details on the proposed 2019 Policy are set out in the Policy Report beginning on page 61 of this Remuneration Report.

This Report is consistent with the current reporting regulations for executive remuneration and, as last year, includes an 'At a glance' section summarising the key elements of executive Director remuneration. I hope we have been successful in continuing to achieve the clarity and transparency that will be of help to our shareholders.

Helen Bunch
Committee Chair

Remuneration report continued

Remuneration at a glance

Components of remuneration

Salary	+	Pension and Benefits	=	Fixed total		
				+	=	**Total remuneration**
Annual Bonus	+	LTIP	=	Variable total		

Key features of how our executive remuneration policy will be implemented in 2019

Fixed components

Base salary

Pete Raby (CEO)	£545,000
Peter Turner (CFO)	£408,600

Policy

Executive Directors' salaries are generally reviewed each January, with reference to individual and Group performance, experience and salary levels at companies of similar sector, size and complexity.

Pension and other benefits

Pension

Pete Raby (CEO)	fixed at a £104,000
Peter Turner (CFO)	fixed at £80,120

Benefits

Pete Raby (CEO)	£13,456
Peter Turner (CFO)	£12,030

Policy

Executive Directors may receive defined contributions (and/or cash in lieu thereof) up to 20% of salary. Proposed policy change to be approved at the 2019 AGM will align pension contribution for new executive Directors with that available to the wider workforce. Other benefits can include company car/car allowance, health insurance and, where appropriate, relocation allowances and other expenses.

Implementation

The monetary value of the pension allowance for the current executive Directors will be fixed at the 2018 value for 2019 onwards, to help align executive Director pensions with those of the wider workforce over time.

Variable components, Annual bonuses

Maximum opportunities for 2019 (no change)

Pete Raby (CEO)	150% of salary
Peter Turner (CFO)	150% of salary

Performance measures weighting

EBITA*	40%
Cash generation*	40%
Strategic personal objectives	20%

Policy

Maximum award opportunity: 150% of base salary

Performance measures are set by the Committee at the start of the year and are weighted to reflect a balance of financial and strategic objectives. 67% of any annual bonus paid is delivered in cash with the remainder deferred into shares and released after a further period of three years. 50% of the bonus opportunity is paid for on-target performance.

LTIP

Maximum opportunities for 2019 (no change)

Pete Raby (CEO)	150% of salary
Peter Turner (CFO)	150% of salary

Performance measures weighting

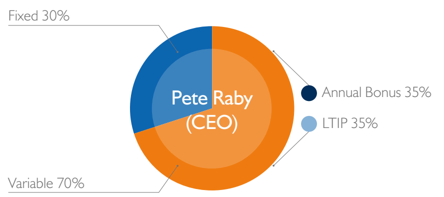
TSR vs. FTSE All-Share Industrials Index	1/6
TSR vs. peer group	1/6
EPS growth	1/3
Group ROIC*	1/3

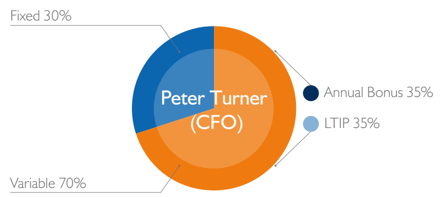
Policy

Maximum award opportunity: 250% of base salary

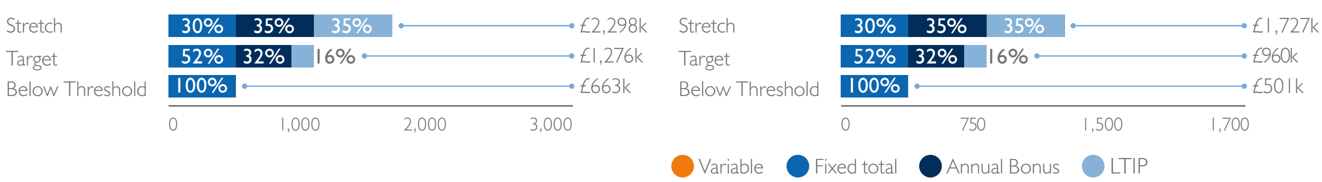
The award levels and performance conditions on which vesting depend are reviewed prior to the start of each award cycle to ensure they remain appropriate. Vested shares are subject to a post-vesting holding period of two years. The vesting of awards is usually subject to continued employment and to the Group's performance over a three-year performance period. 25% of an award vests for achievement of the threshold level of performance.

Pay at risk





Pay scenarios



Shareholding requirements

- Pete Raby (CEO) 200% of salary
- Peter Turner (CFO) 200% of salary

Compliance statement

During the year under review, the Company has complied with the principles and provisions relating to Directors' remuneration in the April 2016 UK Corporate Governance Code and this Remuneration Report has been prepared in accordance with Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013. In accordance with Section 439A of the Companies Act, a binding resolution on the Remuneration Policy and an advisory resolution to approve the Annual Report on Remuneration will be proposed at the Annual General Meeting (AGM) on 10 May 2019.

This Report covers the period 1 January 2018 to 31 December 2018 and provides details of the Remuneration Committee and how the Remuneration Policy, approved by shareholders at the 2016 AGM, has been implemented for the year under review. The Policy Report sets out the Policy that is proposed to apply for up to the next three years. The proposed implementation of this Policy for the 2019 financial year is summarised in the section of the Annual Report on Remuneration titled 'Implementation of Remuneration Policy for 2019'.

Remuneration Committee

The Remuneration Committee determines and agrees with the Board the framework and Policy for the remuneration, including pension rights and any compensation payments, of the Group's executive Directors and the Chairman. The Committee also reviews the remuneration in relation to other senior executives, and is kept fully informed of remuneration policy decisions impacting the wider workforce. The Committee's terms of reference are available on the Group's website.

The Remuneration Committee consults the CEO and invites him to attend meetings when appropriate. The Group Human Resources Director and Group Head of Reward attend meetings of the Committee by invitation. The Committee also has access to advice from the CFO. The Company Secretary acts as secretary to the Committee. No executive Director or other attendee is present when his or her own remuneration is being discussed.

Membership of the Committee is shown on page 58.

1. Policy report

Key principles of the Remuneration Policy

The Remuneration Committee aims to ensure that all executive remuneration packages offered by Morgan are competitive and designed to promote the long-term success of the Company by ensuring that we are able to attract, retain and motivate executive Directors and senior executives of the right calibre to create value for shareholders.

The Committee ensures that a significant proportion of the total remuneration opportunity is performance-related, with an appropriate balance between short-term and long-term performance, and is based on the achievement of measurable targets that are relevant to, and support the business strategy through the execution of the policy.

The Remuneration Committee will keep the Remuneration Policy under periodic review to ensure it remains aligned with the Group's strategy, reinforces the Group's culture, and is in line with the principles set out in the UK Corporate Governance Code in relation to Directors' remuneration. This includes ensuring that performance-related elements are transparent, stretching and rigorously applied, as well as reflecting the views and guidance of institutional investors and their representative bodies.

Summary of Morgan Advanced Materials plc's proposed 2019 Remuneration Policy

This section of the Report sets out the proposed Remuneration Policy for executive Directors and non-executive Directors. This Policy will be submitted for approval by shareholders at the 2019 AGM. If approved, it is intended that this Policy be effective for a period of up to three years from that date.

Proposed Remuneration Policy for executive Directors

The key changes to the proposed Remuneration Policy for executive Directors that will be submitted for approval at the 2019 AGM are:

- Align pension contributions for executive Directors appointed after 1 January 2019 with those available for the wider workforce.
- Introduce a timeframe for executive Directors to achieve the share ownership guidelines.
- Implement a post-exit holding period for executive Directors when leaving the Group.
- Clarify any dividends that accrue on deferred shares over the vesting period and LTIP shares over the post-vesting holding period will be paid in shares at the end of the vesting period.
- Confirm a two-year holding period will apply to any future LTIP shares that may vest (as implemented in 2017).
- Provide further clarification on situations where malus and clawback may apply.

Remuneration report continued

Purpose and link to strategy	Operation	Opportunity	Performance metrics
Fixed pay			
Base salary Provides the fixed element of the remuneration package. Set at competitive levels against the market.	Base salaries are generally reviewed each January, with reference to an individual's performance (and that of the Group as a whole), their experience, and the range of salary increases applying across the Group. The Committee also considers salary levels at companies of similar sector, size and complexity when determining increases.	Our policy is to pay salaries that are broadly market-aligned with increases applied in line with the outcome of the annual review. Salaries in respect of the year under review (and for the following year) are disclosed in the Annual Report on Remuneration. Salary increases for executive Directors will normally be within the range of increases for the general employee population over the period of this Policy. Where increases are awarded in excess of those for the wider employee population, for example in instances of sustained strong individual performance, if there is a material change in the responsibility, size or complexity of the role, or if an individual was intentionally appointed on a below-market salary, the Committee will provide the rationale in the relevant year's Annual Report on Remuneration.	An executive Director's performance (and that of the Group as a whole) is taken into account when making decisions in relation to base salary.
Pension Provides post-retirement benefits for participants in a cost-efficient manner.	Defined contribution scheme (and/or a cash allowance in lieu thereof).	For executive Directors appointed from 1 January 2019 onwards, contributions (or cash in lieu thereof) will be aligned with the level of contribution available to the wider workforce at that time. For current executive Directors already in role, the Policy limit will remain up to 20% of salary.	Not applicable.
Benefits Designed to be competitive in the market in which the individual is employed.	Can include company car/car allowance, health insurance and, where appropriate, relocation allowances and other expenses.	Benefits values vary by role and are reviewed periodically relative to the market. It is not anticipated that the cost of benefits provided will change materially year on year over the period for which this Policy will apply. The Committee retains the discretion to approve a higher cost in exceptional circumstances (eg relocation expenses, expatriate allowances etc) or in circumstances where factors outside the Group's control have changed materially (eg market increases in insurance costs). Benefits in respect of the year under review are disclosed in the Annual Report on Remuneration.	Not applicable.

Purpose and link to strategy	Operation	Opportunity	Performance metrics
Variable pay			
Annual bonus Provides a direct link between annual performance and reward. Incentivises the achievement of key specific goals over the short term that are also aligned to the long-term business strategy. Deferred bonus supports retention and provides additional alignment with the interests of shareholders.	Performance measures are set by the Committee at the start of the year and are weighted to reflect a balance of financial and strategic objectives. At the end of the year, the Remuneration Committee determines the extent to which these have been achieved. To the extent that the performance criteria have been met, up to 67% of the resulting annual bonus is paid in cash. The remaining balance is deferred into shares and released after a further period of three years, subject to continued employment only. Cash and deferred share bonuses awarded for performance will be subject to malus and clawback until the end of the deferral period. Further details of our Malus and Clawback Policy are set out at the end of this table. Dividends may accrue over the deferral period on deferred shares that vest. Any dividends that accrue will be paid in shares at the end of the vesting period.	Up to 150% of salary. The payout for threshold performance may vary year on year, but will not exceed 25% of the maximum opportunity.	Bonuses for the executive Directors may be based on a combination of financial and non-financial measures. The weighting of non-financial performance will be capped at 30% of the maximum opportunity. The Committee retains discretion to adjust the bonus outcome if it considers that the payout is inconsistent with the Company's underlying performance when taking into account any factors it considers relevant. Further details are set out in the Annual Report on Remuneration on pages 68 to 75.
Long-Term Incentive Plan (LTIP) Aligns the interests of executives and shareholders with sustained long-term value creation. Incentivises participants to manage the business for the long term and deliver the Company's strategy.	The Remuneration Committee has the authority each year to grant an award under the LTIP. The award levels and performance conditions on which vesting depends are reviewed prior to the start of each award cycle to ensure they remain appropriate. Vested shares will be subject to a post-vesting holding period of two years. Awards are subject to malus and/or clawback for a period of five years from the date of grant. Further details of our Malus and Clawback Policy are set out at the end of this table. Dividends may accrue on vested shares during the holding period.	The LTIP provides for a conditional award of shares up to an annual limit of 250% of salary. 25% of an award vests for achievement of the threshold level of performance.	The vesting of awards is usually subject to continued employment and the Group's performance over a three-year performance period. This is currently based on a combination of TSR, EPS and ROIC* measures. The Committee has discretion to extend the performance period and adjust the measures, their weighting, and performance targets prior to the start of each cycle to ensure they continue to align with the Group's strategy. The Committee also retains discretion to adjust the vesting outcome if it considers that the level of vesting is inconsistent with the Company's underlying performance when taking into account any factors it considers relevant. Further details of the measures attached to the LTIP awarded in the year under review (and the coming year) are set out in the Annual Report on Remuneration on pages 68 to 75.
Sharesave A voluntary scheme open to all UK employees which aligns the interests of participants with those of shareholders through any growth in the value of shares.	An HMRC-approved scheme where employees may save up to a monthly savings limit out of their own pay towards options granted at up to a 20% discount. Options may not be exercised for three years.	Up to the savings limit as determined by HMRC from time to time, across all Sharesave schemes in which an individual has enrolled.	None.

Remuneration report continued

Malus and Clawback Policy

Malus and clawback will apply to the annual bonus and LTIP (as set out on page 63) in cases of misconduct or material misstatement in the published results of the Group or where, as a result of an appropriate review of accountability, a participant has been deemed to have caused in full or in part a material loss for the Group as a result of reckless, negligent or wilful actions or inappropriate values or behaviour, including (but not limited to) significant breaches of EHS codes, fraud, or other events which may cause serious reputational damage. Cash bonuses will be subject to clawback, with deferred shares subject to malus over the deferral period. LTIP awards are subject to malus over the vesting period and clawback from the vesting date to the fifth anniversary of grant.

Payments under existing awards

The Company will honour any commitment entered into, and Directors will be eligible to receive payment from any award granted, prior to the approval and implementation of the Remuneration Policy detailed in this Report (ie before 10 May 2019), even if these commitments and/or awards fall outside the above Policy. The Company will also honour any commitment entered into at a time prior to an individual becoming a Director if, in the opinion of the Committee, the payment was not in consideration of the individual becoming a Director of the Company. Details of these awards will be disclosed in the Annual Report on Remuneration.

Difference in policy between executive Directors and other employees

The Remuneration Policy for other employees is based on principles broadly consistent with those described in this Report for the executive Directors' remuneration. Annual salary reviews across the Group take into account individual and business performance, experience, local pay and market conditions, and salary levels for similar roles in comparable companies. All executives are eligible to participate in an annual bonus scheme. Opportunities and performance measures vary by organisational level, geographical region and an individual's role. Other senior executives participate in the LTIP on similar terms to the executive Directors, although award sizes and performance measures may vary according to each individual, and by organisational level. Below this level, executives are eligible to participate in the LTIP and other share-based incentives by annual invitation.

Use of discretion

To ensure fairness and align executive Director remuneration with underlying individual and Group performance, the Committee may exercise its discretion to adjust, upwards or downwards, the outcome of any short- or long-term incentive plan payment (within the limits of the relevant Plan Rules) for corporate or exceptional events including, but not limited to: corporate transactions, changes in the Group's accounting policies, minor or administrative matters, internal promotions, external recruitment, and terminations. Any adjustments in light of corporate events will be made on a neutral basis, meaning that they will not be to the benefit or detriment of participants.

Any use of discretion by the Committee during the financial year under review will be detailed in the relevant Annual Report on Remuneration.

Performance measure selection

The Committee considers carefully the selection of performance measures at the start of each performance cycle, taking into consideration the macro-economic environment as well as specific Group strategic objectives.

Annual bonus measures are selected to closely reinforce the Group's short-term KPIs. Because these can change from year to year (in line with the Remuneration Policy), information on the rationale for the selection of bonus measures for each year will be detailed in the relevant years Annual Report on Remuneration.

LTIP performance measures are reviewed periodically to ensure they continue to align with the Company's strategy, as well as provide an appropriate balance between growth and returns, internal and external performance, and absolute and relative performance.

For 2019 awards, the TSR element of the LTIP award will continue to comprise two parts. One half of the TSR element will vest subject to the Group's performance relative to a TSR benchmark comprising the 103 constituents of the FTSE All-Share Industrials Index. This benchmark is robust to merger and acquisition activity and comprises companies that are subject to the same market influences as Morgan Advanced Materials plc. The remaining half of the TSR element will vest subject to Morgan's performance relative to a TSR benchmark comprising 16 listed international carbon, ceramics and other materials companies. This benchmark was selected to complement the FTSE All-Share Industrials Index with a group of companies that better reflect Morgan's business, the markets in which Morgan operates and the geographical footprint of the Group. For each part of the TSR award, the vesting performance range is calibrated to be stretching and in line with common market practice for FTSE TSR-based long-term incentives.

EPS targets are set taking account of multiple relevant reference points, including internal forecasts, external expectations for future EPS performance at both Morgan Advanced Materials plc and its closest sector peers, and typical EPS performance ranges at other FTSE 350 companies. LTIP EPS performance ranges are set to represent demanding and challenging performance targets over the three-year performance period.

ROIC* targets are set using a similar approach to the EPS targets, after consideration of external reference points and reflecting the returns required to meet and exceed the Group's internal strategic plan. For the 2019 LTIP cycle, ROIC* will continue to be calculated as follows:

$$\frac{\text{EBITA* pre-specific adjusting items}}{\text{12-month average (third-party working capital + total fixed assets + total intangible fixed assets)}}$$

Share ownership guidelines

In order to encourage alignment with shareholders, executive Directors are encouraged to build and maintain an individual shareholding in the Company equivalent to at least 200% of base salary. The required level of shareholding is expected to be achieved within five years from an executive Director's appointment. Executive Directors' shareholdings are reviewed annually by the Committee to ensure progress is being made towards achievement of the guideline level of shareholding. However, if it becomes apparent to the Committee that the guideline is unlikely to be met within the timeframe, then the Committee will discuss with the Director a plan to ensure that the guideline is met over an acceptable timeframe.

From 2019, executive Directors will also be subject to a post-employment shareholding requirement. Executive Directors will be required to hold shares at a level equal to the lower of the share ownership requirement or the actual shareholding on departure for a period of one year from departure date. The Committee retains the discretion to modify the post-employment shareholding requirement in certain, extraordinary circumstances; for example on a change of control during the period or if a conflict of interest arises with an executive Director's next appointment.

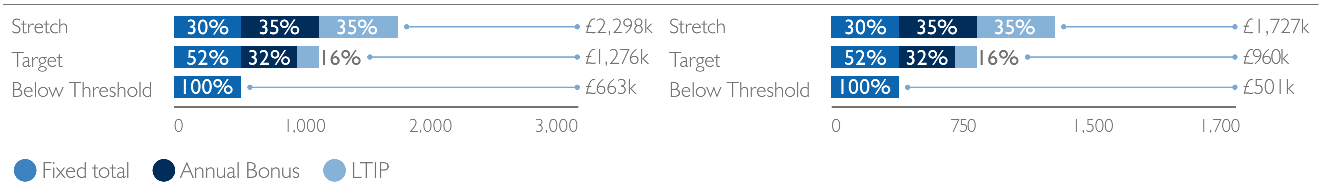
Current executive Director shareholdings are set out in the Annual Report on Remuneration on page 73.

External appointments

With the approval of the Board in each case, and subject to the overriding requirements of the Group, executive Directors may accept external appointments as non-executive Directors of other companies and retain any fees received. Details of external directorships held by executive Directors along with fees retained are provided in the Annual Report on Remuneration on page 71.

Pay-for-performance: scenario analysis

The graphs below provide detailed illustrations of the potential future reward opportunity for executive Directors, and the potential mix between the different elements of remuneration under three different performance scenarios; 'Below threshold', 'Target' and 'Stretch'. These have been updated to illustrate the potential opportunity under the 2019 packages proposed for executive Directors.



Potential reward opportunities illustrated above are based on the Policy, which will be submitted for approval at the 2019 AGM, applied to the annual base salary in effect at 1 January 2019. For the annual bonus, the amounts illustrated are those potentially receivable in respect of performance for 2019 (before mandatory deferral into shares). The LTIP is based on the face value of awards to be granted in 2019 (150% of salary). It should be noted that any awards granted under the LTIP in a year do not normally vest until the third anniversary of the date of grant. This illustration is intended to provide further information to shareholders on the relationship between executive pay and performance. The value of the LTIP assumes no change in the underlying value of the shares once an award is made. The following assumptions have been made in compiling the above charts:

Scenario	Annual bonus	LTIP	Fixed pay
Stretch	Maximum annual bonus.	Performance warrants full vesting (100% of the award).	Latest disclosed base salary, pension and benefits.
Target	On-target annual bonus.	Performance warrants threshold vesting (25% of the award).	
Below threshold	No annual bonus payable.	Nil vesting.	

Details of executive Directors' service contracts

The executive Directors are employed under contracts of employment with Morgan Advanced Materials plc. Contracts may be terminated on 12 months' notice given by the Company or on six months' notice given by the executive Director concerned. The following table shows the date of the contract for each executive Director who served during the year:

				Notice period	
Executive Director	Position	Date of appointment	Date of service agreement	From employer	From employee
Pete Raby	CEO	1 August 2015	30 January 2015	12 months	6 months
Peter Turner	CFO	11 April 2016	30 March 2016	12 months	6 months

Exit Payments Policy

The Group's policy on exit payments is to limit severance payments on termination to pre-established contractual arrangements comprising base salary and any other statutory payments only. In the event that the employment of an executive Director is terminated, any compensation payable will be determined in accordance with the terms of the service contract between the Company and the employee, as well as the rules of any incentive plans.

The Group may terminate the employment of an executive Director by making a payment in lieu of notice equal to base salary, together with the fair value of any other benefits to which the executive is contractually entitled under his or her service agreement, for the duration of the notice period.

The Remuneration Committee will exercise discretion in making appropriate payments in the context of outplacement or the settling of legal claims or potential legal claims by the departing executive Director, including any other amounts reasonably owing 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 and the individual must seek independent legal advice.

On termination of an executive Director's service contract, the Remuneration Committee will consider the departing Director's duty to mitigate his or her loss when determining the timing of when any payment in lieu of notice will be made. There is no automatic entitlement to bonus or the vesting of long-term incentives on termination. However, the table that follows summarises the Policy on how awards under the annual bonus, LTIP and deferred bonus plan will normally be treated in specific circumstances, with the final treatment remaining subject to Committee discretion:

Remuneration report continued

Treatment of awards on cessation of employment and a change of control

Reason for cessation	Calculation of vesting/payment	Time of vesting
	Annual bonus	
All reasons	The Committee may determine that a bonus is payable on cessation of employment, and the Committee retains discretion to determine that the bonus should be paid wholly in cash. The amount of bonus payable will be determined in the context of the time served during the performance year, the performance of the Group and of the individual over the relevant period, and the circumstances of the Director's loss of office. If Group or individual performance has been poor, or if the individual's employment has been terminated in circumstances amounting to misconduct, no bonus will be payable.	
	Mandatory deferred bonus share awards	
Injury, disability, death, redundancy, retirement, or other such event as the Committee determines	Awards will normally vest in full (ie not pro-rated for time).	At the normal vesting date, unless the Committee decides that awards should vest earlier (eg in the event of death).
Change of control	Awards will normally vest in full (ie not pro-rated for time). Awards may alternatively be exchanged for equivalent replacement awards, where appropriate.	On change of control.
All other reasons	Awards normally lapse.	Not applicable.
	LTIP awards	
Injury, disability, death, redundancy, retirement, or other such event as the Committee determines	Awards will normally be pro-rated for time and will vest based on performance over the original performance period (unless the Committee decides to measure performance to the date of cessation).	At the normal vesting date, unless the Committee decides that awards should vest earlier (eg in the event of death).
Change of control	LTIP awards will be pro-rated for time and will vest subject to performance over the performance period to the change of control. LTIP awards may alternatively be exchanged for equivalent replacement awards, where appropriate.	On change of control.
All other reasons	Awards normally lapse.	Not applicable.

The Remuneration Committee retains discretion, where permitted by the plan rules, to alter these default provisions on a case-by-case basis, following a review of circumstances and to ensure fairness for both shareholders and participants.

Approach to recruitment remuneration

External appointment

In cases of hiring or appointing a new executive Director from outside the Group, the Committee may make use of all existing components of remuneration, as follows:

Pay element	Policy on recruitment	Maximum
Salary	Based on: the size and nature of the responsibilities of the proposed role; current market pay levels for comparable roles; the candidate's experience; implications for total remuneration; internal relativities; and the candidate's current salary.	–
Pension	Option to join the defined contribution scheme available to the wider workforce. If the executive Director is ineligible to join the standard defined contribution scheme, the company may grant a cash allowance of equivalent value.	In line with Policy limits
Benefits	As described in the Policy table and may include, but are not limited to, car, medical insurance, and relocation expenses and/or allowances.	–
Sharesave	New appointees will be eligible to participate on identical terms to all other UK employees.	Up to HMRC limits.
Annual bonus	As described in the Policy table and typically pro-rated for the proportion of the year served; performance measures may include strategic and operational objectives tailored to the individual in the financial year of joining.	Up to 150% of salary.
LTIP	New appointees may be granted awards under the LTIP on similar terms to other executives.	Up to 250% of salary.
Other	The Remuneration Committee may make an award under a different structure under the relevant Listing Rule to replace incentive arrangements forfeited on leaving a previous employer. Any such award would have a fair value no higher than that of the awards forfeited, taking into account relevant factors including performance conditions, the likelihood of those conditions being met and the proportion of the vesting period remaining. Details of any such award will be disclosed in the first Annual Report on Remuneration following its grant.	–

Internal promotion to the Board

In cases of appointing a new executive Director via internal promotion, the Policy will be consistent with that for external appointees detailed above. Where an individual has contractual commitments made prior to their promotion to executive Director, the Company will continue to honour these arrangements even if there are instances where they would not otherwise be consistent with the prevailing executive Director Remuneration Policy at the time of promotion.

Chairman and non-executive Directors' Remuneration Policy

Purpose and link to strategy	Operation	Opportunity	Performance metrics
Annual fee[1] To attract and retain high-calibre non-executive Directors.	Annual fees paid to the Chairman and non-executive Directors are reviewed periodically. An additional fee is payable to the Senior Independent Director, and also in respect of chairing a Board Committee. Currently paid 100% in cash.	Annual fees are applied in line with the outcome of each periodic review.	None.

1. The maximum aggregate annual fee for all non-executive Directors (including the Chairman) as provided in the company's Articles of Association is £750,000.

None of the non-executive Directors has a service contract with the Company. They do have letters of appointment. The non-executive Directors do not participate in any of the incentive, share or share option plans. The dates relating to the appointments of the Chairman and non-executive Directors who served during the reporting period are as follows:

Non-executive Director	Position	Date of appointment	Date of letter of appointment	Date of election/re-election
Andrew Shilston[1]	Chairman	8 May 2012	30 March 2012	11 May 2018
Helen Bunch[2]	Non-executive Director	24 February 2016	19 January 2016	11 May 2018
Douglas Caster[3]	Non-executive Director	14 February 2014	15 January 2014	11 May 2018
Laurence Mulliez	Non-executive Director	6 May 2016	4 April 2016	11 May 2018
Jane Aikman	Non-executive Director	31 July 2017	27 April 2017	11 May 2018

1. Andrew Shilston retired from the Board on 31 December 2018.
2. Helen Bunch was appointed Chair of the Remuneration Committee, effective 1 January 2019.
3. Douglas Caster was appointed Chairman of the Board effective 1 January 2019 and stepped down as Chair of the Remuneration Committee on 31 December 2018.

Consideration of stakeholder views

The Group seeks to promote and maintain good relations with employee representative bodies – including trade unions and works councils – as part of its broader employee engagement strategy, and consults on matters affecting employees and business performance as required in each case by law and regulation in the jurisdictions in which the Group operates. In making remuneration decisions, the Remuneration Committee also considers the pay and employment conditions elsewhere in the Group, but the Committee does not currently consult with employees specifically on the executive Remuneration Policy and framework. Prior to the annual salary review, the Remuneration Committee is briefed by the Group Human Resources Director about pay increase data that individual business units will consider when deciding local pay awards for their specific businesses and countries. The Committee is also kept fully informed of remuneration policy and implementation decisions affecting the wider workforce. This important context forms part of the Committee's considerations for determining executive Director remuneration.

The Committee considers shareholder views received during the year and at the AGM each year, as well as guidance from investor representative bodies more broadly, in shaping its Remuneration Policy. The Committee keeps the Remuneration Policy under regular review, to ensure it continues to reinforce the Group's long-term strategy, and aligns executive Directors' interests with those of shareholders. It is the Remuneration Committee's policy to consult with major shareholders prior to any major changes to its executive Remuneration Policy.

Remuneration report continued

2. Annual report on remuneration

The following section provides details of how the Remuneration Policy was implemented during the year.

Remuneration Committee membership in 2018

During 2018 the Remuneration Committee was comprised of five non-executive Directors. Each of the non-executive Directors was regarded by the Board as independent, except the Chairman of the Company who was considered independent upon appointment. The Remuneration Committee met four times during the year. Attendance at meetings by individual members is detailed in the Corporate Governance Report on page 47.

Summary of shareholder voting at the 2016 and 2018 AGM

The following table shows the results of the latest binding vote on the Remuneration Policy (at the 2016 AGM) and advisory vote on the 2017 Annual Report on Remuneration (at the 2018 AGM).

Resolution	For	Against	Withheld[1]
Remuneration Policy (at the 2016 AGM)	98.86%	1.14%	932,484
Annual Report on Remuneration (at the 2018 AGM)	94.16%	5.84%	921,819

1. Votes 'withheld' are not votes in law and, therefore, have not been included in the calculation of the proportion of votes 'for' or 'against' the resolution.

Single total figure of remuneration for executive Directors

The auditor is required to report on the information in this table.

The table below sets out a single figure for the total remuneration received by each executive Director for the year ended 31 December 2018 and the prior year.

	Pete Raby		Peter Turner	
	2018	2017	**2018**	2017
1. Salary	**£520,000**	£495,000	**£400,600**	£392,700
2. Benefits	**£13,456**	£13,482	**£12,030**	£12,070
3. Bonus	**£525,720**	£529,650	**£405,007**	£420,189
4. LTIP	**£346,053**	£73,724	**£283,467**	–
5. Pension	**£104,000**	£99,000	**£80,120**	£78,540
6. Other	**–**	–	**–**	–
Total	**£1,509,229**	£1,210,856	**£1,181,224**	£903,499

The figures have been calculated as follows:

1. Base salary: amount earned for the year.
2. Benefits: the taxable value of benefits received in the year. Includes private medical insurance and a company car (or car allowance).
3. Annual bonus: the total bonus earned on performance during the year (before mandatory deferral into shares).
4. LTIP: the estimated value on 31 December 2018 of 2016 LTIP shares vesting in 2019 subject to performance over the three-year period ended 31 December 2018. Figure based on the average share price for the three months to 31 December 2018 of 276.23p. The figure for 2017 has been trued up from that disclosed in last year's Remuneration Report to reflect the share price on the vesting date (3 August 2018) of 351.40p.
5. Pension: the figure is a cash allowance of 20% of base pay in lieu of pension.

Incentive outcomes for the year ended 31 December 2018

Annual bonus in respect of 2018 performance

Targets for the annual bonus are set by the Remuneration Committee, taking into account the short- and long-term requirements of the Group. Challenging goals are set, which must be met before any bonus is paid. This approach is intended to align executive reward with shareholder returns by rewarding the achievement of 'stretch' targets.

For 2018, the bonus targets for the executive Directors were split between Group EBITA* before restructuring (weighted 40%), cash generation* (weighted 40%) and individual strategic personal objectives (weighted 20%). The targets were set to incentivise the executive Directors to deliver stretching profit and cash performance for the Group. Performance in line with target results in a payout of 50% of maximum.

In addition to the achievement of the targets set, in considering any awards to be made, the Committee also takes into account the quality of the overall performance of the Group.

The table that follows sets out retrospectively the assessment of performance relative to the 2018 bonus targets for the executive Directors. Actual bonus payments are shown in the single total figure of remuneration table on page 68.

Performance measure	% of maximum bonus element	Performance range: Threshold (0% payout)	Performance range: Maximum (100% payout)	Actual performance outcome	% payout of element	% salary earned
Group EBITA*[1]	40%	£119.0m	£131.5m	£130.7m	93%	56%
Cash generation*[1]	40%	£141.8m	£156.8m	£149.1m	29%[2]	17%
Personal objectives						
Pete Raby	20%	Please see narrative below for further details on objectives and performance against these			93%	28%
Peter Turner	20%				93%	28%

Overall outcome	Maximum bonus (% salary)	% of salary earned: Group EBITA*[1]	% of salary earned: Cash generation*[1]	% of salary earned: Personal objectives	Total outcome	Total payable
Pete Raby	150%	56%	17%	28%	**101.1%**	**£525,720**
Peter Turner	150%	56%	17%	28%	**101.1%**	**£405,007**

1. For both the EBITA* and cash generation* metrics, there was a straight-line payout between the threshold and maximum figures and all figures were calculated using 2018 budgeted exchange rates.
2. Group performance was just below budget. However, all of the quarterly cash targets set at the start of the year were missed. As a result, pay out of this element was reduced from 49% to 29%.

Pete Raby's personal objectives for 2018 were: (1) drive improvement in the safety culture and behaviours for the Group, (2) deliver technology investments to improve differentiation, strengthen margins, and accelerate growth, (3) improve operational performance creating an environment that encourages idea sharing across the company (4) enhance sales effectiveness to position the Group to grow at least in line with its markets for 2019, (5) strengthen the Group talent to support the delivery of the strategy. Performance of our leaders is assessed against all expectations of the role, specific personal objectives that are set and how outcomes are delivered with reference to our defined leadership behaviours. With all of these considerations, the personal performance element has been assessed at 93% of the maximum to reflect excellent progress across the Group.

Peter Turner's personal objectives for 2018 were: (1) drive improvement in the safety culture and behaviours for the Group, (2) establish prioritisation and tracking of key R&D projects to enable the best investment to improve differentiation, strengthen margins, and accelerate growth (3) establish KPIs and tracking mechanisms to measure operational performance and identify areas for improvement, (4) establish tracking tools, approaches, and data availability to support sales effectiveness to position the Group to grow, (5) strengthen the finance talent to improve the financial management of the business and (6) renew the Revolving Credit Facility. Considering the performance against these objectives, broader expectations of the role, the leadership behaviours exhibited and the strong performance of the Group in 2018, the personal performance element of Peter Turner's bonus has been assessed at 93% of the maximum.

2016 LTIP award vesting

Awards granted to executive Directors in 2016 were subject to relative TSR performance, EPS growth and Group ROCE* over a three-year period ended 31 December 2018. The EPS target (applying to one-third of each award) required three-year EPS growth of 4% per annum for 25% of that element to vest, rising to full vesting for EPS growth of 11% pa or higher. Over the period Morgan Advanced Materials plc's actual EPS growth was above the maximum for this performance criterion and accordingly the EPS element of the award will fully vest.

The TSR element (applying to one-third of each award) required Morgan Advanced Materials plc's three-year TSR performance to rank at median against two comparator groups (equally split), the FTSE All-Share Industrials Index and a tailored comparator group comprising 16 listed international carbon, ceramics and other materials companies for 25% of that element to vest, rising to full vesting if Morgan Advanced Materials plc's TSR ranked at or above the upper quartile against these two comparators.

Morgan Advanced Materials plc's TSR was 16.6%, which was at the 46th percentile versus the FTSE All-Share Industrials Index and the 44th percentile versus the tailored comparator group. Accordingly, none of the TSR element of the award will vest under these criteria.

The Group ROCE* target (applying to the remaining one-third of each award) required three-year Group ROCE* of 27% for 25% of that element to vest, rising to full vesting for Group ROCE* of 33% or higher. Morgan Advanced Materials plc's Group ROCE* was 27.3%, which resulted in 28.8% of this element vesting.

This combined performance resulted in a partial vesting of the 2016 awards based on 42.9% achievement of maximum.

Details of the awards to executive Directors are set out in the table below:

Director	Maximum potential LTIP award	Maximum potential LTIP-CSOP award	LTIP award vested	LTIP-CSOP award vested	LTIP-CSOP award exercised	Date of vesting
Pete Raby	292,022	–	125,277	–	–	23 May 2019
Peter Turner	226,783	12,426	97,289	TBC[1]	–	23 May 2019

1. Outcome of the LTIP-CSOP element is dependent on the Company's share price on the date of vesting. Please refer to page 75 for further information.

For the purposes of the 2016 LTIP award, the financial results were adjusted to neutralise the effects of divestments in 2017 and 2018.

Remuneration report continued

Pension

The auditor is required to report on this information.

Pete Raby and Peter Turner each receive a cash allowance in lieu of pension of 20% of base salary.

Single total figure of remuneration for non-executive Directors

The auditor is required to report on the information in this table.

The table below sets out a single figure for the total remuneration received by each non-executive Director in respect of the year ended 31 December 2018 and the prior year.

	Andrew Shilston[1]		Douglas Caster[2]		Helen Bunch[3]		Laurence Mulliez	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017
1. Fee	**£185,750**	£182,100	**£56,900**	£63,448	**£48,900**	£47,940	**£56,900**	£48,432
2. Benefits	–	–	–	–	–	–	–	–
3. Pension	–	–	–	–	–	–	–	–
4. Bonus	–	–	–	–	–	–	–	–
5. LTIP	–	–	–	–	–	–	–	–
6. Other	–	–	–	–	–	–	–	–
Total	**£185,750**	£182,100	**£56,900**	£63,448	**£48,900**	£47,940	**£56,900**	£48,432

	Jane Aikman	
	2018	2017
1. Fee	**£56,900**	£23,523
2. Benefits	–	–
3. Pension	–	–
4. Bonus	–	–
5. LTIP	–	–
6. Other	–	–
Total	**£56,900**	£23,523

1. Andrew Shilston retired from the Board on 31 December 2018.
2. Douglas Caster was appointed Chairman of the Board on 1 January 2019 and stepped down as Chair of the Remuneration Committee on 31 December 2018.
3. Helen Bunch was appointed Chair of the Remuneration Committee on 1 January 2019.

Scheme interests awarded in 2018

2018 LTIP awards

In 2018, Pete Raby and Peter Turner were granted awards under the LTIP as follows:

		Value of awards at grant		
Executive Director	Number of LTIP shares granted[1]	£	As % of 2018 annualised salary	Date of vesting
Pete Raby	233,981	780,000	150%	21 March 2021
Peter Turner	180,255	600,900	150%	21 March 2021

1. Calculated using the award price of £3.3336, being the average share price for the five dealing days prior to the award date.

The Committee discusses and reviews the performance criteria for new three-year LTIP awards before they are granted. For the awards granted in 2018, the Committee considered the balance of measures in light of the Group's business plan and shareholder feedback, and decided to maintain the equal (one-third) weighting of the three performance criteria with the TSR element continuing to be split into two parts. One-half of this element will vest based on Morgan's TSR performance relative to the constituents of the FTSE All-Share Industrials Index (comprising 103 companies) and one-half will vest based on Morgan's TSR performance relative to a tailored comparator group of 16 industry comparators.

The table below sets out the targets attaching to the 2018 LTIP awards:

TSR vs FTSE All-Share Industrials Index	% of award that vests	TSR performance vs peer group	% of award that vests	EPS growth	% of award that vests	Group ROIC*	% of award that vests
Upper quartile	16.67%	Upper quartile	16.67%	11% pa	33.33%	19%	33.33%
Median	4.17%	Median	4.17%	4% pa	8.33%	16%	8.33%
Below median	Nil	Below median	Nil	< 4% pa	Nil	<16%	Nil

For executive Directors, there is a two-year holding period in relation to the 2018 LTIP. Dividends accrue over this holding period on any shares that vest.

2018 Deferred Bonus Plan awards

In 2018, 33% of the annual bonus results for Pete Raby and Peter Turner (for performance in the 2017 financial year) were deferred into shares under the Deferred Bonus Plan (DBP), in line with Morgan's Remuneration Policy. The following DBP awards were granted:

	Value of awards at grant		
Executive Director	Number of DBP shares granted	Value of award[1] £	Date of vesting
Pete Raby	52,955	176,531	21 March 2021
Peter Turner	42,011	140,048	21 March 2021

1. Calculated using the award price of £3.3336, being the average share price for the five dealing days prior to the award date.

Exit payments made in year

The auditor is required to report on this information.

No exit payments were made to executive Directors during the 2018 financial year.

Payments to past Directors

The auditor is required to report on this information.

No payments were made to past Directors during the 2018 financial year.

External appointments

No external appointments were held by either executive Director in the 2018 financial year.

Implementation of Remuneration Policy for 2019

Base salary

In line with the Remuneration Policy, executive Directors' salaries were reviewed by the Committee and increased for 2019. The table below shows the base salaries in 2018, and those that took effect from 1 January 2019:

	Base salary at:		
Executive Director	1 January 2019	1 January 2018	Increase
Pete Raby	£545,000	£520,000	4.81%
Peter Turner	£408,600	£400,600	2.0%

For the 2018 performance year, the Group introduced a more formal link between performance and pay within the senior leadership population. Specifically, the process considers individual and Group performance, as well as salary relative to the relevant market.

The increases awarded to both Pete Raby and Peter Turner were calibrated in line with this. The Committee considered Pete Raby's continued excellent performance in the role as well as the below-market positioning of his salary in determining to increase his salary above the rate of inflation. Considering Peter Turner's continued strong performance and salary above market benchmarks, the Committee determined that an inflationary salary increase was appropriate. The rationale for any future increases will be disclosed in the relevant Annual Report on Remuneration.

Pension

While Pete Raby and Peter Turner will continue to receive a cash allowance in lieu of pension, the monetary value will be fixed at the 2018 level disclosed in the table on page 68 in an effort to align executive Director pensions with those of the wider workforce over time.

Annual bonus in respect of 2019 performance

The maximum bonus opportunity remains at 150% of salary (with the payout for on-target performance continuing to be 50% of the maximum). 33% of any bonus result will ordinarily be deferred into shares for a further three-year period. The performance measures attached to the annual bonus remain unchanged from 2018, as follows:

EBITA* – 40%

Cash generation* – 40% (measured against quarterly cumulative targets as well as over the complete financial year. For every quarterly target that is missed, the payout warranted for full-year performance under this element will be reduced by 10%)

Strategic personal objectives – 20%

The actual performance targets set at the beginning of the performance period are not disclosed as they are considered commercially sensitive at this time, given the close link between performance measures and the Group's longer-term strategy. This is particularly relevant in the context of some of the Group's close and unlisted competitors who are not required to disclose such information, and for whom the assumptions in our targets would provide valuable information in the current trading year. We will disclose these targets retrospectively, at such time as these targets have become less commercially sensitive, and within three years of the end of the performance year.

Remuneration report continued

2019 LTIP awards

In March 2019, Pete Raby and Peter Turner will be granted awards under the 2019 LTIP with a face value of 150% of their respective base salaries for 2019. The three-year performance period over which performance will be measured began on 1 January 2019 and will end on 31 December 2021. Further details of the awards will be disclosed in next year's Remuneration Report.

The performance measures are detailed below:

- Each TSR element will operate independently, with vesting determined based on Morgan's TSR rank relative to constituents of each TSR benchmark. The performance range for each element will remain median to upper quartile.
- The EPS performance range will remain unchanged at 4%-11% p.a. The ROIC* range will increase from 16%-19% in 2018 to 17%-20% to reflect improving performance. The Committee believes these ranges appropriately support the Group's strategy for sustainable long-term growth over the next three years whilst continuing to represent suitably demanding targets.
- For all three measures, awards will continue to vest on a straight-line basis between threshold and maximum, with 25% of each element vesting at threshold.
- For the 2019 LTIP cycle, executive Directors will be required to hold any vested 2019 LTIP awards for an additional two-year period. Vested awards that are subject to the holding period will remain subject to clawback in line with our Policy, but will not be forfeitable on cessation of employment.

Chairman and non-executive Director fees

The Chairman's and non-executive Directors' fees were reviewed in December 2018. The following fees will apply in 2019:

Role	2019 fee pa	2018 fee pa	Increase
Chairman	£189,500	£185,750	2.0%
Non-executive Director	£49,900	£48,900	2.0%
Committee Chair (additional fee)	£8,000	£8,000	0%
Senior Independent Director (additional fee)	£8,000	£8,000	0%

Percentage change in CEO remuneration

The table below shows the percentage change in CEO remuneration (from 2017 to 2018) compared to the average percentage change in remuneration for other UK-based employees over the same period. The UK employee workforce was chosen as a suitable comparator group as the CEO is based in the UK (albeit with a global role and responsibilities) and pay changes across the Group vary widely depending on local market conditions. Although similar remuneration principles apply across the wider Group, pay decisions for this subset are impacted by similar external market forces (eg wage inflation, local practice with respect to the provision of benefits, etc.).

	CEO			
Elements of remuneration	**2018**	2017	% change	% change in 2018 (vs 2017) for other employees
Base salary received during the year	**£520,000**	£495,000	5.05%	2.5%
Taxable benefits (excluding pension)	**£13,456**	£13,482	-0.2%	12.3%
Annual bonus	**£525,720**	£529,650	-0.7%	-7.5%

Relative importance of spend on pay

The graphs below show shareholder distributions (ie dividends and share buybacks) and total employee pay expenditure for the financial years ended 31 December 2017 and 31 December 2018, and the percentage change year on year.

Shareholder distributions

£m

Total employee pay expenditure

£m

Total employee pay across the Group has increased by 2.7% to £358.4 million (2017: £348.6 million). The 2017 figure has been restated to remove the divestment of the Composites and Defence systems business.

Advisers

Kepler (now branded Mercer Kepler) was appointed by the Committee in 2010 as its executive remuneration adviser and was retained during the most recent financial year. In 2018 Kepler provided independent advice on performance measurement, the setting of incentive targets, TSR analysis and the structure of long-term incentives, and provided market data in respect of senior executive remuneration and non-executive Director fees. Kepler reports directly to the Chairman of the Remuneration Committee and does not provide any other material non-remuneration-related services to the Group (nor does Kepler's parent company, Mercer), and is considered to be independent.

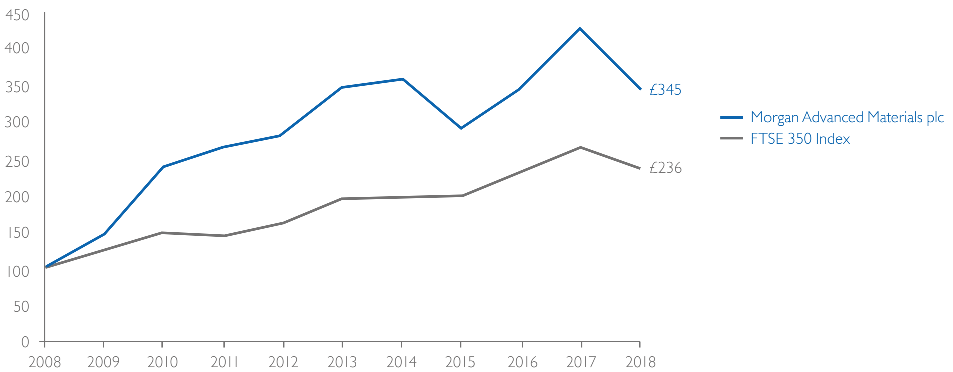
Kepler is a signatory to the Remuneration Consultants Group's voluntary Code of Conduct.

Fees paid during the year to advisers for advice to the Remuneration Committee, charged on a time and materials basis, were as follows:

Adviser	Fees (including expenses, excluding VAT)
Kepler	£39,650

Comparison of Company performance

The graph below shows the value, at 31 December 2018, of £100 invested in Morgan Advanced Materials plc's shares on 31 December 2008 compared with the current value of the same amount invested in the FTSE 350 Index. The FTSE 350 Index – of which the Company is a constituent – has been chosen because it is widely followed by the UK's investment community and easily tracked over time.



The table below details the CEO's 'single figure' of remuneration over the eight-year period to 31 December 2018.

CEO	2011 M Robertshaw	2012 M Robertshaw	2013 M Robertshaw	2014 M Robertshaw	2015 P Raby	2016 P Raby	2017 P Raby	2018 P Raby
CEO single figure	£3,371,302	£1,285,556	£648,932	£1,001,448	£788,252	£787,492	£1,210,856	£1,509,229
Annual bonus (% max)	100%	0%	0%	65%	50%	29.5%[1]	71.3%	67.4%
BDSMP vesting (% max)	60%	100%	0%	0%	n/a	n/a	n/a	n/a
LTIP vesting (% max)	100%	50%	0%	0%	n/a	n/a	15.4%	42.9%

1. Figure represents percentage achievement of maximum opportunity. Bonus maximum as a percentage of salary increased to 150% of base salary in 2016 compared to 100% in previous years.

Directors' interests in shares

Shares owned outright

The auditor is required to report on the information in this table.

The following table shows the number of shares held by each person who was a Director of Morgan Advanced Materials plc as at 31 December 2018 (together with shares held by their connected persons) in the Ordinary share capital of the Company:

	As at 1 January 2018	As at 31 December 2018	As at 26 February 2019[1]
Executive Directors			
Pete Raby	71,646	82,743	82,743
Peter Turner	40,000	140,000	140,000
Non-executive Directors			
Andrew Shilston[2]	70,000	70,000	70,000
Laurence Mulliez	1,260	1,260	1,260
Douglas Caster	18,000	18,000	18,000
Helen Bunch	925	925	925
Jane Aikman	–	1,000	1,000

1. The date of this Report.
2. Andrew Shilston retired from the Board on 31 December 2018.

As at 15 March 2019, the Directors' interest in shares had not changed since the end of the period under review.

Remuneration report continued

Executive Directors' shareholding guidelines

The table below shows the shareholding of each executive Director against their respective shareholding guideline as at 31 December 2018.

	Shareholding guideline (% 2018 salary)	Shares owned outright	Shares subject to performance[1]	Performance-tested but unvested shares	Shares subject to DBP deferral[2]	Options vested but unexercised[3]	Current shareholding (% 2018 salary)[4]	Guideline met?
Pete Raby	200%	82,743	762,077	–	37,353	3,862	63%	Building
Peter Turner	200%	140,000	619,175	–	28,592	–	111%	Building

1. 2016, 2017 and 2018 LTIP and LTIP-CSOP awards.
2. Estimated number of shares, net of tax (50%), deferred under the DBP.
3. Options granted under the Sharesave scheme for Pete Raby.
4. Based on an executive Director's 2018 salary and the share price at 31 December 2018 of 263.20 pence, comprising shares owned outright and shares subject to deferral.

Unless otherwise stated, figures given in the tables on pages 73 to 75 are for shares or interests in shares.

Pete Raby

The auditor is required to report on the information in this table.

LTIP

Status at 31 December 2018	Plan	As at 1 January 2018	Allocations during the year	Released during the year	Lapsed during the year	As at 31 December 2018	Market price at date of allocation	Market price at date of release	Performance period
	2015	127,543	–	19,641	107,902	–	344.98p	352.40p	01.01.15 – 31.12.17
No further performance conditions, released	2015 funding	8,696	–	1,311	7,385	–	344.98p	352.40p	01.01.15 – 31.12.17
No further performance conditions, released	2016	292,022	–	–	–	292,022	241.42p	–	01.01.16 – 31.12.18
Subject to performance conditions	2017	236,074	–	–	–	236,074	314.52p	–	01.01.17 – 31.12.19
	2018	–	233,981	–	–	233,981	333.36p	–	01.01.18 – 31.12.20

Share options

Status at 31 December 2018	Plan	As at 1 January 2018	Allocations during the year	Released during the year	Lapsed during the year	As at 31 December 2018	Market price at date of allocation	Market price at date of release	Performance period
Subject to performance conditions, released	2015 LTIP-CSOP	8,696	–	1,339	7,357	–	344.98p	352.40p	01.01.15 – 31.12.17
Subject to continued service only	2016 Sharesave	3,862	–	–	–	3,862	233.00p	–	01.12.16 – 30.11.19

Total interests in share plans

As at 1 January 2018	As at 31 December 2018
698,644[1,2]	840,645[1,2]

1. Includes 2017 deferred bonus award.
2. Includes 2018 deferred bonus award.

Peter Turner

The auditor is required to report on the information in this table.

LTIP

Status at 31 December 2018	Plan	As at 1 January 2018	Allocations during the year	Released during the year	Lapsed during the year	As at 31 December 2018	Market price at date of allocation	Market price at date of release	Performance period
Subject to performance conditions	2016	226,783	–	–	–	226,783	241.42p	–	01.01.16 – 31.12.18
Subject to performance conditions	2016 funding	12,426	–	–	–	12,426	241.42p	–	01.01.16 – 31.12.18
Subject to performance conditions	2017	187,285	–	–	–	187,285	314.52p	–	01.01.17 – 31.12.19
	2018	–	180,255	–	–	180,255	333.36p	–	01.01.18 – 31.12.20

Share options

Status at 31 December 2018	Plan	As at 1 January 2018	Allocations during the year	Released during the year	Lapsed during the year	As at 31 December 2018	Market price at date of allocation	Market price at date of release	Performance period
Subject to performance conditions	2016 LTIP-CSOP	12,426	–	–	–	12,426	241.42p	–	01.01.16 – 31.12.18

Total interests in share plans

As at 1 January 2018	As at 31 December 2018
454,093[1,2]	676,359[1,2,3]

1. Includes a funding award of 12,426 shares to be used to the extent required to pay the exercise price arising on exercise of the CSOP and therefore not transferable to Peter Turner.
2. Includes 2017 deferred bonus award.
3. Includes 2018 deferred bonus award.

Details of plans

LTIP

Plan	Details
2016, 2017, 2018	The performance conditions attached to the 2016 awards are set out on page 69. The 2017 awards were on the same basis as the 2016 awards except that the ROCE* measure was replaced by ROIC*, as detailed earlier in this Report. The ROIC* range for 2017 is 16%-19%. The 2018 awards were on the same basis as the 2017 awards.

Share options

Plan	Details
LTIP – CSOP	LTIP 2016: The CEO's award was structured as an LTIP award in the form of a conditional award of free shares. The CFO's award was structured as an Approved Performance Share Plan (APSP) and comprised three elements: (i) HMRC-approved options (CSOP) over shares to the value of up to £30,000 with an exercise price of 241 pence per share; (ii) an LTIP award in the form of a conditional award of free shares to the value of the remainder of the award above this limit; and (iii) a funding award, also in the form of a conditional award of free shares, over such numbers of shares whose value at exercise at the approved option equals up to £30,000. The award is also subject to malus and clawback provisions. The provisions of these CSOP options, funding awards and LTIP awards was linked so that the maximum aggregate number of shares that could be acquired on exercise of LTIP and CSOP awards (the funding award being used to pay the exercise price arising on exercise of the CSOP) was limited to that number of shares that had a market value on the date of the awards equal to 150% of Peter Turner's 2016 annual salary. Vested funding awards were not transferable to the participant. LTIP 2017: The awards to the CEO and CFO were structured as LTIP awards in the form of a conditional award of free shares. LTIP 2018: The awards to the CEO and CFO were structured as LTIP awards in the form of a conditional award of free shares.
2016 Sharesave 2017 Sharesave 2018 Sharesave	HMRC-approved all-employee Sharesave scheme. Exercise price set at 20% discount to share price on date of grant. Options vest after three years of continuous service and must be exercised within six months of vesting. Details of options held by Directors under Sharesave are outlined in the individual Director shareholding tables above.

Deferred Bonus Plan

Plan	Details
2017 and 2018	Mandatory deferral of one-third of gross bonus result relating to the previous year, which is provided as a conditional award of shares of the equivalent value. The award vests on the third anniversary of the award date and is subject to forfeiture if the executive Director leaves before the vesting date. The award is also subject to malus and clawback provisions.

Other transactions involving Directors are set out in note 26 (Related Parties) to the financial statements. This Report was approved by the Board on 26 February 2019.

Signed on behalf of the Board

Helen Bunch
Committee Chair

Other disclosures

The Directors' Report is required to be produced by law. The Financial Conduct Authority (FCA)'s Disclosure Guidance and Transparency Rules (DTRs) and Listing Rules (LRs) also require the Company to make certain disclosures.

Pages 42 to 75 inclusive (together with the sections of the Annual Report incorporated by reference) constitute a Directors' Report that has been drawn up and presented in accordance with applicable law, and the liabilities of the Directors in connection with that Report are subject to the limitations and restrictions provided by that law.

The Company

Legal form of the Company

Morgan Advanced Materials plc is a company incorporated in England and Wales with company number 286773.

Name change

The Company changed its name to Morgan Advanced Materials plc (from The Morgan Crucible Company plc) on 27 March 2013.

Annual General Meeting (AGM)

The Company's 2019 AGM will be held on Friday 10 May 2019 at the offices of Addleshaw Goddard LLP, Milton Gate, 60 Chiswell Street, London EC1Y 4AG. A circular incorporating the Notice of AGM accompanies this Annual Report.

Statutory disclosures

Amendment of the Articles of Association

The Company's constitution, known as the Articles of Association (the Articles), is essentially a contract between the Company and its shareholders, governing many aspects of the management of the Company. It deals with matters such as the rights of shareholders, the appointment and removal of Directors, the conduct of the Board and general meetings and communications by the Company.

The Articles may be amended by special resolution of the Company's shareholders and are available on the Company's website at **www.morganadvancedmaterials.com.**

Appointment and replacement of Directors

The Articles provide that the Company may by ordinary resolution at a general meeting appoint any person to act as a Director, provided that notice is given of the resolution identifying the proposed person by name and that the Company receives written confirmation of that person's willingness to act as Director if he or she has not been recommended by the Board.

The Articles also empower the Board to appoint as a Director any person who is willing to act as such. The maximum possible number of Directors under the Articles is 15. The Articles provide that the Company may by special resolution, or by ordinary resolution of which special notice is given, remove any Director before the expiration of his or her period of office. The Articles also set out the circumstances in which a Director shall vacate office. The Articles require that at each AGM any Director who was appointed after the previous AGM must be proposed for election by the shareholders. Additionally, any other Director who has not been elected or re-elected at one of the previous two AGMs must be proposed for re-election by the shareholders. The Articles also allow the Board to select any other Director to be proposed for re-election. In each case, the rules apply to Directors who were acting as Directors on a specific date selected by the Board. This is a date not more than 14 days before, and no later than, the date of the Notice of AGM.

Notwithstanding the provisions of the Articles, all the Directors will stand for election or re-election on an annual basis in compliance with the provisions of the UK Corporate Governance Code (the Code). Details of the skills, experience and career history of Directors in post as at the date of this Report, and the Board Committees on which they serve, can be found on pages 44 and 45.

Results and dividends

The total profit (profit attributable to owners of the parent and non-controlling interests) for the year ended 31 December 2018 was £53.5 million (2017: £113.9 million). Profit before taxation for the same period was £94.9 million (2017: £136.8 million). Revenue was £1,033.9 million (2017: £1,001.4 million) and operating profit was £107.3 million (2017: £159.1 million). Basic earnings per share* from continuing operations was 20.0 pence (2017: 38.1 pence). Capital and reserves at the end of the year were £277.2 million (2017: £234.3 million). The total profit of £46.3 million will be transferred to equity.

The Directors recommend the payment of a final dividend at the rate of 7.0 pence per share on the Ordinary share capital of the Company, payable on 24 May 2019 to shareholders on the register at the close of business on 3 May 2019. Together with the interim dividend of 4.0 pence per share paid on 23 November 2018, this final dividend, if approved by shareholders, brings the total distribution for the year to 11.0 pence per share (2017: 11.0 pence).

Directors

All those who served as Directors at any time during the year under review are set out on pages 44 and 45, with the exception of Andrew Shilston, who retired from the Board on 31 December 2018.

Powers of the Directors

Subject to the Company's Articles, UK legislation and any directions given by special resolution, the business of the Company is managed by the Board, which may exercise all the powers of the Company.

Directors' interests

Details of Directors' interests (and their connected persons' beneficial interests) in the share capital of the Company are listed on page 73.

Directors' indemnities

The Company has entered into separate indemnity deeds with each Director containing qualifying indemnity provisions, as defined in Section 236 of the Companies Act 2006, under which the Company has agreed to indemnify each Director in respect of certain liabilities which may attach to each of them as a Director or as a former Director of the Company or any of its subsidiaries. The indemnity deeds were in force during the financial year to which this Directors' Report relates and are in force as at the date of approval of the Directors' Report.

Information required by LR 9.8.4R

There is no information required to be disclosed under LR 9.8.4R.

Overseas branches

As at 31 December 2018, the Company had branches as follows:

- Thermal Ceramics Europe (France)
- Morganite Australia Pty Limited (New Zealand)
- Morgan AM&T BV (Sweden and Belgium)
- Carbo San Luis SA (Peru)

Human resources

Details of the Group's human resources policies and employee involvement are set out on pages 40 and 41.

There are no agreements between the Company and its Directors or employees providing for compensation for loss of office or employment (whether through resignation, purported redundancy or otherwise) that occurs because of a takeover bid.

Research and development

During the year, the Group invested £36.2 million (2017: £34.3 million) in research and development. The Group did not capitalise any development costs in 2018 (2017: £nil).

Details of the Group's research and development during the year are set out on page 13.

Greenhouse gas emissions

Details of the Group's annual greenhouse gas emissions are shown in the Environment, health and safety section on page 39.

Political donations

No political donations have been made. Morgan Advanced Materials plc has a policy of not making donations to any political party, representative or candidate in any part of the world.

Financial instruments

Details of the Group's use of financial instruments, together with information on policies and exposure to price, liquidity, cash flow, credit, interest rate and currency risks, can be found in note 21 on pages 116 to 124. All information detailed in this note is incorporated into the Directors' Report by reference and is deemed to form part of the Directors' Report.

Share capital and related matters

Share capital

The Company's share capital as at 31 December 2018 is set out in note 40 on page 148. The Company's Ordinary shares represent 99.85% of the total issued share capital, with the 5.5% Cumulative First Preference shares representing 0.04% and the 5.0% Cumulative Second Preference shares representing 0.11%. The rights and obligations attaching to the Company's Ordinary shares, and restrictions on the transfer of shares in the Company, are set out in the Articles.

Shareholders' rights

The holders of Ordinary shares are entitled: to receive dividends, when declared; to receive the Company's reports and accounts; to attend and speak at general meetings of the Company; to appoint proxies; and to exercise voting rights.

Details of the structure of the Company's Preference share capital and the rights attaching to the Company's Preference shares are set out in note 40 on page 148.

No person holds securities in the Company carrying special rights with regard to control of the Company. The Company is not aware of any agreements between holders of securities that may result in restrictions on the transfer of securities or on voting rights.

Share allotment and repurchase authorities

The Directors were granted authority at the 2018 AGM to allot shares in the Company and to grant rights to subscribe for or convert any securities into shares in the Company up to (a) a nominal amount of £23,780,832 and (b) a nominal amount of £47,561,664 in connection with a rights issue (such amount to be reduced by any shares allotted under (a)). This authority is scheduled to lapse at the 2019 AGM. At the 2019 AGM, shareholders will be asked to grant a similar allotment authority.

Two separate special resolutions will also be proposed to renew the Directors' powers to make non-pre-emptive issues for cash up to an aggregate nominal amount representing approximately 5% of the issued share capital as at the last practicable date before the publication of the 2019 Notice of AGM, and an additional 5% of the issued share capital which would be for use only in connection with acquisitions and specified capital investments.

The Directors sought authority at the 2018 AGM to repurchase shares in the capital of the Company up to a maximum aggregate number of Ordinary shares of 28,536,998. The Directors will seek to renew this authority at the 2019 AGM.

Employee share and share option schemes

The Company operates a number of employee share and share option schemes. One hundred and three employees hold awards under the Morgan Advanced Materials plc Long-Term Incentive Plan, including share options held under the Approved Performance Share Plan, four employees hold awards under the Morgan Advanced Materials Deferred Bonus Plan and 406 employees participate in the Company's UK Sharesave scheme. Details of outstanding share awards and share options are given in note 22 on pages 124 to 132.

All the Company's share schemes contain provisions relating to a change of control. Outstanding options and awards would normally vest and become exercisable on a change of control, subject to being pro-rated for time and to the satisfaction of any performance conditions at that time.

The Trustees of The Morgan General Employee Benefit Trust (the Trust) have absolute and unfettered discretion in relation to voting any shares held in the Trust at any general meeting. Their policy is not to vote the shares. If any offer is made to shareholders to acquire their shares, the Trustees will have absolute and unfettered discretion as to whether to accept or reject the offer in respect of any shares held by them.

Major shareholdings

As at 31 December 2018, the Company had been notified of the following, in accordance with DTR 5, from holders of notifiable interests representing 3% or more of the issued Ordinary share capital of the Company:

	Number of Ordinary shares	%[1]
Ameriprise Financial Inc., and its group	24,186,489	8.48
AXA Investment Managers SA	22,707,707	7.96
Prudential Plc group of companies (M&G)	21,727,447	7.61
Black Creek Investment Management Inc.	17,136,885	6.01
Harris Associates	14,119,504	4.95

1. Percentages are shown as a percentage of the Company's issued share capital as at 31 December 2018.

Note: As at 15 March 2019, there were no changes to the substantial shareholdings shown in the above table.

Transactions, contractual arrangements and post-balance sheet events

Significant agreements – change of control

The Group has a number of borrowing facilities provided by various financial institutions. The facility agreements generally include change of control provisions which, in the event of a change in ownership of the Company, could result in their renegotiation or withdrawal.

The most significant of such agreements are the UK five-year £200 million multi-currency revolving credit facility agreement, which was signed on 26 September 2018, and the privately placed Note Purchase and Guarantee Agreements signed on 15 December 2007 and 27 October 2016, for which the aggregate outstanding loan amounts are US$187 million and €60 million. The Group also successfully concluded a US Private Placement transaction during the period, for which the aggregate outstanding loan amounts are US$25 million and €25 million. The initial €25 million was funded 27 December 2018, with the funding of the $25 million completed in January 2019.

There are a number of other agreements that would take effect, alter or terminate upon a change of control of the Company following a takeover bid, such as commercial contracts and joint venture agreements. No such individual contract is considered to be significant in terms of its potential impact on the business of the Group as a whole.

Other disclosures continued

Post balance-sheet events

In 2018, the Group completed a US private debt placement, raising $25 million to refinance existing financial indebtedness. Funding was completed on 28 January 2019.

Reporting, accountability and audit

Statement of Directors' responsibilities

The Directors are responsible for preparing the Annual Report and the Group and Parent Company financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare Group and parent Company financial statements for each financial year. Under that law they are required to prepare the Group financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the EU and applicable law and have elected to prepare the Parent Company financial statements in accordance with UK Accounting Standards and applicable law (UK Generally Accepted Accounting Practice or UK GAAP).

A new UK GAAP accounting framework introduced by the Financial Reporting Council (FRC) became mandatorily effective for the financial statements of UK companies in 2015. Under this framework, the Company is required to prepare its parent Company financial statements on one of the bases permitted by the FRC.

As previously notified, the Company has chosen to adopt FRS 101 *Reduced Disclosure Framework*, which enables the Company to take advantage of the permitted election to utilise the disclosure exemptions allowed under FRS 101. The consolidated financial statements of the Group on pages 84 to 136 are prepared in accordance with EU-adopted IFRSs and are unaffected by this accounting framework. The Company proposes to continue to adopt the reduced disclosure framework of FRS 101 in its future financial statements.

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 parent Company and of their profit or loss for that period.

In preparing each of the Group and Parent 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 EU.
- Assess the Group and parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern.
- For the Parent Company financial statements, state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the Parent Company financial statements. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and 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.
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and the Parent Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Parent Company's transactions and disclose with reasonable accuracy at any time the financial position of the Parent 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, Remuneration Report and Corporate Governance Statement 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.

In its reporting to shareholders, the Board is satisfied that the Annual Report and Accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy as required by the Code.

The Directors as at the date of this Report, whose names and functions are set out on pages 44 and 45, confirm that, to the best of their knowledge:

- The Group's financial statements, which have been prepared in accordance with IFRSs as adopted by the EU, give a true and fair view of the assets, liabilities, financial position and profit of the Group.
- The management report (comprising the Directors' Report and the Strategic Report) includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal risks and uncertainties that it faces.

Scope of the reporting in this Annual Report

The Board has prepared a Strategic Report which provides an overview of the development and performance of the Group's business in the year ended 31 December 2018.

For the purposes of DTR 4.1.5R(2) and DTR 4.1.8, the Directors' Report on pages 42 to 75 and the Strategic Report on pages 4 to 41 comprise the management report, including the sections of the Annual Report and financial statements incorporated by reference.

Each Director holding office at the date of approval of this Directors' Report confirms that, so far as he or she is aware, there is no relevant audit information of which the Company's auditor is unaware, and that he or she has taken all steps that he or she ought to have taken as a Director to make himself or herself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

The Strategic Report, the Directors' Report and the Remuneration Report were approved by the Board on 26 February 2019.

For and on behalf of the Board

Stephanie Mackie
Company Secretary

26 February 2019

Morgan Advanced Materials plc
Quadrant, 55-57 High Street
Windsor
Berkshire SL4 1LP

Registered in England and Wales, No. 286773

Independent auditors report to the members of Morgan Advanced Materials plc

1 Our opinion is unmodified

We have audited the financial statements of Morgan Advanced Materials plc ('the Company') for the year ended 31 December 2018 which comprise the Consolidated income statement, Consolidated statement of comprehensive income, Consolidated and Company balance sheets, Consolidated and Company statements of changes in equity, Consolidated statement of cash flows and the related notes, including the accounting policies in note 1.

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 2018 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, including FRS 101 *Reduced Disclosure Framework*; and
- 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.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities are described below. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion. Our audit opinion is consistent with our report to the audit committee.

We were first appointed as auditor by the directors on 4 October 2001. The period of total uninterrupted engagement is for the 18 financial years ended 31 December 2018. We have fulfilled our ethical responsibilities under, and we remain independent of the Group in accordance with, UK ethical requirements including the FRC Ethical Standard as applied to listed public interest entities. No non-audit services prohibited by that standard were provided.

2 Key audit matters: our assessment of risks of material misstatement

Key audit matters are those matters that, in our professional judgement, were of most significance in the audit of the financial statements and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by us, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. We summarise below the key audit matters in decreasing order of audit significance, in arriving at our audit opinion above, together with our key audit procedures to address those matters and, as required for public interest entities, our results from those procedures. These matters were addressed, and our results are based on procedures undertaken, in the context of, and solely for the purpose of, our audit of the financial statements as a whole, and in forming our opinion thereon, and consequently are incidental to that opinion, and we do not provide a separate opinion on these matters.

Tax provisioning (£26.0 million (2017: £23.0 million))

The risk

Subjective estimate

Accounting for tax contingencies require the directors to make judgements and estimates in relation to tax issues and exposures given that the group operates 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. The effect of these matters is that, as part of our risk assessment, we determined that the tax provisions have a high degree of estimation uncertainty, with a potential range of outcomes greater than our materiality for the financial statements as a whole.

Our response – our procedures included:

Our tax expertise

Use of our own tax specialists to assess the group's tax positions, its correspondence with the relevant tax authorities, and to analyse and challenge the assumptions used to determine the level of tax provisions;

Challenging the assumptions using our own expectations based on our knowledge of the group, and experiences of the application of the international and local legislation by the relevant authorities and courts; and

Assessing transparency

Assessing whether the Group's tax disclosures are appropriate and in accordance with relevant accounting standards.

Our results

We considered the level of tax provisioning to be acceptable.

Environmental provisions, legal and other provisions and contingent liabilities

Refer to page 53 (Audit Committee report), page 133 (accounting policy note).

The risk

Subjective judgement

Potential exposures may arise from legal, regulatory or environmental issues. Whether there is a liability is inherently uncertain. At one site, an investigation in respect of a known environmental issue is being conducted, and whether the liability can be reliably estimated is judgemental.

Our response – our procedures included:

Enquiry of experts

We assessed the extent to which the Group's judgement as to whether a provision should be recorded is a balanced assessment of the latest available information and the accuracy and reliability of the sources of that information.

We challenged the judgement made in respect of the environmental contingency through discussions with management and the environmental experts engaged by the group.

Assessing transparency

Assessing whether the Group's related disclosures adequately disclose the potential liability of the Group.

Our results

We found the judgement made, and the contingent liability disclosures made to be acceptable.

Independent auditors report to the members of Morgan Advanced Materials plc Continued

UK defined benefit pension obligation (Group: £544.4 million; 2017: £593.7 million. Parent Company: £178.2 million; 2017: £194.6 million)

Refer to pages 139 to 142 (accounting policy note) and pages 124 to 132 (financial disclosures).

The risk

Subjective valuation

Small changes in the assumptions and estimates used to value the UK pension obligation (before deducting scheme assets) would have a significant effect on the group's and parent company's net pension deficit.

The effect of these matters is that, as part of our risk assessment, we determined that the UK pension obligation has a high degree of estimation uncertainty, with a potential range of reasonable outcomes greater than our materiality for the financial statements as a whole, and possibly many times that amount. The financial statements (notes 22 and 38) disclose the sensitivity estimated by the Company.

Our response – our procedures included:

Assessing actuary's credentials

We critically assessed the competency, objectivity and independence of the Scheme's actuary;

Benchmarking assumptions

Challenging, with the support of our own actuarial specialists, the key assumptions applied, being the discount rate, inflation rate and mortality/life expectancy against externally derived data; and

Assessing transparency

Considering the adequacy of the group's and parent company's disclosures in respect of the sensitivity of the deficit to these assumptions.

Our results

We found the valuation of the pension obligation to be acceptable.

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

Materiality for the group financial statements as a whole was set at £4.1 million (2017: £3.5 million), determined with reference to a benchmark of group profit before tax, normalised to exclude this year's specific adjusting items as disclosed in note 6, of which it represents 3.9% (2017: 3.9%).

Materiality for the parent company financial statements as a whole was set at £3.8 million (2017: £3.325 million), determined with reference to a benchmark of company total assets and chosen to be lower than materiality for the group financial statements as a whole. It represents 0.3% (2017: 0.3%) of total assets.

We agreed to report to the Audit Committee any corrected or uncorrected identified misstatements exceeding £0.2 million, in addition to other identified misstatements that warranted reporting on qualitative grounds.

Of the group's 115 (2017: 115) reporting components, we subjected 25 (2017: 25) to full scope audits for group purposes and 12 (2017: 11) to specified risk-focused audit procedures. The latter were not individually financially significant enough to require a full scope audit for group purposes, but were included in the scope of our group reporting work in order to provide further coverage over the group's results.

The remaining 20% of total group revenue, 25% of group profit before tax and 14% of total group assets is represented by 78 of reporting components, none of which individually represented more than 5% of any of total group revenue, group profit before tax or total group assets. For these residual components, we performed an analysis at an aggregated group level to re-examine our assessment that there were no significant risks of material misstatement within these components.

The Group 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 team approved the component materialities, which ranged from £0.1 million to £1.6 million, having regard to the mix of size and risk profile of the Group across the components. The work on 36 of the 37 components (2017: 35 of the 36 components) was performed by component auditors and the audit of the parent company, was performed by the Group team. For those items excluded from group headline profit before tax, the component teams performed procedures on items relating to their components. The group team performed procedures on the remaining excluded items.

The Group team visited 1 (2017: 1) component location in the USA (2017: USA) to assess the audit risk and strategy. Telephone conference meetings were also held with this component auditor and all of the other locations that were not physically visited. At these visits and meetings, the findings reported to the Group team were discussed in more detail, and any further work required by the Group team was then performed by the component auditor.

The components within the scope of our work accounted for the following percentages of the group's results:

	Number of Components	Group revenue	Group profit before tax	Group total assets
Audits for Group reporting purposes	25	54%	52%	65%
Specific risk focused audit procedures	12	26%	23%	21%
Total	**37**	**80%**	**75%**	**86%**
Total (2017)	36	79%	74%	82%

4 We have nothing to report on going concern

The Directors have prepared the financial statements on the going concern basis as they do not intend to liquidate the Company or the Group or to cease their operations, and as they have concluded that the Company's and the Group's financial position means that this is realistic. They have also concluded that there are no material uncertainties that could have cast significant doubt over their ability to continue as a going concern for at least a year from the date of approval of the financial statements ('the going concern period').

Our responsibility is to conclude on the appropriateness of the Directors' conclusions and, had there been a material uncertainty related to going concern, to make reference to that in this audit report. However, as we cannot predict all future events or conditions and as subsequent events may result in outcomes that are inconsistent with judgements that were reasonable at the time they were made, the absence of reference to a material uncertainty in this auditor's report is not a guarantee that the Group and the Company will continue in operation.

In our evaluation of the Directors' conclusions, we considered the inherent risks to the Company's business model, including the impact of Brexit, and analysed how those risks might affect the Company's financial resources or ability to continue operations over the going concern period. We evaluated those risks and concluded that they were not significant enough to require us to perform additional audit procedures.

Based on this work, we are required to report to you if:

- we have anything material to add or draw attention to in relation to the directors' statement in Note 1 to the financial statements on the use of the going concern basis of accounting with no material uncertainties that may cast significant doubt over the Group and Company's use of that basis for a period of at least twelve months from the date of approval of the financial statements; or
- the related statement under the Listing Rules set out on page 30 is materially inconsistent with our audit knowledge.

We have nothing to report in these respects, and we did not identify going concern as a key audit matter.

5 We have nothing to report on the other information in the Annual Report

The directors are responsible for the other information presented in the Annual Report together with the financial statements. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except as explicitly stated below, any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work we have not identified material misstatements in the other information.

Strategic report and directors' report

Based solely on our work on the other information:

- we have not identified material misstatements in the strategic report and the directors' report;
- in our opinion the information given in those reports for the financial year is consistent with the financial statements; and
- in our opinion those reports have been prepared in accordance with the Companies Act 2006.

Directors' remuneration report

In our opinion the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Disclosures of principal risks and longer-term viability

Based on the knowledge we acquired during our financial statements audit, we have nothing material to add or draw attention to in relation to:

- the directors' confirmation within the Viability statement on page 30 that they have carried out a robust assessment of the principal risks facing the Group, including those that would threaten its business model, future performance, solvency and liquidity;
- the Principal Risks disclosures describing these risks and explaining how they are being managed and mitigated; and
- the directors' explanation in the Viability Statement of how they have assessed the prospects of the Group, over what period they have done so and why they considered that period to be appropriate, and their statement as to whether they have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Under the Listing Rules we are required to review the Viability Statement. We have nothing to report in this respect.

Our work is limited to assessing these matters in the context of only the knowledge acquired during our financial statements audit. As we cannot predict all future events or conditions and as subsequent events may result in outcomes that are inconsistent with judgements that were reasonable at the time they were made, the absence of anything to report on these statements is not a guarantee as to the Group's and Company's longer-term viability.

Corporate governance disclosures

We are required to report to you if:

- we have identified material inconsistencies between the knowledge we acquired during our financial statements 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 position and performance, business model and strategy; or
- the section of the annual report describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee.

We are required to report to you if the Corporate Governance Statement does not properly disclose a departure from the eleven provisions of the UK Corporate Governance Code specified by the Listing Rules for our review.

We have nothing to report in these respects.

Independent auditors report to the members of Morgan Advanced Materials plc Continued

6 We have nothing to report on the other matters on which we are required to report by exception

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.

We have nothing to report in these respects.

7 Respective responsibilities

Directors' responsibilities

As explained more fully in their statement set out on page 78, the directors are responsible for: the preparation of the financial statements including being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the Group and parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the Group or the parent Company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or other irregularities (see below), or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud, other irregularities or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

A fuller description of our responsibilities is provided on the FRC's website at **www.frc.org.uk/auditorsresponsibilities**.

Irregularities – ability to detect

We identified areas of laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general commercial and sector experience, and through discussion with the directors and other management (as required by auditing standards), and discussed with the directors and other management the policies and procedures regarding compliance with laws and regulations. We communicated identified laws and regulations throughout our team and remained alert to any indications of non-compliance throughout the audit. This included communication from the group to component audit teams of relevant laws and regulations identified at group level.

The potential effect of these laws and regulations on the financial statements varies considerably.

Firstly, the group is subject to laws and regulations that directly affect the financial statements including financial reporting legislation (including related companies legislation), distributable profits legislation and taxation legislation and we assessed the extent of compliance with these laws and regulations as part of our procedures on the related financial statement items.

Secondly, the group is subject to many other laws and regulations where the consequences of non-compliance could have a material effect on amounts or disclosures in the financial statements, for instance through the imposition of fines or litigation or the loss of the group's license to operate. We identified the following areas as those most likely to have such an effect: environmental and trade compliance legislation recognising the nature of the group's activities. Auditing standards limit the required audit procedures to identify non-compliance with these laws and regulations to enquiry of the directors and other management and inspection of regulatory and legal correspondence, if any. Through these procedures, we identified actual or suspected non-compliance and considered the effect as part of our procedures on the related financial statement items. These limited procedures did not identify actual or suspected non-compliance that could have a material effect on our audit.

Owing to the inherent limitations of an audit, there is an unavoidable risk that we may not have detected some material misstatements in the financial statements, even though we have properly planned and performed our audit in accordance with auditing standards. For example, the further removed non-compliance with laws and regulations (irregularities) is from the events and transactions reflected in the financial statements, the less likely the inherently limited procedures required by auditing standards would identify it. In addition, as with any audit, there remained a higher risk of non-detection of irregularities, as these may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls. We are not responsible for preventing non-compliance and cannot be expected to detect non-compliance with all laws and regulations.

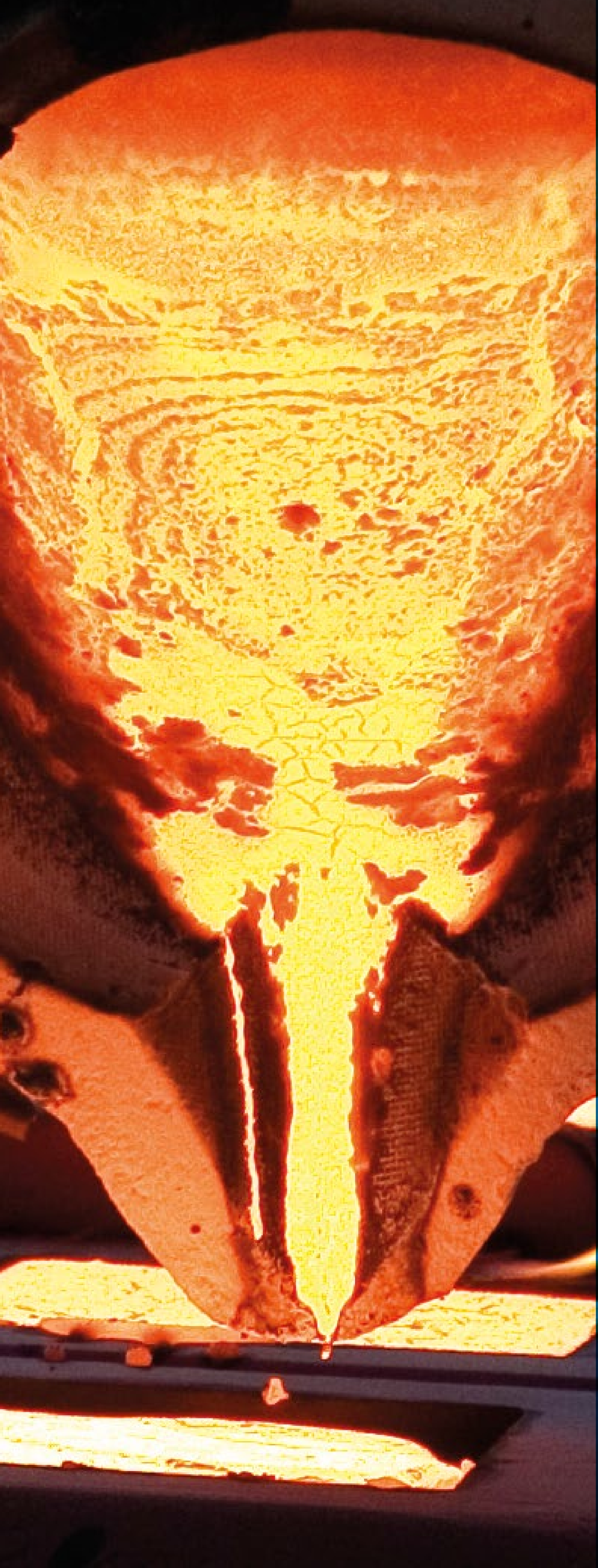
8 The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members, as a body, for our audit work, for this report, or for the opinions we have formed.

Paul Sawdon (Senior Statutory Auditor)
for and on behalf of KPMG LLP,
Statutory Auditor

Chartered Accountants
15 Canada Square
London
E14 5GL

26 February 2019



Financial statements

Consolidated income statement

for the year ended 31 December 2018

	Note	Results before specific adjusting items 2018 £m	Specific adjusting items[1] 2018 £m	Total 2018 £m	Restated[2,3] results before specific adjusting items 2017 £m	Specific adjusting items[1] 2017 £m	Restated[2,3] total 2017 £m
Revenue	3	1,033.9	–	1,033.9	1,001.4	–	1,001.4
Operating costs before restructuring costs and other items and amortisation of intangible assets	4	(909.1)	–	(909.1)	(880.7)	–	(880.7)
Profit from operations before restructuring costs and other items and amortisation of intangible assets		124.8	–	124.8	120.7	–	120.7
Restructuring costs and other items:							
Net pension past service credit	6	–	5.7	5.7	–	–	–
Business closure and exit costs	6	–	(15.2)	(15.2)	–	–	–
Net profit on disposal of businesses	2,6	–	–	–	–	45.7	45.7
Profit from operations before amortisation of intangible assets	3	124.8	(9.5)	115.3	120.7	45.7	166.4
Amortisation of intangible assets	4	(8.0)	–	(8.0)	(7.3)	–	(7.3)
Operating profit	3	116.8	(9.5)	107.3	113.4	45.7	159.1
Finance income		1.3	–	1.3	1.8	–	1.8
Finance expense		(14.5)	–	(14.5)	(24.3)	–	(24.3)
Net financing costs	7	(13.2)	–	(13.2)	(22.5)	–	(22.5)
Share of profit of associate (net of income tax)	13	0.8	–	0.8	0.2	–	0.2
Profit before taxation		104.4	(9.5)	94.9	91.1	45.7	136.8
Income tax expense	8	(29.0)	(1.7)	(30.7)	(26.9)	5.0	(21.9)
Profit from continuing operations		75.4	(11.2)	64.2	64.2	50.7	114.9
Loss from discontinued operations	9	(1.4)	(9.3)	(10.7)	(1.0)	–	(1.0)
Profit for the period		74.0	(20.5)	53.5	63.2	50.7	113.9
Profit for the period attributable to:							
Owners of the parent		66.8	(20.5)	46.3	56.9	50.7	107.6
Non-controlling interests		7.2	–	7.2	6.3	–	6.3
		74.0	(20.5)	53.5	63.2	50.7	113.9
Earnings per share	10						
Continuing operations and discontinued operations							
Basic earnings per share				16.2p			37.8p
Diluted earnings per share				16.1p			37.5p
Continuing operations only							
Basic earnings per share				20.0p			38.1p
Diluted earnings per share				19.9p			37.9p
Dividends							
Interim dividend – pence				4.00p			4.00p
– £m				11.4			11.4
Proposed final dividend – pence				7.00p			7.00p
– £m				20.0			20.0

The proposed final dividend is based upon the number of shares outstanding at the balance sheet date.

1. Details of specific adjusting items are given in note 6 to the consolidated financial statements.
2. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.
3. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. The years ended 31 December 2018 and 2017 have been presented as Continuing operations throughout this Report. Further details are provided in note 9 to the consolidated financial statements.

Consolidated statement of comprehensive income

for the year ended 31 December 2018

	Translation reserve £m	Hedging reserve £m	Retained earnings £m	Total parent comprehensive income £m	Non-controlling interests £m	Total comprehensive income £m
2017						
Profit for the period	–	–	107.6	107.6	6.3	113.9
Items that will not be reclassified subsequently to profit or loss:						
Remeasurement gain on defined benefit plans	–	–	10.0	10.0	–	10.0
Tax effect of components of other comprehensive income not reclassified	–	–	(1.8)	(1.8)	–	(1.8)
	–	–	8.2	8.2	–	8.2
Items that may be reclassified subsequently to profit or loss:						
Foreign exchange translation differences	(11.0)	–	–	(11.0)	(1.3)	(12.3)
Cash flow hedges:						
Change in fair value	–	2.6	–	2.6	–	2.6
Transferred to profit or loss	–	0.4	–	0.4	–	0.4
	(11.0)	3.0	–	(8.0)	(1.3)	(9.3)
Total comprehensive income, net of tax	(11.0)	3.0	115.8	107.8	5.0	112.8
Total comprehensive income/(expense) attributable to:						
Continuing operations	(11.0)	3.0	116.8	108.8	5.0	113.8
Discontinued operations	–	–	(1.0)	(1.0)	–	(1.0)
Total comprehensive income, net of tax attributable to shareholders of the Company	(11.0)	3.0	115.8	107.8	5.0	112.8
2018						
Profit for the period	–	–	46.3	46.3	7.2	53.5
Items that will not be reclassified subsequently to profit or loss:						
Remeasurement gain on defined benefit plans	–	–	14.2	14.2	–	14.2
Tax effect of components of other comprehensive income not reclassified	–	–	(0.7)	(0.7)	–	(0.7)
	–	–	13.5	13.5	–	13.5
Items that may be reclassified subsequently to profit or loss:						
Foreign exchange translation differences	9.9	–	–	9.9	0.2	10.1
Cash flow hedges:						
Change in fair value	–	(0.2)	–	(0.2)	–	(0.2)
Transferred to profit or loss	–	(0.5)	–	(0.5)	–	(0.5)
	9.9	(0.7)	–	9.2	0.2	9.4
Total comprehensive income, net of tax	9.9	(0.7)	59.8	69.0	7.4	76.4
Total comprehensive income/(expense) attributable to:						
Continuing operations	9.9	(0.7)	70.5	79.7	7.4	87.1
Discontinued operations	–	–	(10.7)	(10.7)	–	(10.7)
Total comprehensive income, net of tax attributable to shareholders of the Company	9.9	(0.7)	59.8	69.0	7.4	76.4

Consolidated balance sheet

as at 31 December 2018

	Note	2018[1] £m	Restated[1] 2017 £m
Assets			
Property, plant and equipment	11	314.5	297.8
Intangible assets	12	215.6	217.0
Investments	13	5.9	6.3
Other receivables		6.3	5.4
Deferred tax assets	14	6.9	9.1
Derivative financial assets		–	0.3
Total non-current assets		549.2	535.9
Inventories	15	145.3	141.6
Derivative financial assets		0.6	0.7
Trade and other receivables	16	200.5	194.4
Current tax receivable		1.3	6.7
Cash and cash equivalents	17	67.6	50.4
Total current assets		415.3	393.8
Total assets		964.5	929.7
Liabilities			
Interest-bearing loans and borrowings	20	164.8	192.7
Employee benefits: pensions	22	190.4	218.0
Provisions	23	10.1	6.1
Non-trade payables	18	2.5	3.4
Deferred tax liabilities	14	11.0	10.5
Total non-current liabilities		378.8	430.7
Interest-bearing loans and borrowings and bank overdrafts	20	82.8	39.0
Trade and other payables	18	190.5	193.7
Current tax payable		26.0	23.0
Provisions	23	8.6	8.4
Derivative financial liabilities		0.6	0.6
Total current liabilities		308.5	264.7
Total liabilities		687.3	695.4
Total net assets		277.2	234.3
Equity			
Share capital	19	71.8	71.8
Share premium		111.7	111.7
Reserves		37.2	39.2
Retained earnings		12.1	(27.5)
Total equity attributable to equity owners of Parent Company		232.8	195.2
Non-controlling interests		44.4	39.1
Total equity		277.2	234.3

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

The financial statements were approved by the Board of Directors on 26 February 2019 and were signed on its behalf by:

Pete Raby
Chief Executive Officer

Peter Turner
Chief Financial Officer

Consolidated statement of changes in equity

for the year ended 31 December 2018

	Share capital £m	Share premium £m	Translation reserve £m	Hedging reserve £m	Fair value reserve £m	Capital redemption reserve £m	Other reserves £m	Retained earnings £m	Total parent equity £m	Non-controlling interests £m	Total equity £m
Balance at 1 January 2017	71.8	111.7	3.2	(2.5)	(1.0)	35.7	11.4	(109.5)	120.8	43.9	164.7
Profit for the year	–	–	–	–	–	–	–	107.6	107.6	6.3	113.9
Other comprehensive income	–	–	(11.0)	3.0	–	–	–	8.2	0.2	(1.3)	(1.1)
Transactions with owners:											
Change in ownership of controlled interest without a change in control	–	–	–	–	–	–	–	(3.3)	(3.3)	–	(3.3)
Transfer between reserves	–	–	–	–	–	–	0.4	(0.4)	–	–	–
Dividends	–	–	–	–	–	–	–	(31.4)	(31.4)	(9.8)	(41.2)
Equity-settled share-based payment transactions	–	–	–	–	–	–	–	1.7	1.7	–	1.7
Own shares acquired for share incentive schemes	–	–	–	–	–	–	–	(0.4)	(0.4)	–	(0.4)
Balance at 31 December 2017	71.8	111.7	(7.8)	0.5	(1.0)	35.7	11.8	(27.5)	195.2	39.1	234.3
Balance at 1 January 2018	71.8	111.7	(7.8)	0.5	(1.0)	35.7	11.8	(27.5)	195.2	39.1	234.3
Profit for the year	–	–	–	–	–	–	–	46.3	46.3	7.2	53.5
Other comprehensive income	–	–	9.9	(0.7)	–	–	–	13.5	22.7	0.2	22.9
Transactions with owners:											
Capital contributions by non-controlling interests	–	–	–	–	–	–	–	–	–	0.5	0.5
Transfer between reserves	–	–	–	–	–	–	(11.2)	11.2	–	–	–
Dividends	–	–	–	–	–	–	–	(31.4)	(31.4)	(2.6)	(34.0)
Equity-settled share-based payment transactions	–	–	–	–	–	–	–	2.8	2.8	–	2.8
Own shares acquired for share incentive schemes	–	–	–	–	–	–	–	(2.8)	(2.8)	–	(2.8)
Balance at 31 December 2018	71.8	111.7	2.1	(0.2)	(1.0)	35.7	0.6	12.1	232.8	44.4	277.2

Details of the reserves are provided in note 19.

Consolidated statement of cash flows

for the year ended 31 December 2018

	Note	Continuing 2018 £m	Discontinued 2018 £m	Total 2018 £m	Continuing 2017 £m	Discontinued 2017 £m	Total 2017 £m
Operating activities							
Profit for the period		64.2	(10.7)	53.5	114.9	(1.0)	113.9
Adjustments for:							
Depreciation	4	31.3	0.4	31.7	30.0	0.6	30.6
Amortisation	4	8.0	–	8.0	7.3	–	7.3
Net financing costs	7	13.2	–	13.2	22.5	–	22.5
Loss/(profit) on disposal of businesses	6,9	–	1.7	1.7	(45.7)	–	(45.7)
Non-cash specific adjusting items included in operating profit	6,9	6.5	1.5	8.0	–	–	–
Share of profit from associate (net of income tax)	13	(0.8)	–	(0.8)	(0.2)	–	(0.2)
Loss on sale of property, plant and equipment		0.4	–	0.4	0.1	–	0.1
Income tax expense	8	30.7	–	30.7	21.9	–	21.9
Equity-settled share-based payment expenses	4	2.8	–	2.8	1.7	–	1.7
Cash generated from operations before changes in working capital and provisions		156.3	(7.1)	149.2	152.5	(0.4)	152.1
(Increase)/decrease in trade and other receivables		(7.2)	(0.1)	(7.3)	(6.1)	5.6	(0.5)
(Increase)/decrease in inventories		(4.2)	(0.7)	(4.9)	(3.9)	(0.6)	(4.5)
Increase/(decrease) in trade and other payables		1.7	(1.4)	0.3	9.0	(2.7)	6.3
(Decrease)/increase in provisions		(2.4)	6.3	3.9	(3.0)	–	(3.0)
Payments to defined benefit pension plans	22	(12.9)	–	(12.9)	(48.9)	–	(48.9)
Cash generated from operations		131.3	(3.0)	128.3	99.6	1.9	101.5
Interest paid		(9.7)	–	(9.7)	(17.6)	–	(17.6)
Income tax paid		(20.9)	–	(20.9)	(24.5)	–	(24.5)
Net cash from operating activities		100.7	(3.0)	97.7	57.5	1.9	59.4
Investing activities							
Purchase of property, plant and equipment		(53.1)	–	(53.1)	(33.7)	(0.7)	(34.4)
Forward contracts used in net investment hedging		–	–	–	(7.7)	–	(7.7)
Purchase of investments		(1.0)	–	(1.0)	(1.6)	–	(1.6)
Disposal of investments		0.6	–	0.6	–	–	–
Proceeds from sale of property, plant and equipment		–	–	–	1.3	–	1.3
Loan made to associate		(1.0)	–	(1.0)	–	–	–
Loan repaid by associate		1.0	–	1.0	–	–	–
Interest received		1.3	–	1.3	1.0	–	1.0
Disposal of subsidiaries, net of cash disposed		–	1.9	1.9	78.1	–	78.1
Purchase of stake held by non-controlling interest		–	–	–	(1.5)	–	(1.5)
Net cash from investing activities		(52.2)	1.9	(50.3)	35.9	(0.7)	35.2
Financing activities							
Purchase of own shares for share incentive schemes	19	(3.2)	–	(3.2)	(0.4)	–	(0.4)
Proceeds from exercise of share options	19	0.4	–	0.4	–	–	–
Net increase/(decrease) in borrowings	17	7.5	–	7.5	(114.1)	–	(114.1)
Payment of finance lease liabilities	17	(0.4)	–	(0.4)	(0.3)	–	(0.3)
Dividends paid to external plc shareholders		(31.4)	–	(31.4)	(31.4)	–	(31.4)
Dividends paid to non-controlling interests		(2.6)	–	(2.6)	(9.8)	–	(9.8)
Capital contributions made by non-controlling interest partners		0.5	–	0.5	–	–	–
Net cash from financing activities		(29.2)	–	(29.2)	(156.0)	–	(156.0)
Net increase in cash and cash equivalents		19.3	(1.1)	18.2	(62.6)	1.2	(61.4)
Cash and cash equivalents at start of period				50.4			122.4
Effect of exchange rate fluctuations on cash held				(1.0)			(10.6)
Cash and cash equivalents at period end	17			67.6			50.4

A reconciliation of cash and cash equivalents to net borrowings is shown in note 17.

Notes to the consolidated financial statements

1. Accounting policies, estimates and judgements

Accounting policies

Morgan Advanced Materials plc (the Company) is a company incorporated in the UK under The Companies Act. The address of the registered office is given in 'Shareholder information' on page 158. The principal activities of the Company and its subsidiaries and the nature of the Group's operations are set out in the Strategic Report on pages 4 to 41.

The Group's financial statements consolidate those of the Company and its subsidiaries (together referred to as the 'Group'), and include the Group's interest in associates. The Parent Company financial statements present information about the Company as a separate entity and not about its Group. These consolidated financial statements have been drawn up to 31 December 2018. The Group maintains a 12-month calendar fiscal year ending on 31 December.

The Group financial statements have been prepared and approved by the Directors in accordance with International Financial Reporting Standards as adopted by the EU (adopted IFRSs). The Company has elected to prepare its Parent Company financial statements in accordance with Financial Reporting Standard 101 *Reduced Disclosure Framework*; these are presented on pages 137 to 153.

Where possible the Group has set out individual accounting policies in the note to the consolidated financial statements most relevant to that accounting policy, including for property, plant and equipment, intangible assets and specific adjusting items.

Except for the changes set out in the 'Adoption of new and revised Standards' section, the accounting policies set out below have been applied consistently to all periods presented in these Group financial statements.

(a) Measurement convention

The financial statements are prepared on the historical cost basis except that the following assets and liabilities are stated at their fair value: derivative financial instruments and financial instruments designated as fair value through other comprehensive income (FVOCI).

(b) Functional and presentation currency

The Group's financial statements are presented in pounds sterling, which is the Company's functional currency.

(c) Basis of consolidation

(i) Subsidiaries
Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

(ii) Acquisitions
Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group. The Group measures goodwill as the acquisition-date fair value of the consideration transferred, including the amount of any non-controlling interest in the acquiree, less the net of the acquisition-date fair values of the identifiable assets acquired and liabilities assumed, including contingent liabilities as required by IFRS 3.

Consideration transferred includes the fair values of assets transferred, liabilities incurred by the Group to the previous owners of the acquiree, equity interests issued by the Group, contingent consideration, and share-based payment awards of the acquiree that are replaced in the business combination. Any contingent consideration payable is recognised at fair value at the acquisition date. Subsequent changes to the fair value of contingent consideration that is not classified as equity is recognised in the income statement.

Transaction costs that the Group incurs in connection with a business combination, such as finder's fees, legal fees, due diligence fees and other professional and consulting fees, are expensed as incurred.

(iii) Associates
Associates are those entities in which the Company has significant influence, but not control, over the financial and operating policies. Significant influence is presumed to exist when the Group holds between 20% and 50% of the voting power of another entity. Associates are accounted for using the equity method and are initially recognised at cost.

(iv) Transactions eliminated on consolidation
Intra-group balances and any unrealised gains and losses or income and expenses arising from intra-group transactions are eliminated in preparing the consolidated financial statements. Unrealised gains arising from transactions with associates are eliminated against the investment to the extent of the Group's interest in the associate. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

(d) Foreign currency

(i) Foreign currency transactions
Transactions in foreign currencies are translated at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated to pounds sterling at the foreign exchange rate ruling at that date. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are translated to pounds sterling at foreign exchange rates ruling at the dates the fair value was determined.

Notes to the consolidated financial statements
continued

1. Accounting policies, estimates and judgements continued

(ii) Financial statements of foreign operations
The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on consolidation, are translated to pounds sterling at foreign exchange rates ruling at the balance sheet date. The revenues, expenses and cash flows of foreign operations are translated to pounds sterling at an average rate for the period where this approximates to the foreign exchange rates ruling at the dates of the transactions. Foreign exchange differences arising on retranslation since the adoption of IFRS are recognised directly in other comprehensive income.

(e) Impairment
The carrying amounts of the Group's assets are reviewed at each balance sheet date to determine whether there is any indication of impairment. If any such indication exists, the asset's recoverable amount is estimated (see (i) below).

An impairment loss is recognised whenever the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. Impairment losses are recognised in the income statement.

Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to cash-generating units (group of units) and then to reduce the carrying amount of the other intangibles and other assets in the unit (group of units) on a pro-rata basis.

(i) Calculation of recoverable amount
The recoverable amount of the Group's investments in receivables carried at amortised cost is calculated as the present value of estimated future cash flows, discounted at the original effective interest rate (ie the effective interest rate computed at initial recognition of these financial assets). Receivables with a short duration are not discounted. The recoverable amount of other assets is the greater of their fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate largely independent cash inflows, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

(ii) Reversals of impairment
An impairment loss in respect of a receivable carried at amortised cost and other assets not listed below is reversed if the subsequent increase in recoverable amount can be related objectively to an event occurring after the impairment loss was recognised.

An impairment loss in respect of an investment in an equity instrument classified as FVOCI is not reversed through profit or loss. If the fair value of a debt instrument classified as FVOCI increases and the increase can be objectively related to an event occurring after the impairment loss was recognised in profit or loss, the impairment loss will be reversed, with the amount of the reversal recognised in profit or loss.

An impairment loss in respect of goodwill is not reversed.

An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(f) Revenue
IFRS 15 *Revenue from Contracts with Customers* requires revenue to be disaggregated into categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. The Group discloses revenue disaggregated by geography, end market and by global business unit, which are aligned by product type, in note 3 to the consolidated financial statements.

Revenue is recognised when or as the Group satisfies a performance obligation by transferring a promised good or service to a customer. The Group's principal performance obligation is the provision of products and components, is satisfied at a point in time and subject to standard payment terms. Products and components are transferred when the customer obtains control of the goods. For goods that are collected by the customer, revenue is recognised at the point the customer has taken physical possession of the goods. For contracts that include delivery of goods, the delivery element of the contract constitutes a separate performance obligation because it is distinct. For these contracts, control of the goods does not transfer to the customer until the goods have been delivered and therefore both performance obligations are satisfied simultaneously. Revenue for these contracts is therefore recognised on delivery.

Substantially all of the Group's revenue is derived from short-term contracts for the provision of products and components. A smaller portion of the Group's revenue relates to project-based business, principally within the Thermal Ceramics global business unit. Revenue for these contracts is recognised in line with fulfilment of contractual performance obligations stated in the contract and is not significant; consequently (except for trade receivables) the Group does not have significant assets or liabilities relating to its contracts with customers.

At 31 December, balances relating to revenue from contracts with customers were:

	2018 £m	2017 £m
Current		
Trade receivables (note 16)	177.8	174.9
Contract assets	3.2	1.0
Contract liabilities	(6.6)	(5.7)

1. Accounting policies, estimates and judgements continued

Contract assets (included within other trade receivables) relate to the Group's right to consideration for project-based business which was completed but not billed at the end of the year. Contract liabilities (included within other trade payables) relate to payments received from customers for project-based business in advance of the performance obligation being satisfied. All of the £5.7 million was recognised as revenue in 2018.

As set out in note 27, the application of IFRS 15 has not had a material impact on the amount or timing of revenue recognised by the Group. Revenue is only recognised to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur. The transaction price is determined as the amount receivable for the provision of products and component excluding rebates, discounts and similar items. Determining the transaction price does not require significant judgement. The costs incurred in obtaining contracts are not material. The Group acts as a principal in its transactions with customers. In 2018, there were no material adjustments to revenue which related to performance obligations satisfied in the previous year.

(g) Dividends

Dividends payable are recognised as a liability in the Company's financial statements in the period in which the dividends are declared and approved. Dividends declared after the balance sheet date are not recognised as there is no present obligation at the balance sheet date.

(h) Research and development

Expenditure on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, is recognised in the income statement as an expense as incurred.

Expenditure on development activities, whereby research findings are applied to a plan or design for the production of new or substantially improved products and processes, is capitalised if the product or process is technically and commercially feasible and the Group has sufficient resources to complete development, use and sale of products or processes. The majority of the expenditure that the Group classifies as research and development relates to a gradual evolution of materials, products and processes over time through the activities of the Group's technology and application engineering teams, and can be characterised as incremental in nature, and is therefore not capitalised. The expenditure capitalised includes the cost of materials, direct labour and an appropriate proportion of overheads. Capitalised development expenditure is stated at cost less accumulated amortisation and impairment losses. Other development expenditure is recognised in the income statement as an expense as incurred.

Use of judgements and estimates

In preparing these consolidated financial statements, management has made judgements, estimates and assumptions that affect the application of the Group's accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis.

Judgements

Information about judgements made in applying accounting policies that have the most significant effects on the amounts recognised in the consolidated financial statements is included in the following notes:

Note 6: Specific adjusting items

The Group separately presents specific adjusting items in the consolidated income statement which, in the Directors' judgement, need to be disclosed separately by virtue of their size and incidence in order for users of the consolidated financial statements to obtain a proper understanding of the financial information and the underlying performance of the business. These items which occur infrequently and include (but are not limited to):

- Individual restructuring projects which are material or relate to the closure of a part of the business and are not expected to recur.
- Gains or losses on disposal of businesses.
- Significant costs incurred as part of the integration of an acquired business.
- Gains or losses arising on significant changes to or closures of defined benefit pension plans.

Determining whether an item is part of specific adjusting items requires judgement to determine the nature and the intention of the transaction.

Note 14: Recognition of deferred tax assets

Deferred tax assets are recognised when management judges it probable that future taxable profits will be available against which the temporary differences can be utilised.

Note 23: Provisions and contingent liabilities

Due to the nature of its operations, the Group holds provisions for its environmental obligations. Judgement is needed in determining whether a contingent liability has crystallised into a provision. Management assesses whether there is sufficient information to determine that an environmental liability exists and whether it is possible to estimate with sufficient reliability what the cost of remediation is likely to be. For environmental remediation matters, this tends to be at the point in time when a remediation feasibility study has been completed.

The Group will recognise a legal provision at the point when the outcome of a legal matter can be reliably estimated. Estimates are based on past experience of similar issues, professional advice received and the Group's assessment of the most likely outcome. The timing of utilisation of these provisions is frequently uncertain, reflecting the complexity of issues and the outcome of various court proceedings and associated negotiations.

Notes to the consolidated financial statements
continued

1. Accounting policies, estimates and judgements continued

Assumptions and estimates

Assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the year ending 31 December 2019 is included in the following notes:

Note 22: Employee benefits: key actuarial assumptions
The principal actuarial assumptions applied to pensions are shown in note 22, including a sensitivity analysis. The actuarial evaluation of pension assets and liabilities is based on assumptions in respect of inflation, future salary increases, discount rates, returns on investments and mortality rates. Relatively small changes in the assumptions underlying the actuarial valuations of pension schemes can have a significant impact on the net pension liability included in the balance sheet.

In addition, in the current year based on the results of a High Court hearing, the Group has recognised a liability in relation to Guaranteed Minimum Pensions (GMPs), which is an initiative to remove inequalities in scheme benefits that arise from GMPs being unequal between men and women. Legal uncertainty remains in this area. Further details are included in note 6.

Note 23: Provisions and contingent liabilities
Provisions for environmental costs and settlement of litigation are estimated based on current legal and constructive requirements. Actual costs and cash outflows can differ from current estimates because of changes in laws and regulations, public expectations, prices, more detailed analysis of site conditions and innovations in clean-up technology.

Closure and restructuring costs can be estimated with greater certainty and the carrying value of existing provisions at the balance sheet date is less likely to change materially within the next financial year.

Amounts provided are the Group's best estimate of exposure based on currently available information.

Other assumptions and estimates which have a lower risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next 12 months include:

Notes 7 and 13: Taxation
The level of current tax and deferred tax recognised is dependent on the tax rates in effect at the balance sheet date, and on subjective judgments as to the outcome of decisions to be made by the tax authorities in the various tax jurisdictions around the world in which the Group operates.

The Group periodically assesses its liabilities and contingencies for all tax years open to audit based on the latest information available. The Group records its best estimate of these tax liabilities, including related interest charges. Whilst management believes it has adequately provided for the probable outcome of these matters, future results may include adjustments to these estimated tax liabilities and the final outcome of tax examinations may result in a materially different outcome than that assumed in the tax liabilities. Provisions are made against individual exposures taking into account the specific circumstances of each case, including the strengths of technical arguments, past experience with tax authorities, recent case law or rulings on similar issues and external advice received.

Note 12: Impairment of intangible assets and goodwill
The Group tests annually whether goodwill and other intangibles have suffered any impairment. This process relies on the use of estimates of the future profitability and cash flows of its cash-generating units which may differ from the actual results delivered. In addition, the Group reviews whether identified intangible assets have suffered any impairment. Note 12 contains information about the assumptions relating to goodwill impairment tests, including a sensitivity analysis.

Note 21: Credit risk
Note 21 contains information about the Group's exposure to credit risk, including a sensitivity analysis. The Group establishes allowances for impairment losses against receivables. The allowance represents its estimate of expected credit losses.

Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position are set out in the Strategic Report on pages 4 to 41. The financial position of the Group, its cash flows, liquidity position and borrowing facilities, are described earlier in the Financial Review. In addition, note 21 includes the Group's policies and processes for managing financial risk; details of its financial instruments and hedging activities; and its exposures to credit risk and liquidity risk.

1. Accounting policies, estimates and judgements continued

The Group meets its day-to-day working capital requirements through local banking arrangements underpinned by the Group's £200 million unsecured multi-currency revolving credit facility maturing September 2023. The Group's forecasts and projections, taking account of reasonably possible changes in trading performance and exchange rates, show the Group operating within its debt financial covenants for the next 18 months. As described in the viability statement, the Group has continued to assess the potential impact of market volatility as a result of uncertainties caused by the ongoing Brexit negotiations. It has considered its risk in relation to fluctuations such as interest rates, foreign exchange rates and market prices and the impact this might have both on the Group's results and on the balance sheet value of financial instruments measured at fair value and discount rates used in measuring pension and other liabilities.

The risks and uncertainties around economic climate may have an impact on the Group, its customers and suppliers, as described in 'Risk management' on page 19. The Board fully recognises the challenges that lie ahead but, after making enquiries, the Directors have a reasonable expectation that the Company and the Group have adequate resources to continue in operational existence for the foreseeable future. Accordingly, they continue to adopt the going concern basis in preparing the Annual Report and Accounts.

Non-GAAP measures

Where non-GAAP measures have been referenced these have been identified by an asterisk (*) where they appear in text, and by a footnote where they appear in tables throughout this Report. Further details can be found on pages 31 to 33, 'Alternative Performance Measures'.

Adoption of new and revised Standards

The Group adopted the following standards and with effect from 1 January 2018:

- IFRS 15 *Revenue from Contracts with Customers*. The standard introduced a new revenue recognition model which requires the transaction price receivable from customers to be allocated between the Group's performance obligations under contracts on a relative stand-alone selling price basis. The Group has opted to apply the full retrospective method under which comparative information is restated. The impact of the restatement is set out in note 27 to the financial statements;
- IFRS 9 *Financial Instruments*; and
- IFRIC 22 *Foreign Currency Transactions and Advance Considerations*.

There has been no material impact on the Group on adoption of these standards.

There were no other new accounting standards or amendments to standards that were required to be adopted in the period and the Group did not adopt any of the new accounting standards that could have been adopted early.

New standards and interpretations

A number of new Standards, amendments to Standards and interpretations have been issued but are not yet effective, and have not been applied in preparing the Group's financial statements. Those which may be relevant to the Group are set out below. The Group has not adopted these Standards early.

IFRIC 23 *Uncertainty over Income Tax Treatments* – the standard is effective for annual reporting periods on or after 1 January 2019, and will clarify the accounting for uncertainties in income taxes. The interpretation is to be applied to the determination of taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates, when there is uncertainty over income tax treatments under IAS 12. We anticipate limited impact to the Group.

IFRS 16 *Leases* is effective for periods beginning on or after 1 January 2019 and introduces a single, on-balance sheet accounting model that is similar to current finance lease accounting. Under the new standard, a lessee is required to recognise all lease assets and liabilities (including those currently classified as operating leases) on the balance sheet at the present value of the lease payments and a depreciation charge on the leased assets and an interest charge on the lease liabilities in the income statement.

For its material land and buildings leases, Morgan has adopted a modified retrospective approach which calculates the asset value using historical payment data as if IFRS 16 had always existed, but uses future lease payments only when calculating the lease liability, current discount rates and the benefit of hindsight for actual events. This calculation leads to an equity adjustment.

For its remaining lease portfolio (non-material land and buildings and plant and equipment), Morgan has used the alternative modified retrospective approach, calculating the lease liability based on future lease payments only and using current discount rates. The asset is equal to the liability (with the exception of any transition balance sheet adjustments such as rent free periods). This calculation does not give rise to an equity adjustment.

Morgan has opted to grandfather assessments on whether a contract contains a lease and has applied the practical expedients which are available under these modified retrospective approaches, namely excluding leases with short remaining terms and excluding low value leases.

The Group has completed its evaluations of the impact of IFRS 16 on the financial statements and performance measures. Upon adoption of IFRS 16, at 1 January 2019, the most significant impact will be the present value of the operating lease commitments currently disclosed in note 24 being shown as a liability of £67 million on the balance sheet together with an asset of £51 million representing the right of use. At 1 January 2019, an equity adjustment before taxation of £16 million will be recognised as a result of the accounting method applied for material land and building leases. It is anticipated that the depreciation and interest charge of the leases transitioned on 1 January 2019 will be around £9 million and £3 million respectively.

Notes to the consolidated financial statements
continued

2. Disposals

2018

Composites and Defence Systems:
On 23 April 2018 the Group announced that the Board had decided to exit the Composite and Defence Systems business. The exit was intended to take the form of the divestment of certain product lines, should a suitable acquirer be found, together with the closure of the remainder of the business lines.

On 20 November 2018, the Group announced the sale of its Composites and Defence Systems business with its principle site in Coventry, UK. The transaction was structured as a share sale on a debt-free and cash-free basis, for a total consideration of £2.5 million, of which £2.0 million was received on completion and £0.5 million was received on 21 January 2019, with a closing cash adjustment also received of £0.2 million.

The transaction has been structured to leave Morgan with the economic benefit of certain assets, most notably the principal freehold property associated with the business, as well as certain liabilities relating to the exit of parts of the business. These liabilities were provided for in the interim results for the six months ended 30 June 2018.

In the year ended 31 December 2017, the Composite and Defence Systems business generated a £1.0 million headline operating loss* on £21.0 million of revenue.

The disposal and closure of the Composites and Defence Systems business reduced the Group's assets and liabilities as follows:

	31 December 2018 £m
Trading net assets of disposal group	4.2
Transaction costs associated with the business exit and disposal	7.6
Recycling of deferred foreign exchange losses	0.2
Total consideration	2.7
Loss on disposal	**9.3**

The disposal group formed the Composites and Defence Systems operating segment. It has therefore been classified as a discontinued operation under IFRS 5. Further detail is disclosed in note 9.

2. Disposals continued

2017

Electro-ceramics:

On 31 March 2017, the Group completed the sale of its UK Electro-ceramics business, comprising the two sites at Ruabon and Southampton. The transaction was structured as a sale of the business, assets and goodwill for a consideration of £47 million on a cash-free, debt-free basis, paid in cash on completion and subject to customary working capital adjustments.

In the year ended 31 December 2016, UK Electro-ceramics generated an operating profit of £6.2 million on revenues of £22.7 million. Gross assets at 31 December 2016 were £6.7 million.

The Group also announced the closure of its US Electro-ceramics business, which formed the remainder of the Group's Electro-ceramics business, costs associated with the closure of the site have been provided for in the year, and are included in 'Transactions costs associated with disposal' in the table below. This latter site will be closed when delivery of the last time orders from customers have been completed, currently anticipated to be around the end of 2019.

The disposal and closure of the Electro-ceramics business reduced the Group's assets and liabilities as follows:

	31 December 2017 £m
Trading net assets of disposal group	7.4
Goodwill of disposal group	5.8
Transaction costs associated with the disposal	6.9
Total consideration	46.9
Gain on disposal	26.8

The disposal group was included in the Technical Ceramics operating segment.

Global Rotary Transfer Systems Business:

On 31 March 2017, the Group completed the sale of its global Rotary Transfer Systems. The business is principally located at two manufacturing sites: Antweiler, Germany and Chalon, France. The sale valued the business at €40.0 million on a cash-free, debt-free basis, with consideration paid in cash on completion, subject to customary closing working capital adjustments.

In the year to 31 December 2016, the Rotary Transfer Systems business generated £3.2 million of operating profit on £15.5 million of revenue. Gross assets at 31 December 2016 were £5.9 million.

The disposal and closure of the Rotary Transfer Systems business reduced the Group's assets and liabilities as follows:

	31 December 2017 £m
Trading net assets of disposal group	3.5
Goodwill of disposal group	7.1
Transaction costs associated with the disposal	3.1
Total consideration	32.6
Gain on disposal	18.9

The disposal group was included in the Electrical Carbon operating segment.

Notes to the consolidated financial statements
continued

3. Segment reporting

Accounting policies

The Group reports as two Divisions and five (2017: five) global business units, which have been identified as the Group's reportable operating segments, as detailed on page 2. These have been identified on the basis of internal management reporting information that is regularly reviewed by the Group's Board of Directors (the Chief Operating Decision Maker) in order to allocate resources and assess performance.

Segment results, assets and liabilities include items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly investments and related income, loans and borrowings and related expenses, corporate assets and head office expenses, and income tax assets and liabilities. The results for 2017 have been restated for discontinued operations (note 9) and IFRS 15 (note 27).

The information presented below represents the operating segments of the Group.

	Thermal Ceramics		Molten Metal Systems		Thermal Products Division		Electrical Carbon	
Continuing operations	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m	**2018 £m**	2017 £m
Revenue from external customers	**433.6**	427.3	**48.6**	47.1	**482.2**	474.4	**166.8**	156.9
Divisional EBITA[1]	**52.9**	56.9	**6.6**	7.0	**59.5**	63.9	**19.4**	16.7
Corporate costs								
Group headline operating profit[1]								
Amortisation of intangible assets	**(2.2)**	(1.8)	**(0.3)**	(0.2)	**(2.5)**	(2.0)	**(0.7)**	(0.5)
Operating profit before specific adjusting items								
Specific adjusting items included in operating profit[2]	**(13.8)**	–	**–**	–	**(13.8)**	–	**–**	–
Operating profit/(loss)	**36.9**	55.1	**6.3**	6.8	**43.2**	61.9	**18.7**	16.2
Finance income								
Finance expense								
Share of profit of associate (net of income tax)								
Profit before taxation								
Segment assets[3]	**393.1**	392.5	**41.2**	40.0	**434.3**	432.5	**157.6**	147.1
Segment liabilities[3]	**83.3**	86.7	**8.0**	7.0	**91.3**	93.7	**32.2**	31.3
Segment capital expenditure[3]	**15.7**	10.5	**2.4**	1.8	**18.1**	12.3	**11.1**	6.9
Segment depreciation[3]	**13.6**	12.3	**1.9**	1.9	**15.5**	14.2	**4.7**	4.7

1. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.
2. Details of specific adjusting items are given in note 6 to the consolidated financial statements.
3. Segment assets, liabilities, capital expenditure and depreciation attributed to discontinued operations in 2017 were £9.8 million, £5.1 million, £0.7 million and £0.6 million respectively.

Seals and Bearings		Technical Ceramics		Carbon and Technical Ceramics Division		Segment totals		Corporate costs		Group	
2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
132.7	113.3	252.2	256.8	551.7	527.0	1,033.9	1,001.4	–	–	1,033.9	1,001.4
23.7	17.5	28.1	28.3	71.2	62.5	130.7	126.4			130.7	126.4
								(5.9)	(5.7)	(5.9)	(5.7)
										124.8	120.7
(0.4)	(0.3)	(4.4)	(4.5)	(5.5)	(5.3)	(8.0)	(7.3)	–	–	(8.0)	(7.3)
										116.8	113.4
–	–	(1.4)	–	(1.4)	–	(15.2)	–	5.7	45.7	(9.5)	45.7
23.3	17.2	22.3	23.8	64.3	57.2	107.5	119.1	(0.2)	40.0	107.3	159.1
										1.3	1.8
										(14.5)	(24.3)
										0.8	0.2
										94.9	136.8
97.6	86.6	187.2	177.6	442.4	411.3	876.7	843.8	87.8	76.1	964.5	919.9
21.4	19.7	42.4	43.2	96.0	94.2	187.3	187.9	500.0	502.4	687.3	690.3
8.8	3.5	15.1	11.0	35.0	21.4	53.1	33.7	–	–	53.1	33.7
4.5	4.5	6.6	6.6	15.8	15.8	31.3	30.0	–	–	31.3	30.0

Notes to the consolidated financial statements
continued

3. Segment reporting continued

Segment revenue by geography

Continuing operations	Revenue from external customers 2018 £m	2017 £m	Non-current assets (excluding tax and financial instruments) 2018 £m	2017 £m
US	381.3	368.8	210.8	198.0
China	104.0	92.8	62.6	64.5
Germany	69.9	69.1	42.6	42.0
UK (the Group's country of domicile)	42.8	43.3	117.4	117.1
France	29.0	29.3	17.9	17.0
Other Asia, Australasia, Middle East and Africa	202.9	191.9	55.5	49.3
Other Europe	140.5	140.2	24.3	23.5
Other North America	32.4	31.9	6.3	5.6
South America	31.1	34.1	4.9	9.5
	1,033.9	1,001.4	542.3	526.5

Revenue from external customers is based on geographic location of the end-customer. Segment assets are based on geographical location of the assets. No customer represents more than 10% of revenue.

Segment revenue by end market

Continuing operations	2018 £m	2017 £m
Industrial	492.5	491.3
Transportation	221.9	223.0
Petrochemical	96.7	85.3
Electronics	61.9	57.2
Energy	58.8	63.3
Security and defence	52.3	33.8
Healthcare	49.8	47.5
	1,033.9	1,001.4

Intercompany sales to other segments

Continuing operations	Thermal Ceramics 2018 £m	2017 £m	Molten Metal Systems 2018 £m	2017 £m	Thermal Products Division 2018 £m	2017 £m	Electrical Carbon 2018 £m	2017 £m	Seals and Bearings 2018 £m	2017 £m	Technical Ceramics 2018 £m	2017 £m	Carbon and Technical Ceramics Division 2018 £m	2017 £m
Intercompany sales to other segments	0.1	0.5	0.1	0.1	0.2	0.6	0.6	1.3	1.4	1.4	0.2	0.2	2.2	2.9

4. Operating costs before specific adjusting items

Continuing operations	Note	2018[1] £m	Restated[1] 2017 £m
Change in stocks of finished goods and work in progress		1.3	5.4
Raw materials and consumables		239.9	224.9
Other external charges[2]		148.7	162.1
		389.9	392.4
Employee costs:			
Wages and salaries		289.2	283.1
Equity-settled share-based payments	22	2.8	1.7
Social security costs		51.0	49.9
Pension costs	22	15.4	13.9
		358.4	348.6
Depreciation	11	31.3	30.0
Rentals under operating leases:			
Hire of plant and machinery		3.5	4.2
Other operating leases		7.8	7.3
		11.3	11.5
Other operating charges and income:			
Net foreign exchange (gains)/losses		(0.6)	5.5
Net other operating charges[2]		118.8	92.7
		118.2	98.2
Total operating costs before specific adjusting items and amortisation of intangible assets		909.1	880.7
Amortisation of intangible assets	12	8.0	7.3
Total operating costs before specific adjusting items		917.1	888.0

1. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. The years ended 31 December 2018 and 2017 have been presented as continuing operations. Further details on discontinued operations are provided in note 9 to the consolidated financial statements.
2. In 2017, other external charges included £16.0 million of maintenance costs. In 2018, maintenance costs are presented within net other operating charges.

The following costs are included in total operating costs before specific adjusting items in the table above:

1. Research and development

The Group recognised £36.2 million in expense in respect of research and development (2017: £34.3 million). These costs are included in employee costs and other operating charges in the above table, there are no individually material project costs.

2. Audit and non-audit fees

A summary of the audit and non-audit fees in respect of services provided by the auditor charged to operating profit in the year ended 31 December 2018 is set out below:

	2018 £m	2017 £m
Fees payable to the Company's auditor for the audit of the Company's annual accounts	0.5	0.5
Fees payable to the Company's auditor and its associates for other services:		
the auditing of accounts of any subsidiaries of the Company	1.6	1.6
audit-related services	0.1	0.1
taxation compliance services	0.1	0.1
other non-audit services	–	0.1
	2.3	2.4

Notes to the consolidated financial statements
continued

5. Staff numbers

The average number of persons employed by the Group (including Directors) during the year, analysed by reporting segment, was as follows:

	Number of employees	
	2018[1]	2017[1]
Reportable operating segments		
Thermal Ceramics	2,850	2,850
Molten Metal Systems	490	510
Thermal Products Division	3,340	3,360
Electrical Carbon	1,580	1,540
Seals and Bearings	1,250	1,110
Technical Ceramics	2,520	2,500
Carbon and Technical Ceramics Division	5,350	5,150
Segment totals	8,690	8,510
Corporate (UK and North America)	50	50
Continuing operations	8,740	8,560
Discontinued operations	100	160
Group	8,840	8,720

1. Average employee numbers have been rounded to the nearest 10.

6. Specific adjusting items

Accounting policies

In the consolidated income statement the Group presents specific adjusting items separately. In the judgement of the Directors, due to the nature and value of these items they should be disclosed separately from the underlying results of the Group to allow the reader to obtain a proper understanding of the financial information and the best indication of underlying performance of the Group.

Continuing operations	2018 £m	2017 £m
Specific adjusting items:		
Net pension past service credit	5.7	–
Business closure and exit costs	(15.2)	–
Net profit on disposal of businesses	–	45.7
Total specific adjusting items before income tax	(9.5)	45.7
Income tax (charge)/credit from specific adjusting items	(1.7)	0.9
Income tax credit resulting from US tax reform rate change and mandatory repatriation charge	–	4.1
Total specific adjusting items after income tax	(11.2)	50.7

Specific adjusting items in relation to discontinued operations are disclosed in note 9.

2018

Net pension past service credit, UK

Early and late retirement adjustment

During 2018, the Group reviewed with the Trustees of Morgan Pension Scheme the factors applied on early and late retirement, and clarified the practice regarding the calculation of pension payments with members who elected to retire other than at the normal date of retirement. This was effected via a Deed of Amendment. This change resulted in a net gain of £7.6 million in the income statement.

Adjustment for Guaranteed Minimum Pensions (GMPs)

On 26 October 2018, the High Court ruled that the Trustee of the Lloyds Banking Group pension schemes needed to remove the inequalities in pension scheme benefits that arise from unequal GMPs. We have included a charge of £1.9 million to reflect the potential cost of removing the GMP inequalities for the Group's UK defined benefit pension schemes.

The net impact of these pension adjustments is a credit to the income statement of £5.7 million.

6. Specific adjusting items continued

Business closure and exit costs

Brazil, Thermal Ceramics

In 2018 the Group announced its decision to close the Thermal Ceramics site in Rio de Janeiro. A £6.2 million charge has been recognised. This comprises cash exit costs of £2.6 million relating to site clean-up costs, professional and legal fees and staff redundancies and impairment costs of £3.6 million relating to the impairment of property, plant and equipment and other assets.

In the year ended December 2018 the business generated a headline operating loss* of £2.6 million on revenues of £3.0 million, (2017: headline operating loss* of £2.0 million on revenues of £6.5 million).

China, Technical Ceramics

The Group has decided to close its ceramic cores operations in China, a part of the Technical Ceramics operating segment. A £1.4 million impairment charge has been recognised relating to the impairment of plant and equipment and other assets.

In the year ended December 2018 the business generated a headline operating loss* of £0.9 million on revenues of £0.5 million, (2017: headline operating loss* of £0.9 million on revenues of £0.6 million).

Venezuela, Thermal Ceramics

The Group has decided to exit its Thermal Ceramics operations in Venezuela. A £7.6 million charge has been recognised, of which £7.3 million relates to the recycling of deferred foreign exchange translation losses in accordance with IAS 21 *The Effects of Changes in Foreign Exchange Rates* and £0.3 million relates to the impairment of assets.

In the years ended December 2017 and 2018 the business had negligible revenue and headline operating profit* (£0.0 million).

2017

Net profit on disposal of businesses

On 31 March 2017, the Group completed the sale of its UK Electro-ceramics business, comprising the two sites at Ruabon and Southampton. The Group also announced the closure of its US Electro-ceramics business anticipated to be around the end of 2019, which formed the remainder of the Group's Electro-ceramics business.

The Group reflected a profit on disposal of £26.8 million associated with this transaction. A deferred tax asset of £1.5 million was recognised in connection with the closure of the US business.

On 31 March 2017, the Group completed the sale of its global Rotary Transfer Systems. The business is principally located at two manufacturing sites; Antweiler, Germany and Chalon, France.

The Group reflected a profit on disposal of £18.9 million associated with this transaction. An income tax charge of £0.6 million was recognised in respect of this disposal.

US Tax Cuts and Jobs Act

As a consequence of the enactment of H.R.1 commonly referred to as the Tax Cuts and Jobs Act in the US a credit of £4.1 million was recognised. This comprised the revaluation of tax balances to reflect the reduction in the federal tax rates offset by an income tax charge for mandatory repatriation charge for overseas subsidiaries of US companies.

Notes to the consolidated financial statements
continued

7. Net finance income and expense

Accounting policies

Net financing costs comprise interest payable on borrowings calculated using the effective interest rate method, interest receivable on funds invested, gains and losses on hedging instruments that are recognised in the income statement, net interest on IAS 19 pension assets and interest on IAS 19 obligations. Interest income is recognised in the income statement as it accrues, using the effective interest method.

Borrowing costs (interest and other costs) are capitalised when they are incurred on raising specific funds to finance a major capital project which will be a significant productive asset, or to the extent that funds borrowed generally are used for the purposes of obtaining a qualifying asset.

	2018 £m	2017 £m
Recognised in profit or loss		
Amounts derived from financial instruments	–	0.2
Interest income on bank deposits measured at amortised cost	1.3	1.6
Finance income	1.3	1.8
Interest expense on financial liabilities measured at amortised cost	(9.8)	(17.4)
Net interest on IAS 19 obligations	(4.7)	(6.9)
Finance expense	(14.5)	(24.3)
Net financing costs recognised in profit or loss	(13.2)	(22.5)
Recognised directly in equity		
Cash flow hedges:		
Effective portion of changes in fair value of cash flow hedges	(0.2)	2.6
Transferred to profit or loss	(0.5)	0.4
Foreign currency translation differences for foreign operations	9.9	(11.0)
	9.2	(8.0)

No finance income or expense related to discontinued operations in either the current or preceding year.

8. Taxation – income tax expense

Accounting policies

Income tax on the profit or loss for the year comprises current and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised directly in other comprehensive income, in which case it is recognised in other comprehensive income.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the balance sheet date, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The following temporary differences are not provided for: the initial recognition of goodwill, the initial recognition of assets or liabilities that affect neither accounting nor taxable profit and differences relating to investments in subsidiaries to the extent that they will probably not reverse in the foreseeable future. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the balance sheet date.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

8. Taxation – income tax expense continued

Taxation – income tax expense recognised in the income statement

Continuing operations	2018 £m	Restated[1] 2017 £m
Current tax		
Current year	29.9	23.5
Adjustments for prior years	(0.6)	0.1
	29.3	23.6
Deferred tax		
Current year	1.9	(1.7)
Adjustments for prior years	(0.5)	–
	1.4	(1.7)
Total income tax expense in income statement	30.7	21.9

Reconciliation of effective tax rate

	2018 £m	2018 %	2017 £m	2017 %
Profit before tax	94.9		136.8	
Income tax using the domestic corporation tax rate	18.0	19.0	26.3	19.2
Effect of different tax rates in other jurisdictions	3.9	4.1	8.2	6.0
Local taxes including withholding tax suffered	3.7	3.9	4.5	3.3
Impact of US Tax Cuts and Jobs Act	–	–	(4.1)	(3.0)
Permanent differences	3.7	3.9	0.8	0.6
Non-taxable disposals	–	–	(2.9)	(2.1)
Utilisation of unrecognised UK capital losses on disposal of UK Electro-ceramics business	–	–	(6.2)	(4.5)
Movements related to unrecognised temporary differences	2.5	2.6	(4.1)	(3.0)
Adjustments in respect of prior years	(1.1)	(1.2)	0.1	0.1
Other	–	–	(0.7)	(0.5)
	30.7	32.3	21.9	16.1

Income tax recognised directly in equity

	2018 £m	2017 £m
Tax effect on components of other comprehensive income:		
Deferred tax associated with defined benefit schemes and share schemes	0.7	1.8
Total tax recognised directly in equity	0.7	1.8

1. The year ended 2017 has been restated to present the Composites and Defence Systems business as a discontinued operation under IFRS 5. Further details are provided in note 9.

The effective rate of tax before specific adjusting items is 27.8% (2017: 29.5%).

The Group operates in many jurisdictions around the world and is subject to factors that may impact future tax charges including the recently enacted US tax reform, implementation of the OECD's BEPS actions, tax rate and legislation changes, expiry of the statute of limitations and resolution of tax audits and disputes.

Of the increase in permanent differences in the year, £1.7 million relates to the recycling of deferred foreign exchange translation losses in Venezuela and the impairment of fixed assets in China (see note 6).

Notes to the consolidated financial statements
continued

9. Discontinued operations

Accounting policies

Where the Group has disposed of or intends to dispose of a business component which represents a separate major line of business or geographical area of operations, it classifies such operations as discontinued. The post-tax profit or loss of the discontinued operations is shown as a single line on the face of the consolidated income statement, separate from the results of the rest of the Group.

The Group disposed of its Composites and Defence Systems business on 20 November 2018. The business represented a separate reporting segment and therefore, in accordance with IFRS 5 *Non-current Assets Held For Sale and Discontinued Operations*, the disposal group has been classified as discontinued and the prior period has been restated to reflect this.

The results from discontinued operations, which have been disclosed in the consolidated income statement, are set out below:

		Year ended 31 December 2018			Year ended 31 December 2017		
	Note	Results before specific adjusting items £m	Specific adjusting items £m	Total £m	Results before specific adjusting items £m	Specific adjusting items £m	Total £m
Revenue		11.2	–	11.2	21.0	–	21.0
Operating costs before restructuring costs and other items		(12.6)	–	(12.6)	(22.0)	–	(22.0)
Loss from operations before restructuring costs and other items		(1.4)	–	(1.4)	(1.0)	–	(1.0)
Net loss on disposal of business	2	–	(1.7)	(1.7)	–	–	–
Business closure and exit costs	2	–	(7.6)	(7.6)	–	–	–
Loss before taxation		(1.4)	(9.3)	(10.7)	(1.0)	–	(1.0)
Income tax expense		–	–	–	–	–	–
Loss from discontinued operations		(1.4)	(9.3)	(10.7)	(1.0)	–	(1.0)
Basic loss per share from discontinued operations				(3.8)p			(0.4)p
Diluted loss per share from discontinued operations				(3.7)p			(0.3)p

The discontinued specific adjusting items relate to the loss on disposal of assets and provisions for business exit costs.

There is no income tax expense in relation to the discontinued operations in either the current or preceding year.

10. Earnings per share

The calculation of basic/diluted earnings per share from continuing and discontinued operations at 31 December 2018 was based on the net profit attributable to equity shareholders of £46.3 million (2017: £107.6 million, 2016: £52.3 million), and a weighted average number of shares outstanding during the year of 285.2 million (2017: 285.0 million, 2016: 284.9 million). The calculation of the weighted average number of shares excludes the shares held by The Morgan General Employee Benefit Trust, on which the dividends are waived.

Headline earnings per Ordinary share* is defined as operating profit from continuing operations adjusted to exclude specific adjusting items and amortisation of intangible assets, plus share of profit of associate less net financing costs, income tax expense and non-controlling interests, divided by the weighted average number of Ordinary shares during the period. This measure of earnings is shown because the Directors consider that it gives a better indication of headline performance.

10. Earnings per share continued

The diluted earnings per share calculation takes into account the dilutive effect of share incentives. The diluted, weighted average number of shares is 286.8 million (2017: 286.7 million, 2016: 285.1 million). Diluted earnings per share is 16.1 pence (2017: 37.5 pence, 2016: 18.3 pence).

The denominators used are the same as those detailed above for both basic and diluted earnings per share from continuing and discontinued operations.

	2018 £m	Restated 2017[1] £m
Profit for the period from continuing and discontinued operations attributable to equity shareholders	**46.3**	107.6
Loss from discontinued operations	**10.7**	1.0
Profit from continuing operations	**57.0**	108.6
Specific adjusting items	**9.5**	(45.7)
Amortisation of intangible assets	**8.0**	7.3
Tax effect of the above	**1.7**	(5.0)
Non-controlling interests' share of the above adjustments	**–**	–
Adjusted profit for the period from continuing operations	**76.2**	65.2

Continuing operations	2018 Pence	2017 Pence
Earnings per Ordinary share	**20.0p**	38.1p
Specific adjusting items	**3.3p**	(16.0)p
Amortisation of intangible assets	**2.8p**	2.5p
Tax effect of the above	**0.6p**	(1.8)p
Non-controlling interests' share of the above adjustments	**–**	–
Headline earnings per share[2]	**26.7p**	22.8p

	2018	2017
Number of shares		
Weighted average number of Ordinary shares for the purposes of basic earnings per share	**285.2**	285.0
Effect of dilutive potential Ordinary shares:		
Share options	**1.6**	1.7
Weighted average number of Ordinary shares for the purposes of diluted earnings per share	**286.8**	286.7

1. The results for the year ended 31 December 2017 have been restated to present the Composites and Defence Systems business as a discontinued operation under IFRS 5. Further details are provided in note 9 to the consolidated financial statements.
2. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

11. Property, plant and equipment

Accounting policies

(i) Owned assets

Items of property, plant and equipment are stated at cost less accumulated depreciation (see overleaf) and impairment losses. The cost of self-constructed assets includes the cost of materials, direct labour, and an appropriate proportion of production overheads.

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items of property, plant and equipment.

Gains and losses on the disposal of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of the asset. Gains and losses on the disposal of property are recognised in 'Restructuring costs and other items' in the income statement. Gains and losses on the disposal of plant and equipment are recognised in 'Operating costs before restructuring costs, other items and amortisation of intangible assets' in the income statement.

(ii) Leased assets

Leases under the terms of which the Group assumes substantially all the risks and rewards of ownership are classified as finance leases. Leased assets acquired by way of a finance lease are stated at an amount equal to the lower of their fair value and the present value of the minimum lease payments at inception of the lease, less accumulated depreciation and impairment losses.

Notes to the consolidated financial statements
continued

11. Property, plant and equipment continued

(iii) Depreciation
Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each part of an item of property, plant and equipment. Land is not depreciated. Depreciation methods, useful lives and residual values are reviewed at each balance sheet date. The estimated useful lives are as follows:

Buildings	50 years
Plant and equipment and fixtures	3-20 years

	Land and buildings £m	Plant and equipment and fixtures £m	Total £m
Cost			
Balance at 1 January 2017	202.6	685.1	887.7
Additions	4.2	36.4	40.6
Disposals	(3.3)	(35.5)	(38.8)
Transfers between categories	6.3	(6.3)	–
Effect of movement in foreign exchange	(6.9)	(29.2)	(36.1)
Balance at 31 December 2017	202.9	650.5	853.4
Balance at 1 January 2018	**202.9**	**650.5**	**853.4**
Additions	**10.2**	**39.0**	**49.2**
Disposals	**(0.3)**	**(10.1)**	**(10.4)**
Effect of movement in foreign exchange	**5.5**	**18.2**	**23.7**
Balance at 31 December 2018	**218.3**	**697.6**	**915.9**
Depreciation and impairment losses			
Balance at 1 January 2017	87.9	496.1	584.0
Depreciation charge for the year	4.4	26.2	30.6
Disposals	(1.4)	(32.5)	(33.9)
Effect of movement in foreign exchange	(3.9)	(21.2)	(25.1)
Balance at 31 December 2017	87.0	468.6	555.6
Balance at 1 January 2018	**87.0**	**468.6**	**555.6**
Depreciation charge for the year	**4.8**	**26.9**	**31.7**
Impairment charge for the year	**1.4**	**5.5**	**6.9**
Disposals	**(0.2)**	**(9.8)**	**(10.0)**
Effect of movement in foreign exchange	**2.9**	**14.3**	**17.2**
Balance at 31 December 2018	**95.9**	**505.5**	**601.4**
Carrying amounts			
At 1 January 2017	114.7	189.0	303.7
At 31 December 2017	115.9	181.9	297.8
At 31 December 2018	**122.4**	**192.1**	**314.5**

The depreciation and impairment charges for the year include £0.4 million and £1.5 million, respectively, relating to discontinued operations (2017: £0.6 million and £nil). The impairment charge for the year relating to continuing operations is comprised of £3.7 million included within specific adjusting items (further details in note 6) and £1.7 million which has been reclassified during the year from closure and restructuring provisions (see note 23).

In 2018 assets valued at £0.3 million were pledged as security for liabilities (2017: £nil).

12. Intangible assets

Accounting policies

(i) Goodwill

All business combinations are accounted for by applying the purchase method. Goodwill represents the difference between the cost of the acquisition and the fair value of assets, liabilities and contingent liabilities acquired.

Goodwill is allocated to cash-generating units and is tested annually for impairment.

(ii) Research and development

See note 1.

(iii) Other intangible assets

Other intangible assets that are acquired by the Group are stated at cost less accumulated amortisation (see below) and impairment losses.

(iv) Amortisation

Amortisation is charged to the income statement on a straight-line basis over the estimated useful lives of intangible assets unless such lives are indefinite. Goodwill and intangible assets with an indefinite useful life are systematically tested for impairment at each balance sheet date. Other intangible assets are amortised from the date they are available for use. The estimated useful lives are as follows:

Capitalised development costs	3 years
Computer software	3-10 years
Customer relationships	15-20 years
Technology and trademarks	15-20 years

Intangible assets

	Goodwill £m	Customer relationships £m	Technology and trademarks £m	Capitalised development costs £m	Computer software £m	Total £m
Cost						
Balance at 1 January 2017	210.6	89.3	21.8	0.8	25.6	348.1
Additions (externally purchased)	–	–	–	–	5.3	5.3
Disposals	(12.9)	–	–	–	(1.8)	(14.7)
Effect of movement in foreign exchange	(5.7)	(4.2)	0.2	–	(1.0)	(10.7)
Balance at 31 December 2017	192.0	85.1	22.0	0.8	28.1	328.0
Balance at 1 January 2018	**192.0**	**85.1**	**22.0**	**0.8**	**28.1**	**328.0**
Additions (externally purchased)	**–**	**–**	**–**	**–**	**1.3**	**1.3**
Disposals	**(16.4)**	**(27.8)**	**(18.3)**	**–**	**(0.1)**	**(62.6)**
Effect of movement in foreign exchange	**3.8**	**3.1**	**–**	**–**	**0.5**	**7.4**
Balance at 31 December 2018	**179.4**	**60.4**	**3.7**	**0.8**	**29.8**	**274.1**
Amortisation and impairment losses						
Balance at 1 January 2017	16.4	57.6	18.4	0.8	14.5	107.7
Amortisation charge for the year	–	4.3	0.2	–	2.8	7.3
Disposals	–	–	–	–	(1.6)	(1.6)
Effects of movement in foreign exchange	–	(2.0)	–	–	(0.4)	(2.4)
Balance at 31 December 2017	16.4	59.9	18.6	0.8	15.3	111.0
Balance at 1 January 2018	**16.4**	**59.9**	**18.6**	**0.8**	**15.3**	**111.0**
Amortisation charge for the year	**–**	**4.1**	**0.2**	**–**	**3.7**	**8.0**
Disposals	**(16.4)**	**(27.8)**	**(18.3)**	**–**	**(0.1)**	**(62.6)**
Effects of movement in foreign exchange	**–**	**1.9**	**–**	**–**	**0.2**	**2.1**
Balance at 31 December 2018	**–**	**38.1**	**0.5**	**0.8**	**19.1**	**58.5**
Carrying amounts						
At 1 January 2017	194.2	31.7	3.4	–	11.1	240.4
At 31 December 2017	175.6	25.2	3.4	–	12.8	217.0
At 31 December 2018	**179.4**	**22.3**	**3.2**	**–**	**10.7**	**215.6**

Notes to the consolidated financial statements
continued

12. Intangible assets continued

Included in customer relationships is an asset with a net book value of £16.3 million at 31 December 2018 recognised in relation to the acquisition of the Technical Ceramics businesses of Carpenter Technology Corporation in 2008. The remaining amortisation period on this asset is five years.

Impairment test for cash-generating units containing goodwill

In accordance with the requirements of IAS 36 *Impairment of Assets*, goodwill is allocated to the Group's cash-generating units that are expected to benefit from the synergies of the business combination that gave rise to the goodwill.

Goodwill is attributed to each cash-generating unit as follows:

	2018 £m	2017 £m
Thermal Ceramics	87.2	85.4
Molten Metal Systems	9.3	9.1
Electrical Carbon	30.2	29.6
Seals and Bearings	15.3	15.0
Technical Ceramics	37.4	36.5
	179.4	175.6

Each cash-generating unit is assessed for impairment annually and whenever there is an indication of impairment.

As part of the annual impairment test review the carrying value of goodwill has been assessed with reference to its value in use, reflecting the projected discounted cash flows of each cash-generating unit to which goodwill has been allocated.

The key assumptions used in determining value in use relate to growth rates and discount rates.

The cash flow projections in year one are based on the most recent Board approved budget. Cash flow projections for years two and three are based on the most recent Board approved strategic plan. The key assumptions that underpin these cash flow projections relate to sales and operating margins, which are based on past experience, taking into account the effect of known or likely changes in market or operating conditions.

Growth rates for the period not covered by the budget and strategic plan 2022: 1.0%. A 1.0% growth rate has been used to calculate a terminal value. These growth rates reflect the products, industries and countries in which the operating segments operate. These medium- to long-term growth rates have been reviewed by Management during 2018 and are considered to be appropriate.

In 2018, the Group has used the following pre-tax discount rates for calculating the terminal value of each of the cash-generating units: Thermal Ceramics: 11.9%, Molten Metal Systems: 11.8%, Electrical Carbon: 12.1%, Seals and Bearings: 11.9%, Technical Ceramics 12.2%.

The Directors have considered the following individual sensitivities and are confident that no impairment would arise for each of the Thermal Ceramics, Molten Metal Systems, Electrical Carbon, Seals and Bearings and Technical Ceramics cash-generating units in any one of the following three circumstances:

- If the pre-tax discount rate was increased to 15%.
- If no growth was assumed for years two to five and in the calculation of terminal value.
- If the cash flow projections of all businesses were reduced by 15.5%.

13. Investments

Accounting policies

Investments in debt and equity securities

Investments in debt and equity securities held by the Group are classified as being as FVOCI and are stated at fair value, with any resultant gain or loss being recognised directly in other comprehensive income (in the fair value reserve), except for impairment losses and, in the case of monetary items such as debt securities, foreign exchange gains and losses. When these investments are derecognised, the cumulative gain or loss previously recognised directly in equity is recognised in profit or loss. Where these investments are interest-bearing, interest calculated using the effective interest method is recognised in profit or loss.

	2018 £m	2017 £m
Non-current investments		
FVOCI – equity instrument	0.5	0.9
Investment in associates	5.4	5.4
	5.9	6.3

FVOCI – equity instrument

The equity securities classified as FVOCI represent an investment in a mutual fund. A 10% increase in the unit price would increase the fair value of the investments by £nil (2017: £nil).

Investment in associates

The Group has no material associates in the current or preceding year. Details of the Group's investment in its associate (including name, country of incorporation and proportion of ownership) are given in note 44 to the Company's separate financial statements.

The Group's share of profit from its associate for the year was £0.8 million (2017: £0.2 million). The Group did not receive a dividend from its associate during the current or preceding year.

Notes to the consolidated financial statements
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14. Recognised deferred tax assets and liabilities

Deferred tax assets and liabilities are attributable to the following:

	Assets 2018 £m	Assets 2017 £m	Liabilities 2018 £m	Liabilities 2017 £m	Net 2018 £m	Net 2017 £m
Property, plant and equipment	–	–	(17.9)	(17.5)	(17.9)	(17.5)
Intangible assets	–	–	(5.4)	(6.0)	(5.4)	(6.0)
Employee benefits	11.3	12.1	–	–	11.3	12.1
Provisions	6.1	6.5	–	–	6.1	6.5
Tax value of loss carried forward recognised	1.2	2.9	–	–	1.2	2.9
Other items	0.6	0.6	–	–	0.6	0.6
Offset	(12.3)	(13.0)	12.3	13.0	–	–
	6.9	9.1	(11.0)	(10.5)	(4.1)	(1.4)

Unrecognised deferred tax assets

Deferred tax assets have not been recognised in respect of the following items:

	2018 £m	2017 £m
UK pension deficit	142.5	166.0
Tax losses	90.3	83.9
Capital losses	38.2	47.0
Other deductible temporary differences	51.0	51.6
	322.0	348.5

Deferred tax assets have not been recognised in relation to these temporary differences due to uncertainty surrounding future utilisation. Based on current tax legislation the tax losses will not expire. Although the Group as a whole is profitable, the unrecognised losses related to entities where it is not probable that there will be taxable profits against which these losses can be utilised.

Movements in temporary differences during the year

	31 December 2016 £m	Recognised in profit or loss £m	Recognised directly in equity £m	31 December 2017 £m	Recognised in profit or loss £m	Recognised directly in equity £m	31 December 2018 £m
Property, plant and equipment	(25.2)	7.7	–	(17.5)	(0.4)	–	(17.9)
Intangible assets	(13.2)	7.2	–	(6.0)	0.6	–	(5.4)
Employee benefits	25.3	(11.4)	(1.8)	12.1	(0.2)	(0.7)	11.2
Provisions	7.2	(0.7)	–	6.5	(0.4)	–	6.1
Tax value of loss carried forward recognised	2.1	0.8	–	2.9	(1.7)	–	1.2
Others	1.6	(1.9)	0.9	0.6	0.7	(0.6)	0.7
	(2.2)	1.7	(0.9)	(1.4)	(1.4)	(1.3)	(4.1)

Deferred income tax of £2.6 million is provided on the potential unremitted earnings of overseas subsidiary undertakings.

15. Inventories

Accounting policies

Inventories are stated at the lower of cost and net realisable value. Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

The cost of inventories is based on the first-in-first-out principle and includes expenditure incurred in acquiring the inventories and bringing them to their existing location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of overheads based on normal operating capacity.

Inventories

	2018[1] £m	Restated 2017[1] £m
Raw materials and consumables	36.1	39.3
Work in progress	46.5	44.4
Finished goods	62.7	57.9
	145.3	141.6

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

The Group holds consignment inventory amounting to £18.2 million (2017: £16.5 million) which is not reflected in the balance sheet. The majority of this balance is for precious metals, which are held on consignment by a subsidiary and for which it is invoiced only when the material is required.

In 2018 provisions of £4.5 million were made against inventories and recognised in operating costs (2017: £3.4 million).

16. Trade and other receivables

Accounting policies

Trade and other receivables are initially stated at their fair value and subsequently measured at amortised cost less impairment losses.

Trade and other receivables

	2018[1] £m	Restated 2017[1] £m
Current		
Trade receivables	177.8	174.9
Other non-trade receivables and prepayments	22.7	19.5
	200.5	194.4

1 The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

The Group's exposure to credit and currency risks related to trade and other receivables is disclosed in note 21.

Notes to the consolidated financial statements
continued

17. Cash and cash equivalents

Accounting policies

Cash and cash equivalents comprise cash balances and call deposits. Short-term deposits include demand deposits and short–term highly liquid investments with maturities of three months or less that are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value. 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.

Cash and cash equivalents

	2018 £m	2017 £m
Bank balances	57.9	44.7
Cash deposits	9.7	5.7
Cash and cash equivalents	67.6	50.4

Reconciliation of cash and cash equivalents to net debt*

	2018 £m	2017 £m
Opening borrowings	(231.7)	(364.9)
Net (increase)/decrease in borrowings	(7.5)	114.1
Payment of finance lease liabilities	0.4	0.3
Total changes from cash flows	(7.1)	114.4
Effect of movements in foreign exchange on borrowings	(8.8)	18.8
Closing borrowings	(247.6)	(231.7)
Cash and cash equivalents	67.6	50.4
Closing net debt[1]	(180.0)	(181.3)

1. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

The table below details changes in the Group's liabilities arising from financing activities, including both cash and non-cash changes.

	Current borrowings £m	Non-current borrowings £m	Total financing liabilities £m	Cash and cash equivalents £m	Movement in net debt[1] £m
At 31 December 2017	(39.0)	(192.7)	(231.7)	50.4	(181.3)
Cash inflow	–	–	–	29.8	29.8
Borrowings cash flow	15.0	(22.1)	(7.1)	–	(7.1)
Reclassification of borrowings	(59.1)	59.1	–	–	–
Net interest paid	–	–	–	(8.4)	(8.4)
Net cash inflow/(outflow)	(44.1)	37.0	(7.1)	21.4	14.3
Share purchases	–	–	–	(3.2)	(3.2)
Exchange and other movements	0.3	(9.1)	(8.8)	(1.0)	(9.8)
At 31 December 2018	(82.8)	(164.8)	(247.6)	67.6	(180.0)

1. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

18. Trade and other payables

Accounting policies

Trade and other payables are initially stated at their fair value and subsequently measured at amortised cost.

Trade and other payables

	2018 £m	2017 £m
Non-current		
Trade and non-trade payables	2.5	3.4
Current		
Trade payables due to associate	1.2	0.3
Other trade payables	93.8	97.6
Non-trade payables and accrued expenses	95.5	95.8
	190.5	193.7

19. Capital and reserves

Accounting policies

(i) Ordinary share capital

Ordinary shares are classified as equity.

(ii) Preference share capital

Preference share capital is classified as equity if it is non-redeemable and any dividends are discretionary, or is redeemable but only at the Company's option. Dividends on Preference share capital classified as equity are recognised as distributions within equity.

(iii) Repurchase of share capital and own shares held by The Morgan General Employee Benefit Trust (the Trust)

When share capital recognised as equity is repurchased, the amount of the consideration paid, which includes directly attributable costs, is net of any tax effects, and is recognised as a deduction from equity. Repurchased shares and the purchase of own shares by the Trust are presented as a deduction from total equity.

Translation reserve

The translation reserve comprises all foreign exchange differences arising from the translation of the financial statements of foreign operations, as well as from the translation of liabilities that hedge the Company's net investment in a foreign subsidiary and forward contracts used for net investment hedging.

Hedging reserve

The hedging reserve comprises the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged transactions that have not yet occurred.

Fair value reserve

The fair value reserve includes the cumulative net change in the fair value of FVOCI investments until the investment is derecognised.

Capital redemption reserve

The capital redemption reserve arose when the Company redeemed Preference shares wholly out of distributable profits.

Retained earnings

The Company has acquired own shares to satisfy the requirements of the various share option incentive schemes. At 31 December 2018, 968,287 shares were held by The Morgan General Employee Benefit Trust and are treated as a deduction from equity (2017: 216,456). No treasury shares were held by the Company (2017: none). All rights conferred by those shares are suspended until they are reissued.

Notes to the consolidated financial statements
continued

19. Capital and reserves continued

A summary of the movements in own shares held by the Morgan General Employee Benefit Trusts is set out in the table below:

	2018 Shares	2018 Cost £m	2017 Shares	2017 Cost £m
As at 1 January	216,456	0.6	623,127	1.7
New shares purchased	1,100,000	3.2	130,000	0.4
Exercise of share options	(348,169)	(1.1)	(536,671)	(1.4)
As at 31 December	968,287	2.7	216,456	0.6

Consideration received in respect of shares transferred to participants of employee share schemes was £0.4 million (2017: £nil). The market value of shares held by the Trust at 31 December 2018 was £2.6 million (2017: £0.7 million).

Dividends

The following Ordinary dividends were declared and paid by the Company:

	Per share		Total	
	2018 Pence	2017 Pence	2018 £m	2017 £m
2016 final	–	7.00	–	20.0
2017 interim	–	4.00	–	11.4
2017 final	7.00	–	20.0	–
2018 interim	4.00	–	11.4	–
	11.00	11.00	31.4	31.4

In addition to the above, the Company also declared and paid dividends on the 5.5% Cumulative First Preference shares and 5.0% Cumulative Second Preference shares.

After 31 December 2018 the following dividends were proposed by the Directors for 2018. These dividends have not been provided for and there are no income tax consequences.

	£m
7.0 pence per qualifying Ordinary share	20.0
5.5% Cumulative First Preference shares	–
5.0% Cumulative Second Preference shares	–
	20.0

The proposed 2018 final dividend is based upon the number of shares outstanding at the balance sheet date.

Called-up share capital

	2018 £m	2017 £m
Equity share capital		
Fully paid: 285,369,988 (2017: 285,369,988) issued Ordinary shares of 25 pence each	71.4	71.4
	71.4	71.4
Preference share capital		
125,327 issued 5.5% Cumulative First Preference shares of £1 each, fully paid	0.1	0.1
311,954 issued 5.0% Cumulative Second Preference shares of £1 each, fully paid	0.3	0.3
	0.4	0.4
Total share capital	71.8	71.8

19. Capital and reserves continued

Number of shares in issue

	Ordinary shares		Preference shares	
	2018	2017	**2018**	2017
In issue at beginning and end of period	**285,369,988**	285,369,988	**437,281**	437,281

As at the date of this Report 285,369,988 Ordinary shares have been issued (2017: 285,369,988).

Details of options outstanding in respect of Ordinary shares are given in note 22.

Voting rights of shareholders

Ordinary shares

The holders of Ordinary shares are entitled to receive dividends as declared from time to time and are entitled to one vote per share at meetings of the Company.

Preference shares

The 5.5% Cumulative First Preference shares of £1 each and the 5.0% Cumulative Second Preference shares of £1 each confer on the holders thereof the right to receive a cumulative preferential dividend at the rate of 5.5% and 5.0% respectively, calculated up to 30 June and 31 December respectively in every year. The First and Second Cumulative Preference shares shall not entitle the holders thereof to attend or vote at any general meeting unless either:

(i) the meeting is convened to consider any resolutions for reducing the capital, or authorising any issue of debentures or debenture stock, or increasing the borrowing powers of the Board under the Articles of Association of the Company, or winding up, or sanctioning a sale of the undertaking, or altering the Articles in any manner affecting their respective interests, or any other resolutions directly altering their respective rights and privileges; or

(ii) at the date of the notice convening the general meeting the Preference dividend is upwards of one month in arrears from the payment date of any half-yearly instalment.

On a return of capital on a winding-up the assets of the Company available for distribution shall be applied:

First, in payment to the holders of the First Preference shares of the amounts paid up on such shares, together with interest at the rate of 5.5% pa.

Second, in payment to the holders of the Second Preference shares of the amounts paid up on such shares, together with interest at the rate of 5.0% pa.

Third, in repaying the capital paid up or credited as paid up on the Ordinary shares.

Fourth, any surplus shall be distributed rateably amongst the holders of the Ordinary shares in proportion to the nominal amount paid up on their respective holdings of shares in the Company.

20. Interest-bearing loans and borrowings

This note provides information about the contractual terms of the Group's interest-bearing loans and borrowings which are measured at amortised cost. For more information about the Group's exposure to interest rate and foreign currency risk, see note 21.

Accounting policies

Interest-bearing loans and borrowings

Interest-bearing loans and borrowings are recognised initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing loans and borrowings are stated at amortised cost with any difference between cost and redemption value being recognised in the income statement over the period of the borrowings on an effective interest basis.

Finance lease payments

Leases where the Group assumes substantially all of the risks and rewards of ownership are classified as finance leases as if the asset had been purchased outright. Assets acquired under finance leases are recognised as assets of the Group and the capital elements of the leasing commitments are shown as obligations in creditors. Depreciation is charged on a basis consistent with similar owned assets or over the lease term if shorter. Minimum lease payments are apportioned between the finance charge and the reduction of the outstanding liability. The finance charge is allocated to each period during the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Notes to the consolidated financial statements
continued

20. Interest-bearing loans and borrowings continued

Borrowing facilities and liquidity

All of the Group's borrowing facilities are arranged by Group Treasury with Morgan Advanced Materials plc as the principal obligor. In a few cases operating subsidiaries have external borrowings but these are supervised and controlled centrally. Group Treasury seeks to obtain certainty of access to funding in the amounts, diversity of maturities and diversity of counterparties as required to support the Group's medium-term financing requirements and to minimise the impact of poor credit market conditions.

Interest-bearing loans, borrowings and overdrafts

	2018 £m	2017 £m
Non-current liabilities		
Senior Notes	164.8	192.3
Bank and other loans	–	0.3
Obligations under finance leases	–	0.1
	164.8	192.7
Current liabilities		
Senior Notes	58.9	–
Bank and other loans	23.7	38.5
Obligations under finance leases	0.2	0.5
	82.8	39.0

Finance lease liabilities

Finance lease liabilities are payable as follows:

	Minimum lease payments 2018 £m	Interest 2018 £m	Principal 2018 £m	Minimum lease payments 2017 £m	Interest 2017 £m	Principal 2017 £m
Less than one year	0.2	–	0.2	0.5	–	0.5
Between one and five years	–	–	–	0.1	–	0.1
	0.2	–	0.2	0.6	–	0.6

In 2018 bank and other loans did not include any loans secured on the assets of the Group (2017: £nil).

As at 31 December 2018 the Group had available headroom under the bank syndication of £185.0 million (2017: £168.4 million). The £200 million facility was entered into in September 2018 with an initial expiry date of September 2023 and with a further two one-year extension options available at the banks' discretion.

On 27 December 2018, the Group completed a US private debt placement, raising €25 million for a 12 year tenor, to refinance existing financial indebtedness.

21. Financial risk management

This note presents information about the Group's exposure to a variety of financial risks: credit risk, liquidity risk and market risk, and the Group's management of capital. Further quantitative disclosures are included throughout these consolidated financial statements.

Accounting policies

Classification of financial instruments issued by the Group

Financial instruments issued by the Group are treated as equity (ie forming part of shareholders' funds) only to the extent that they meet the following two conditions:

(i) they include no contractual obligations upon the Group to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavourable to the Group; and

(ii) where the instrument will or may be settled in the Company's own equity instruments, it is either a non-derivative that includes no obligation to deliver a variable number of the Company's own equity instruments or is a derivative that will be settled by the Company exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

21. Financial risk management continued

To the extent that this definition is not met the proceeds of issue are classified as a financial liability. Where the instrument so classified takes the legal form of the Company's own shares, the amounts presented in these financial statements for called-up share capital and share premium account exclude amounts in relation to those shares.

Finance payments associated with financial liabilities are dealt with as part of finance expenses. Finance payments associated with financial instruments that are classified in equity are dividends and are recorded directly in equity.

Financial risk management and Treasury Policy

Group Treasury works within a framework of policies and procedures approved by the Audit Committee. It acts as a service centre for Morgan Advanced Materials' businesses, not as a profit centre, and manages and controls risk in the treasury environment through the establishment of such procedures. Group Treasury seeks to align treasury goals, objectives and philosophy to those of the Group. It is responsible for all of the Group's funding, liquidity, cash management, interest rate risk, foreign exchange risk and other treasury business. As part of the policies and procedures, there is strict control over the use of financial instruments to hedge foreign currencies and interest rates. Speculative trading in derivatives and other financial instruments is not permitted.

Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Group is exposed to credit risk on financial instruments such as liquid assets, derivative assets and trade receivables.

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at the reporting date was:

	Carrying amount	
	2018[1] £m	Restated[1] 2017 £m
FVOCI – equity instruments	0.5	0.9
Trade and other receivables	177.8	174.9
Cash and cash equivalents	67.6	50.4
Derivatives	0.6	1.0
	246.5	227.2

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

FVOCI – equity instruments

The Group limits its exposure to credit risk by only investing in liquid securities and only with counterparties that have a sound credit rating. Given these high credit ratings, management does not expect any counterparty to fail to meet its obligations.

Trade and other receivables

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. The demographics of the Group's customer base, including the default risk of the industries and countries in which customers operate, has less influence on credit risk.

Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. Credit evaluations are performed on all customers requiring credit over a certain amount. The Group does not require collateral in respect of financial assets.

The Group serves thousands of customers. Many of these have purchased the same product for several years and in some cases decades. Others have modified and enhanced designs or adopted the same components into new products, extending the lifecycle of the components that the Group supplies. The Group's level of customer retention is very high, particularly with its major accounts, and, although the top 20 ranking will alter from year to year, many of the names remain consistent over time.

The Group establishes an allowance for impairment that represents its estimate of expected credit losses in respect of trade and other receivables and investments.

Notes to the consolidated financial statements
continued

21. Financial risk management continued

The ageing of trade receivables at the reporting date was:

	Gross[1] 2018 £m	Impairment 2018 £m	Gross restated[1] 2017 £m	Impairment 2017 £m
Not past due	149.0	(0.5)	140.9	(0.3)
Past due 0-30 days	22.2	(0.4)	21.4	(0.4)
Past due 31-60 days	4.9	(0.2)	5.4	(0.1)
Past due 61-90 days	2.1	–	4.4	(0.1)
Past due more than 90 days	9.6	(8.9)	15.6	(11.9)
	187.8	(10.0)	187.7	(12.8)

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

The allowances in the accounts in respect of trade receivables are used to record impairment losses unless the Group is satisfied that no recovery of the amount owing is possible; at the point the amount is considered irrecoverable it is written off against the financial asset directly.

Cash, cash equivalents and derivatives

Cash balances held by companies representing over 75% of the Group's revenue are managed centrally through a number of pooling arrangements. Credit risk is managed by investing liquid assets and acquiring derivatives in a diversified way from high-credit-quality financial institutions. Counterparties are reviewed through the use of rating agencies, systemic risk considerations and through regular review of the financial press.

Liquidity and funding risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by cash. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions.

The Group seeks a balance between certainty of funding and a flexible, cost-effective borrowing structure. The policy is to ensure that the Group has sufficient borrowings and committed facilities to meet its medium-term financing requirements.

The following are the undiscounted contracted maturities of financial liabilities, including interest payments:

	2018							
	Effective interest rate	Year of maturity	Carrying amount £m	Contractual cash flows £m	Less than 1 year £m	1-2 years £m	2-5 years £m	More than 5 years £m
Non-derivative financial liabilities								
6.26% US Dollar Senior Notes 2019	6.26%	2019	59.0	62.5	62.5	–	–	–
1.18% Euro Senior Notes 2023	1.18%	2023	22.5	23.9	0.3	0.3	23.3	–
3.17% US Dollar Senior Notes 2023	3.17%	2023	11.8	13.7	0.4	0.4	12.9	–
1.55% Euro Senior Notes 2026	1.55%	2026	22.5	25.1	0.3	0.3	1.0	23.5
3.37% US Dollar Senior Notes 2026	3.37%	2026	76.4	96.6	2.6	2.6	7.7	83.7
1.74% Euro Senior Notes 2028	1.74%	2028	9.0	10.7	0.2	0.2	0.5	9.8
2.89% Euro Senior Notes 2030	2.89%	2030	22.5	30.1	0.6	0.6	1.9	27.0
Bank and other loans		Up to 2023	23.7	23.7	23.7	–	–	–
Obligations under finance leases	4.3%	Up to 2023	0.2	0.2	0.2	–	–	–
Trade and other payables			95.0	95.0	95.0	–	–	–
Derivative financial liabilities								
Forward exchange contracts as cash flow hedges			0.5	0.5	0.5	–	–	–
Forward exchange contracts as fair value hedges			0.1	0.1	0.1	–	–	–
			343.2	382.1	186.4	4.4	47.3	144.0

21. Financial risk management continued

	2017							
	Effective interest rate	Year of maturity	Carrying amount £m	Contractual cash flows £m	Less than 1 year £m	1-2 years £m	2-5 years £m	More than 5 years £m
Non-derivative financial liabilities								
6.26% US Dollar Senior Notes 2019	6.26%	2019	55.6	62.5	3.5	59.0	–	–
1.18% Euro Senior Notes 2023	1.18%	2023	22.2	23.9	0.3	0.3	0.8	22.5
3.17% US Dollar Senior Notes 2023	3.17%	2023	11.2	13.4	0.4	0.4	1.1	11.5
1.55% Euro Senior Notes 2026	1.55%	2026	22.3	25.2	0.3	0.3	1.0	23.6
3.37% US Dollar Senior Notes 2026	3.37%	2026	72.1	93.5	2.4	2.4	7.3	81.4
1.74% Euro Senior Notes 2028	1.74%	2028	8.9	10.7	0.2	0.2	0.5	9.8
Bank and other loans		up to 2019	38.8	38.9	38.2	0.1	0.6	–
Obligations under finance leases	4.19%	up to 2022	0.6	0.5	0.4	0.1	–	–
Trade and other payables			97.9	97.9	97.9	–	–	–
Derivative financial liabilities								
Forward exchange contracts as cash flow hedges			0.4	0.4	0.4	–	–	–
Forward exchange contracts as fair value hedges			0.2	0.2	0.2	–	–	–
			330.2	367.1	144.2	62.8	11.3	148.8

Cash flows associated with derivatives that are cash flow hedges

The following table indicates the periods in which cash flows associated with cash flow hedges are expected to occur. This is matched with the periods in which cash flows associated with cash flow hedges are expected to impact profit or loss.

	Carrying amount £m	Contractual cash flows £m	Less than 1 year £m	1-2 years £m	2-5 years £m	More than 5 years £m
2018						
Forward exchange contracts – Assets	**0.4**	**69.8**	**64.3**	**5.5**	**–**	**–**
Forward exchange contracts – Liabilities	**(0.5)**	**(69.9)**	**(64.4)**	**(5.5)**	**–**	**–**
	(0.1)	**(0.1)**	**(0.1)**	**–**	**–**	**–**
2017						
Forward exchange contracts – Assets	1.0	88.9	81.8	7.1	–	–
Forward exchange contracts – Liabilities	(0.5)	(88.4)	(81.6)	(6.8)	–	–
	0.5	0.5	0.2	0.3	–	–

Market risk

Market risk is the risk that changes in market prices, such as interest rates, foreign exchange rates and equity prices, will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return on risk.

The Group buys and sells derivatives in the ordinary course of business for hedging purposes, and also incurs financial liabilities, in order to manage market risks. All such transactions are carried out in accordance with the Treasury Policy, which has been approved by the Audit Committee. Generally the Group seeks to apply hedge accounting in order to manage volatility in profit or loss.

Interest rate risk

The Group seeks to reduce the volatility in its interest charge caused by rate fluctuations. This is achieved through a combination of fixed rate debt and interest rate swaps. The proportions of fixed and floating rate debt are determined having regard to a number of factors, including prevailing market conditions, interest rate cycle, the Group's interest cover and leverage position and any perceived correlation between business performance and rates.

Notes to the consolidated financial statements
continued

21. Financial risk management continued

At the reporting date the interest rate profile of the Group's interest-bearing financial instruments was:

	Fixed rate instruments carrying amount		Variable rate instruments carrying amount	
	2018 £m	2017 £m	2018 £m	2017 £m
Financial assets	–	–	67.6	50.4
Financial liabilities	(223.9)	(193.2)	(23.7)	(38.5)
	(223.9)	(193.2)	43.9	11.9

The fixed rate financial liabilities predominantly comprise the currency equivalent of £223.7 million (2017: £192.3 million) of Senior Notes. The average cost of the Group's fixed rate instruments is 3.60% (2017: 3.67%).

An increase of 100 basis points in interest rates on the variable element of the Group's net debt* at the reporting date would have increased profit by £0.5 million (2017: £0.3 million). A decrease of 100 basis points would have decreased profit by £0.3 million (2017: decrease £0.2 million). This analysis assumes that all other variables, in particular foreign currency rates, remain constant.

Foreign currency risk

Due to the international reach of the Group, currency transaction exposures exist. The Group has a policy in place to hedge all material firm commitments and a large proportion of highly probable forecast foreign currency exposures in respect of sales and purchases over the following 12 months, and achieves this through the use of the forward foreign exchange markets. A significant proportion of the forward exchange contracts have maturities of less than one year after the balance sheet date. The Group continues its practice of not hedging income statement translation exposure.

There are exchange control restrictions which affect the ability of a small number of the Group's subsidiaries to transfer funds to the Group. The Group does not believe such restrictions have had or will have any material adverse impact on the Group as a whole or the ability of the Group to meet its cash flow requirements.

The table below shows the Group's currency exposures, being exposures on currency transactions that give rise to net currency gains and losses recognised in the income statement. Such exposures comprise the monetary assets and liabilities of the Group that are not denominated in the functional currency of the operating company involved, other than certain non-GBP borrowings treated as hedges of net investments in overseas entities.

	2018			2017		
Functional currency of Group operations	GBP £m	USD £m	Euro £m	GBP £m	USD £m	Euro £m
Trade receivables	1.9	8.0	4.8	1.9	9.1	5.8
Cash and cash equivalents	0.9	7.5	1.6	0.8	(2.0)	3.6
Trade payables	(2.3)	(8.3)	(12.2)	(2.0)	(10.0)	(5.6)
Borrowings not designated as net investment hedges	–	(2.4)	(0.1)	–	3.1	(0.9)
Net balance sheet exposure	0.5	4.8	(5.9)	0.7	0.2	2.9

The amounts shown in the table take into account the effect of the forward contracts entered into to manage these currency exposures.

In respect of other monetary assets and liabilities held in currencies other than the currency of the reporting unit, the Group ensures that the net exposure is kept to an acceptable level, by buying or selling foreign currencies at spot rates where necessary to address short-term imbalances.

The Group classifies its forward exchange contracts hedging forecasted transactions as cash flow hedges and states them at fair value. The fair value of forward exchange contracts used as hedges of forecasted transactions at 31 December 2018 was a liability of £0.1 million (2017: asset of £0.5 million).

The contractual cash flows associated with the forward exchange contracts that are designated as cash flow hedges are shown in the section on liquidity risk. The impact on profit or loss is expected to occur at the same time as the associated cash flows.

Currency translation risks are controlled centrally. To defend against the impact of a permanent reduction in the value of its overseas net assets through currency depreciation, the Group seeks to match the currency of financial liabilities with the currency in which the net assets are denominated. This is achieved by raising funds in different currencies and through the use of hedging instruments such as swaps, and is implemented only to the extent that the Group's gearing covenant under the terms of its loan documents, as well as its facility headroom, are likely to remain comfortably within limits. In this way, the currency of the Group's financial liabilities becomes more aligned to the currency of the trading cash flows that service them.

21. Financial risk management continued

The Group's currency split of total borrowings was as follows:

	2018 £m	2017 £m
GBP	23.6	10.3
USD	147.2	165.5
Euro	76.6	55.0
Other	0.2	0.9
	247.6	231.7

The Group's sensitivity to changes in foreign exchange rates on financial assets and liabilities as at 31 December 2018 is as follows:

Based upon the currency profile of the Group's net financial assets and liabilities, if GBP had strengthened by 10%, reported net financial liabilities would have decreased by £13.9 million (2017: £13.0 million). Conversely, if GBP had weakened by 10%, reported net financial liabilities would have increased by £17.1 million (2017: £15.6 million). Assuming the change occurred on the balance sheet date, there would be no impact on reported profit, as either the net financial liabilities are in the same currency as that of the respective Group entity, or the change would be offset by an equal and opposite change in the foreign currency monetary items in the Group's holding company.

The amounts generated from the sensitivity analysis are forward-looking estimates of market risk assuming certain adverse market conditions occur. Actual results in the future may differ materially from those projected results due to developments. The impact of a weakening in GBP on the Group's financial assets and liabilities would be more than offset in equity and income by its impact on the Group's overseas net assets and earnings respectively.

Exchange rates

The principal exchange rates used in the translation of the results of overseas subsidiaries were as follows:

	2018 Closing rate	2018 Average rate	2017 Closing rate	2017 Average rate
GBP to:				
USD	1.28	1.33	1.35	1.29
Euro	1.11	1.13	1.13	1.14

For illustrative purposes, the table below provides details of the impact on 2018 revenue, Group EBITA* and profit before tax if the actual reported results, calculated using 2018 average exchange rates, were restated for GBP weakening by 10 cents against USD in isolation and 10 cents against the Euro in isolation:

	2018 Revenue £m	2018 Group EBITA[1] £m	2018 Profit before tax £m	2017 Revenue £m	2017 Group EBITA[1] £m	2017 Profit before tax £m
Increase in Revenue/Group EBITA[1]/Profit before tax if:						
GBP weakens by 10c against USD in isolation	34.9	5.1	4.5	35.2	4.9	3.6
GBP weakens by 10c against the Euro in isolation	21.2	3.8	3.7	20.9	3.7	3.6

1. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

Other market price risk

Equity price risk arises from FVOCI equity instruments held for meeting partially the unfunded portion of the Group's defined benefit pension obligations. The primary goal of the Group's investment strategy is to maximise returns in order to meet partially the Group's unfunded defined benefit obligations.

Notes to the consolidated financial statements
continued

21. Financial risk management continued

Capital management

The Board's policy is to maintain a strong capital base (total equity) so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board uses a number of measures, identified as key performance indicators (KPIs), to ensure the continued success of the Group.

The Board encourages employees of the Group to hold the Company's Ordinary shares. The Group operates a number of employee share and share option schemes. From time to time the Company purchases its own shares on the market; the timing of these purchases depends on market prices. Primarily the shares are intended to be used for issuing shares under the Group's various share option incentive schemes.

The Board seeks to maintain a balance between the advantages and security afforded by a sound capital position, and the higher returns that might be possible with higher levels of borrowings.

The Group monitors capital using the following indicators:

Debt to adjusted capital

	2018 £m	2017 £m
Total interest-bearing loans and borrowings	247.6	231.7
Less: cash and cash equivalents and overdrafts	(67.6)	(50.4)
Net debt[1]	180.0	181.3
Total equity	277.2	234.3
Less: amounts accumulated in equity relating to cash flow hedges	0.2	(0.5)
Adjusted capital	277.4	233.8
Debt to adjusted capital ratio	0.6	0.8

1. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

Net debt* to EBITDA* and interest cover

	2018 £m	Restated[1] 2017 £m
Net debt[2]	180.0	181.3
Operating profit before specific adjusting items, restructuring costs and other items	116.8	113.4
Depreciation and amortisation	39.3	37.3
EBITDA[2]	156.1	150.7
Net debt[2] to EBITDA[2] ratio	1.2x	1.2x
EBITDA[2]	156.1	150.7
Net finance costs (excluding IAS 19 pension charge)	8.5	15.6
Interest cover	18.4x	9.7x

1. Restated to present the Composites and Defence Systems business as discontinued operations under IFRS 5. Further details are provided in note 9.
2. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

There were no changes in the Group's approach to capital management during the year.

Neither the Company nor any of its subsidiaries are subject to externally imposed capital requirements.

21. Financial risk management continued

Fair values

The fair values of financial assets and liabilities, together with the carrying amounts shown in the balance sheet, are as follows:

	Carrying amount[1] 2018 £m	Fair value[1] 2018 £m	Carrying amount restated[1] 2017 £m	Fair value restated[1] 2017 £m
Financial assets and liabilities at amortised cost				
6.26% US Dollar Senior Notes 2019	(59.0)	(59.6)	(55.6)	(57.9)
1.18% Euro Senior Notes 2023	(22.5)	(22.3)	(22.2)	(21.8)
3.17% US Dollar Senior Notes 2023	(11.8)	(11.3)	(11.2)	(10.7)
1.55% Euro Senior Notes 2026	(22.5)	(22.3)	(22.3)	(21.5)
3.37% US Dollar Senior Notes 2026	(76.4)	(70.6)	(72.1)	(67.4)
1.74% Euro Senior Notes 2028	(9.0)	(8.8)	(8.9)	(8.5)
2.89% Euro Senior Notes 2030	(22.5)	(22.5)	–	–
Bank and other loans	(23.7)	(23.7)	(38.8)	(38.8)
Obligations under finance leases	(0.2)	(0.2)	(0.6)	(0.6)
Trade and other payables	(95.0)	(95.0)	(97.9)	(97.9)
Trade and other receivables	177.8	177.8	174.9	174.9
Cash and cash equivalents	67.6	67.6	50.4	50.4
	(97.2)	(90.9)	(104.3)	(99.8)
Financial instruments – held at FVOCI				
Financial assets – held at FVOCI	0.5	0.5	0.9	0.9
Derivatives and other items at fair value				
Forward exchange contracts used for hedging	–	–	0.4	0.4
	(96.7)	(90.4)	(103.0)	(98.5)

1. The year ended 31 December 2018 has been prepared reflecting the adoption of IFRS 15. The year ended 31 December 2017 has been restated to reflect the adoption of IFRS 15. Further details are provided in notes 1 and 27 to the consolidated financial statements.

The following summarises the major methods and assumptions used in estimating the fair values of financial instruments reflected in the preceding table.

Equity securities

Fair value is based on quoted market prices at the balance sheet date.

Derivatives

Forward exchange contracts are marked to market either using listed market prices or by discounting the contractual forward price and deducting the current spot rate.

Interest-bearing loans and borrowings

Fair value is calculated based on discounted expected future principal and interest cash flows. The interest rates used to determine the fair value of loans and borrowings are 1.4-4.7% (2017: 1.6-4.2%) and finance leases 4.3% (2017: 4.2%).

Finance lease liabilities

The fair value is estimated as the present value of future cash flows, discounted at market interest rates for homogeneous lease agreements. The estimated fair values reflect changes in interest rates.

Trade and other receivables/payables

For receivables/payables with a remaining life of less than one year, the notional amount is deemed to reflect the fair value. All other receivables/payables are discounted to determine the fair value.

Notes to the consolidated financial statements
continued

21. Financial risk management continued

Cash and cash equivalents, trade and other payables and trade and other receivables

The Group has disclosed the fair value of cash and cash equivalents, current trade and other receivables and current payables at their carrying amount, given their notional amount is deemed to be their fair value.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (ie as prices) or indirectly (ie derived from prices)

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

	31 December 2018			31 December 2017		
	Level 1 £m	Level 2 £m	Total £m	Level 1 £m	Level 2 £m	Total £m
Financial assets held at FVOCI	0.5	–	0.5	0.9	–	0.9
Derivative financial assets	–	0.6	0.6	–	1.0	1.0
	0.5	0.6	1.1	0.9	1.0	1.9
Derivative financial liabilities	–	0.6	0.6	–	0.6	0.6

The table below analyses financial instruments disclosed at fair value, by valuation method.

	31 December 2018			31 December 2017		
	Level 1 £m	Level 2 £m	Total £m	Level 1 £m	Level 2 £m	Total £m
6.26% US Dollar Senior Notes 2019	–	(59.6)	(59.6)	–	(57.9)	(57.9)
1.18% Euro Senior Notes 2023	–	(22.3)	(22.3)	–	(21.8)	(21.8)
3.17% US Dollar Senior Notes 2023	–	(11.3)	(11.3)	–	(10.7)	(10.7)
1.55% Euro Senior Notes 2026	–	(22.3)	(22.3)	–	(21.5)	(21.5)
3.37% US Dollar Senior Notes 2026	–	(70.6)	(70.6)	–	(67.4)	(67.4)
1.74% Euro Senior Notes 2028	–	(8.8)	(8.8)	–	(8.5)	(8.5)
2.89% Euro Senior Notes 2030	–	(22.5)	(22.5)	–	–	–
Obligations under finance leases	–	(0.2)	(0.2)	–	(0.6)	(0.6)
	–	(217.6)	(217.6)	–	(188.4)	(188.4)

There have been no transfers between Level 1 and Level 2 during 2018 and 2017 and there were no Level 3 financial instruments in either 2018 or 2017.

22. Employee benefits

Accounting policies

(i) Defined contribution plans

For defined contribution plans, the Group pays contributions to either publicly or privately administered pension insurance plans, and the Group has no further payment obligations once the contributions have been paid. Obligations for contributions to defined contribution pension plans are recognised as an expense in the income statement as incurred.

(ii) Defined benefit plans

A defined benefit plan is any retirement plan which is not a defined contribution plan. Typically, defined benefit plans define an amount of retirement benefit that an employee will receive, usually depending on one or more factors such as age, years of service and earnings.

The Group's net obligation in respect of defined benefit pension plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value, and the fair value of any plan assets is deducted. The discount rate is the yield at the balance sheet date on AA-credit-rated bonds that have maturity dates approximating the terms of the Group's obligations. The calculation is performed by a qualified actuary using the projected unit credit method.

22. Employee benefits continued

When the calculation results in a benefit to the Group, the recognised asset is limited to the total of the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. An economic benefit is available to the Group if it is realisable during the life of the plan, or on settlement of the plan liabilities. Remeasurement gains and losses, differences between the interest income and actual returns on assets, and the effect of changes in actuarial assumptions, are recognised in full in other comprehensive income in the year in which they arise.

(iii) Long-term service benefits

The Group's net obligation in respect of long-term service benefits, other than pension plans, is the amount of future benefit that employees have earned in return for their service in the current and prior periods. The obligation is calculated using the projected unit credit method, or similar approximation, and is discounted to its present value and the fair value of any related assets is deducted. The discount rate is the yield at the balance sheet date on AA-credit-rated bonds that have maturity dates approximating the terms of the Group's obligations.

(iv) Share-based payment transactions

The grant date fair value of share-based payment awards granted to employees is recognised as an expense, with a corresponding increase in equity, over the period that the employees become unconditionally entitled to the awards. The amount recognised as an expense is adjusted to reflect the actual number of awards for which the related service and non-market performance conditions are met, such that the amount ultimately recognised as an expense is based on the number of awards that meet the related service and non-market performance conditions at the vesting date.

Employee benefits – pensions

The Group operates a number of defined benefit arrangements as well as defined contribution plans. The defined benefit plans are primarily in the UK, US and Europe and predominantly provide pensions based on service and career-average pay. In addition post-retirement medical plans are operated in the US.

UK Schemes

In the UK, the Group operates two defined benefit pension schemes, the Morgan Pension Scheme and the Morgan Group Senior Staff Pension and Life Assurance Scheme (the UK Schemes). The two UK Schemes provide a benefit based upon an employee's total service, and their career average earnings (including allowance for consumer price inflation), although historically benefits were based upon an employee's final salary. Once in payment, pensions receive increases as set out in the rules, at either a fixed level, or in line with the Retail Price Index. The overall duration of the UK Schemes is around 16 years.

The UK Schemes' assets are held in trustee-administered funds which are governed by UK regulations, as is the nature of the relationship between the Group and the Trustees. Responsibility for the governance of the UK Schemes – including investment decisions and contribution schedules – lies with the Board of Trustees which must consult with the Company on such matters. The Board of Trustees must be composed of representatives of the Company, plan participants and an independent trustee, in accordance with the UK Schemes governing documents.

Funding legislation in the UK requires that schemes are fully funded on a scheme-specific basis as measured, and this must be assessed at least every three years. To the extent that there is a deficit against this measure, a payment schedule must be agreed such that the deficit is removed over a reasonable period of time, typically around 10 years.

The most recent full actuarial valuations of the UK Schemes were undertaken as at March 2016 and resulted in combined assessed deficits of £132 million. On the basis of these full valuations, the Trustees of the UK Schemes, having consulted with the Group, agreed past service deficit recovery payments totalling £12 million a year from April 2017, increasing by 2.75% pa until 2025, with further payments to Morgan Pension Scheme for 2026 and 2027 and contributions in respect of future service as accrued. New full valuations are due with effective dates of March 2019 and the outcome of those consultations will determine the Group's future contribution requirements, with any new deficit arising needing to be met through the payment of additional contributions.

Notes to the consolidated financial statements
continued

22. Employee benefits continued

The UK Schemes were closed to new entrants on 1 August 2011, with any new employees receiving benefits through the Morgan Group Personal Pension Plan, a defined contribution arrangement. The Morgan Group Senior Staff Pension and Life Assurance Scheme was closed to the future accrual of benefits on and with effect from 6 April 2016. Following a consultation exercise with the remaining active members of the Morgan Pension Scheme, the Trustee of the Scheme agreed to a Company proposal to close the Scheme to future accrual of benefits with effect from 6 April 2018. Current employees, including those who were active in the Schemes at closure were auto-enrolled into The Morgan Group Personal Pension Plan for their future pension benefits.

Some members of Morgan Pension Scheme in the UK were being granted unreduced pensions when they retired early, contrary to the Scheme Rules which state that a reduction should be applied to the pensions of members who take early retirement. This adjustment has resulted in a gain of £9.7 million. An increase has also been applied to the pensions of members who take late retirement, resulting in a £2.1 million charge to the income statement.

On 26 October 2018, the High Court ruled that the Trustee of the Lloyds Banking Group pension schemes needs to remove the inequalities in pension scheme benefits that arise from unequal Guaranteed Minimum Pensions (GMPs). We have included a charge of £1.9 million to reflect the potential cost of removing the GMP inequalities for the Group's UK defined benefit pension schemes.

The funding impact of these issues on the Morgan Pension Scheme will be taken into account in the valuation due in March 2019; the net impact is not expected to be material.

The Group has considered third-party powers and does not believe the Trustees have any powers that would prevent the Group obtaining a refund of any surplus on wind-up of the Scheme following gradual settlement of the plan obligations. As such the Group's interpretation is that the current version of IFRIC 14 does not have an impact and, as a result, any IAS 19 surplus can be recognised as an asset and it is not necessary to recognise additional liabilities in respect of contribution agreements reached with the pension scheme Trustees, managers or any third party.

US schemes

The Group operates a tax qualified defined benefit pension scheme in the US (MUSE DB Scheme), and a Supplemental Executive Retirement Plan (SERP) which is not tax approved. The MUSE DB Scheme is frozen, and therefore employees accrue benefits within a 401k arrangement.

The US Schemes provide a benefit based upon an employee's service and earnings. The benefits are level both prior to, and whilst in, payment. Overall, the US Schemes' duration is around 10 years.

The qualified US Schemes' assets are held in a trust separately from the Group's assets. For the SERP the Group holds an asset to meet the obligations however, due to its nature this is accounted for as a Group asset, rather than an asset of the SERP. Responsibility for the governance of the US Schemes, including investment decisions and contribution schedules, lies with a management committee, all of whose members are appointed by the Group.

The funding requirements in the US, ERISA, require schemes to be fully funded at all times, and if not to target full funding within a period of seven years.

The most recent full actuarial valuation of the US MUSE DB Scheme was undertaken as at 1 January 2018 and the Scheme was fully funded on this basis. On the more stringent Defined Benefit Obligation (DBO) basis used for IAS 19 purposes, the deficit as at 1 January 2019 totalled £1.4 million. In the previous year, the Group made contributions totalling £36 million ($46 million), including an additional accelerated payment in December 2017 of £28 million ($36 million). As a result of this contribution no further significant contributions to the Scheme are anticipated in the medium term.

European schemes

In Europe, the Group operates a number of retirement schemes, with the bulk of the obligations relating to arrangements for employees in Germany. In line with local practice these arrangements are not funded in advance, with benefits being met by the Group as they fall due.

22. Employee benefits continued

	2018 UK £m	2018 US £m	2018 Europe £m	2018 Rest of the World £m	2018 Total £m
Pension plans and employee benefits					
Present value of unfunded defined benefit obligations	–	(7.9)	(35.9)	(2.8)	(46.6)
Present value of funded defined benefit obligations	(544.4)	(130.9)	(1.4)	(10.8)	(687.5)
Fair value of plan assets	404.3	130.0	0.4	9.0	543.7
Net obligations	(140.1)	(8.8)	(36.9)	(4.6)	(190.4)
Movements in present value of defined benefit obligation					
At 1 January 2018	(593.7)	(146.7)	(37.2)	(12.7)	(790.3)
Current service cost	(0.5)	–	(1.0)	(1.8)	(3.3)
Interest cost	(13.9)	(5.2)	(0.6)	(0.2)	(19.9)
Actuarial gains/(losses)					
Experience gains/(losses) on plan obligations	(1.3)	1.5	–	0.1	0.3
Changes in financial assumptions – gain/(loss)	31.3	9.7	0.6	(0.3)	41.3
Changes in demographic assumptions - gain/(loss)	4.3	0.4	(0.5)	0.1	4.3
Benefits paid	23.9	9.5	1.8	1.4	36.6
Contributions by members	(0.2)	–	–	–	(0.2)
Net past service credit (see note 6)	5.7	–	–	–	5.7
Exchange adjustments	–	(8.0)	(0.4)	(0.2)	(8.6)
At 31 December 2018	(544.4)	(138.8)	(37.3)	(13.6)	(734.1)
Movements in fair value of plan assets					
At 1 January 2018	427.7	135.6	0.5	8.5	572.3
Interest on plan assets	10.1	4.9	–	0.2	15.2
Remeasurement losses	(22.3)	(9.2)	–	(0.2)	(31.7)
Contributions by employer	12.5	0.9	1.7	1.9	17.0
Contributions by members	0.2	–	–	–	0.2
Administrative expenses	–	–	–	–	–
Benefits paid	(23.9)	(9.5)	(1.8)	(1.4)	(36.6)
Exchange adjustments	–	7.3	–	–	7.3
At 31 December 2018	404.3	130.0	0.4	9.0	543.7
Actual return on assets	(12.2)	(4.3)	–	–	(16.5)

Notes to the consolidated financial statements
continued

22. Employee benefits continued

Pension plans and employee benefits	2018 UK £m	2018 US £m	2018 Europe £m	2018 Rest of the World £m	2018 Total £m
Expense recognised in the consolidated income statement					
Current service cost	(0.5)	–	(1.0)	(1.8)	(3.3)
Administrative expenses[1]	–	–	–	–	–
Net past service credit (see note 6)	5.7	–	–	–	5.7
Net interest on net defined benefit liability	(3.8)	(0.3)	(0.6)	–	(4.7)
Total income/(expense)	1.4	(0.3)	(1.6)	(1.8)	(2.3)

1. In 2018, the Group directly incurred £0.8 million and £0.6 million of administrative expenses in relation to the UK and US schemes respectively, which have been recognised in overheads outside of the pension liability (2017: £0.5 million (UK), £1.6 million (US)).

	2018 £m	2017 £m
Current service cost	(3.3)	(4.5)
Administrative expenses	(1.4)	(2.4)
Total expense within operating costs	(4.7)	(6.9)
Net finance expense	(4.7)	(6.9)
Total expense before specific adjusting items	(9.4)	(13.8)
Net past service credit (within specific adjusting items)	5.7	–
Total expense	(3.7)	(13.8)

Balance sheet reconciliation

	2018 £m	2017 £m
At 1 January 2018	(218.0)	(271.1)
Pension expense	(2.3)	(11.7)
Contributions	17.0	51.8
Other comprehensive income	14.2	10.0
Acquisitions/disposals	–	1.6
Exchange adjustments	(1.3)	1.4
At 31 December 2018	(190.4)	(218.0)

The Group expects to contribute £16.9 million to these arrangements in 2019.

	UK £m	US £m	Europe £m	Rest of the World £m	Total £m
Estimate of employer contributions to be paid into the plans during the 12-month period beginning 1 January 2019	12.6	1.0	1.4	1.9	16.9

22. Employee benefits continued

The fair values of the plan assets were as follows:

	2018 UK £m	2018 US £m	2018 Europe £m	2018 Rest of the World £m	2018 Total £m
Equities and growth assets	102.0	3.9	–	–	105.9
Bonds and liability-driven investments (LDI)	131.8	124.3	–	–	256.1
Matching insurance policies	167.9	–	0.4	6.5	174.8
Other	2.6	1.8	–	2.5	6.9
Total	404.3	130.0	0.4	9.0	543.7

The LDI assets are Blackrock pooled funds in the UK that provide a leveraged return linked to long duration fixed interest and index-linked government bonds valued at the bid price of the units.

The assumptions used are best estimate assumptions chosen from a range of possible actuarial assumptions which may not be borne out in practice. The principal assumptions are the discount rate and inflation assumptions which are long-term and measured on external factors, based upon each plan's duration. In addition to these, the mortality assumption in the UK and the US is material to the cost of the promised benefits. In both the UK and Europe, the assumed increases in salaries and pensions in payment are derived from assumed future inflation.

The rates shown below are single equivalents for the obligations as a whole derived from discounting along the yield curve. In line with IAS 19, in determining the value of the annuity contract held in the UK we have reflected the same methodology as used to value the corresponding obligations, reflecting the actual cashflow profile and duration of the insured obligations, rather than those of the Schemes as a whole.

Actuarial assumptions were:

	2018 UK %	2018 US %	2018 Europe %	2018 Rest of the World %
Discount rate	2.74	4.34	1.70	2.60
Salary increase	n/a	n/a	2.20	5.00
Inflation (UK: RPI/CPI)	3.17/2.07	n/a	1.70	n/a
Pensions increase[1]	3.00/3.10/3.70	n/a	1.70	n/a
Mortality – post-retirement:				
Life expectancy of a male aged 60 in accounting year (years)	26.5	24.9	24.6	n/a
Life expectancy of a male aged 60 in accounting year + 20 (years)	28.1	26.7	27.4	n/a

1. Pension increases in the UK reflect both fixed rate and RPI related increases to different elements of members' pensions.

The actual liability in respect of global employee benefits will not be known until the last payments have been made. In placing a current estimate on the Group's past service benefit obligations, a number of assumptions about the future are required. For defined benefit schemes, the Directors make annual estimates and assumptions in respect of discount rates, future changes in salaries, employee turnover, inflation rates and life expectancy. In making these estimates and assumptions, the Directors consider advice provided by external advisers, such as actuaries.

The accounting assumptions noted above are used to calculate the year-end net pension liability in accordance with the relevant accounting Standard, IAS 19 (revised) *Employee Benefits*. Changes in these assumptions have no impact on the Group's cash payments to their arrangements. The payments due are calculated based on local funding requirements, or in the case of the Group's unfunded arrangements on the incidence of benefit payments falling due.

Notes to the consolidated financial statements
continued

22. Employee benefits continued

The sensitivities of the Group's net balance sheet to the principal assumptions are:

	Change in assumption	2018 Increase effect on deficit £m	2017 Increase effect on deficit £m
Discount rate	Decrease by 0.1%	9.3	10.5
Inflation	Increase by 0.1%	4.0	4.5
Mortality – post-retirement	Pensioners live 1 year longer	19.5	17.6
Exchange rates	GBP weakens against USD by 10%	1.0	1.2
	GBP weakens against EUR by 10%	4.1	4.1

These sensitivities have been calculated to show the movement in the net balance sheet in isolation, and assuming no other changes in market conditions at the accounting date. This is unlikely in practice – for example, a change in discount rate is unlikely to occur without any movement in the value of the assets held by the Group's Schemes.

Pension plans and employee benefits	2017 UK £m	2017 US £m	2017 Europe £m	2017 Rest of the World £m	2017 Total £m
Present value of unfunded defined benefit obligations	–	(8.3)	(35.2)	(2.7)	(46.2)
Present value of funded defined benefit obligations	(593.7)	(138.4)	(2.0)	(10.0)	(744.1)
Fair value of plan assets	427.7	135.6	0.5	8.5	572.3
Net obligations	(166.0)	(11.1)	(36.7)	(4.2)	(218.0)
Movements in present value of defined benefit obligation					
At 1 January 2017	(588.7)	(155.9)	(37.9)	(12.3)	(794.8)
Current service cost	(2.0)	(0.1)	(0.7)	(1.7)	(4.5)
Interest cost	(14.9)	(6.0)	(0.6)	(0.2)	(21.7)
Actuarial gains/(losses):					
Experience adjustments on benefit obligations	(3.0)	(1.0)	0.5	0.4	(3.1)
Changes in financial assumptions – gain/(loss)	(16.8)	(7.7)	0.1	0.1	(24.3)
Changes in demographic assumptions – gain/(loss)	9.2	1.3	–	–	10.5
Benefits paid	23.0	8.9	1.3	1.0	34.2
Contributions by members	(0.5)	–	–	–	(0.5)
Acquisitions/disposals	–	–	1.6	–	1.6
Exchange adjustments	–	13.8	(1.5)	–	12.3
At 31 December 2017	(593.7)	(146.7)	(37.2)	(12.7)	(790.3)
Movements in fair value of plan assets					
At 1 January 2017	408.2	106.9	0.4	8.2	523.7
Interest on plan assets	10.4	4.2	0.1	0.1	14.8
Actuarial gains/(losses)	19.8	7.5	0.1	(0.5)	26.9
Contributions by employer	12.1	37.0	1.2	1.5	51.8
Contributions by members	0.5	–	–	–	0.5
Administrative expenses	(0.3)	–	–	–	(0.3)
Benefits paid	(23.0)	(8.9)	(1.3)	(1.0)	(34.2)
Exchange adjustments	–	(11.1)	–	0.2	(10.9)
At 31 December 2017	427.7	135.6	0.5	8.5	572.3
Actual return on assets	30.2	11.7	0.2	(0.4)	41.7

22. Employee benefits continued

Pension plans and employee benefits	2017 UK £m	2017 US £m	2017 Europe £m	2017 Rest of the World £m	2017 Total £m
Expense recognised in the consolidated income statement					
Current service cost and past service cost	(2.0)	(0.1)	(0.7)	(1.7)	(4.5)
Administrative expenses	(0.3)	–	–	–	(0.3)
Net interest on net defined benefit liability	(4.5)	(1.8)	(0.5)	(0.1)	(6.9)
Gain/(loss) on curtailments and settlements	–	–	–	–	–
	(6.8)	(1.9)	(1.2)	(1.8)	(11.7)

Actuarial assumptions were:

	2017 UK %	2017 US %	2017 Europe %	2017 Rest of the World %
Discount rate	2.38	3.65	1.6	3.2
Inflation (UK: RPI/CPI)	3.12/2.02	n/a	1.7	n/a
Salary increase	n/a	n/a	2.20	5.00
Pensions increase	3.0/3.0/3.6	n/a	1.7	n/a
Mortality – post-retirement:				
Life expectancy of a male aged 60 in accounting year (years)	26.61	25.00	23.85	n/a
Life expectancy of a male aged 60 in accounting year + 20 (years)	28.2	26.7	26.6	n/a

Risks

Through its defined benefit pension schemes, the Group is exposed to a number of risks, the most significant of which are detailed below:

The balance sheet net pension liability is a snapshot view which can be significantly influenced by short-term market factors.

The calculation of the surplus or deficit depends, therefore, on factors which are beyond the control of the Group – principally the value at the balance sheet date of equity shares in which the Scheme has invested and long-term interest rates which are used to discount future liabilities. The funding of the Scheme is based on long-term trends and assumptions relating to market growth, as advised by qualified actuaries and investment advisers.

Investment returns: The Group's net balance sheet and contribution requirements are heavily dependent upon the return on the assets invested in by the schemes.

Longevity: The cost to the Group of the pensions promised to members is dependent upon the expected term of these payments. To the extent that members live longer than expected this will increase the cost of these arrangements.

Inflation rate risk: In the UK, the pension promises are, in the main, linked to inflation, and higher inflation will lead to higher liabilities.

The above risks have been mitigated for a large proportion of the UK Schemes' pensioner population through the purchase of an insurance policy, the payments from which exactly match the promises made to employees. Remaining investment risks have also been mitigated to some extent by diversification of the return-seeking assets and backing uninsured pensioner liabilities by bonds and swaps. In the UK, the bonds and LDI mandates target an interest rate hedge against movements in government bond yields for an amount equal to approximately 75% of the invested assets. In the US, the bond mandates provide an interest rate hedge of approximately 100% of the liabilities for funded plans.

In addition, the IAS 19 defined benefit obligation is linked to yields on AA-rated corporate bonds; however the majority of the Group's arrangements invest in a number of other assets which will move in a different manner from these bonds. Therefore, changes in market conditions may lead to volatility in the net pension liability on the Group's balance sheet and in other comprehensive income, and to a lesser extent in the IAS 19 pension expense in the Group's income statement.

Defined contribution plans

The Group operates a number of defined contribution pension plans. The total expense relating to these plans in the current year was £10.7 million (2017: £9.5 million). The Group expects to contribute £11.0 million to these arrangements in 2019.

Share-based payments

The Group operates various share schemes that allow Group employees to acquire shares in the Company. During 2018, awards were made to Executives and senior employees under the Morgan Advanced Materials plc Long-Term Incentive Plan (LTIP), the Morgan Advanced Materials plc Deferred Bonus Plan (DBP) and for the first time Morgan Advanced Materials plc Restricted Stock Units (RSU). The Company also maintains a UK all-employee Sharesave scheme (Sharesave). Further details can be found in the Remuneration Report on pages 58 to 75.

Notes to the consolidated financial statements
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22. Employee benefits continued

The grant date fair value of options granted to employees is recognised as an employee expense, with a corresponding increase in equity, over the period that the employees become unconditionally entitled to the options. The amount recognised as an expense is adjusted to reflect the actual number of share options for which the related service and non-market vesting conditions are met.

The charge expensed to the income statement in 2018 was £2.8 million (2017: £1.7 million).

The following options and awards were outstanding at 31 December 2018 in respect of Ordinary shares:

	Employees entitled	Vesting conditions	Exercise / award price(s)	Number of shares outstanding	Exercise dates ranging From	To
LTIP	Senior employees	Continued employment plus satisfaction of performance metrics	0.00p	4,647,366	23 May 2019	23 May 2029
Sharesave	All UK employees	Continued employment	233.00p-278.00p	1,282,269	1 December 2018	31 May 2022
DBP	Senior employees	Continued employment	0.00p	159,724	3 March 2020	21 March 2021
RSU	Select employees	Continued employment	0.00p	146,029	30 April 2019	15 October 2021

The numbers and weighted average exercise prices of share options are as follows:

	Weighted average exercise price 31 December 2018	Number of options 31 December 2018	Weighted average exercise price 31 December 2017	Number of options 31 December 2017
Outstanding at the beginning of the period	62.76p	5,284,105	72.11p	5,595,917
Granted during the period	36.19p	2,758,120	54.01p	1,814,576
Forfeited during the period	32.08p	(727,577)	37.88p	(1,487,228)
Exercised during the period	177.08p	(327,516)	172.24p	(594,010)
Lapsed during the period	12.24p	(751,744)	246.57p	(45,150)
Outstanding at the end of the period	52.02p	6,235,388	62.76p	5,284,105
Exercisable at the end of the period	256.52p	266,500	256.00p	66,257

The weighted average share price at the date of share options exercised during the period was 321.11 pence (2017: 284.99 pence).

Measurement of fair values

The DBP is an award of deferred shares which include the accumulated value of any dividends which fall during the period from the date of grant to the vesting date. The RSU is an award of shares, which are released in tranches to the participant over a specified period of time with no performance conditions except continued employment by the Group. As such, the grant-date fair value of the DBP and RSU are equal to the share price at the date of grant.

	Awards made in 2018			
	LTIP	Sharesave	DBP	RSU
Share price at award date	283.00–333.00p	328.00p	333.0p	285.00–339.00p
Exercise price	n/a	278.00p	n/a	n/a
Fair value at measurement date	149.00–301.00p	56.00p	333.0p	285.00–339.00p
Fair value measurement method	Monte Carlo model	Modified binomial model	n/a	n/a
Fair value model inputs:				
Expected volatility (expressed as weighted average volatility used in the model)	35%	30%		
Option life (expressed as weighted average life used in the model)	3 years	3 years		
Expected dividends	3.3%	3.4%		
Risk-free interest rate	0.9%	1.0%		

The expected volatility is based on the historic volatility (calculated based on the weighted average remaining life of the share options) adjusted for any expected changes to future volatility due to publicly available information.

The fair value of services received in return for share options granted is measured by reference to the fair value of share options granted.

The weighted average fair value of options issued during 2018 was 258.26 pence (2017: 189.66 pence).

23. Provisions and contingent liabilities

Accounting policies

A provision is recognised in the consolidated balance sheet when the Group has a present legal or constructive obligation as a result of a past event and there is probable outflow of resources which can be reliably measured and will be required to settle the obligation. Provisions are recognised at an amount equal to the best estimate of the expenditure required to settle the Group's liability. If the effect is material, provisions are determined by discounting the expected future cash flows at a pre-tax rate reflective of the current market assessments of the time value of money and, where appropriate, the risks specific to the liability.

A contingent liability is disclosed, where significant, if the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. A contingent liability is not disclosed if the likelihood of a material outflow in excess of any amounts provided is considered remote. Obligations arising from restructuring plans are recognised when detailed formal plans have been established and when there is a valid expectation that such a plan will be carried out. The Group's contingent liabilities are reviewed on a regular basis.

A contingent asset is not recognised but is disclosed, where significant, if an inflow of economic benefit is probable.

Provisions

	Closure and restructuring provisions £m	Legal and other provisions £m	Environmental provisions £m	Total £m
Balance at 31 December 2017	9.5	3.8	1.2	14.5
Provisions made during the year	1.7	5.9	2.1	9.7
Provisions used during the year	(3.7)	(0.7)	(0.7)	(5.1)
Provisions reversed during the year	(0.2)	(0.4)	–	(0.6)
Transfers between categories	(4.0)	1.7	2.3	–
Effect of movements in foreign exchange	0.2	–	–	0.2
Balance at 31 December 2018	3.5	10.3	4.9	18.7
Current	1.6	5.8	1.2	8.6
Non-current	1.9	4.5	3.7	10.1
	3.5	10.3	4.9	18.7

Closure and restructuring provisions

Closure and restructuring provisions are based on the Group's restructuring programmes and represent committed expenditure at the balance sheet date. The amounts provided are based on the costs of terminating relevant contracts, under the contract terms, and management's best estimate of other associated restructuring costs including professional fees. Due to the nature of the provision for closure and restructuring provisions, the timing of any future potential future outflows in respect of these liabilities is uncertain until the restructuring programme is completed.

Legal and other provisions

Legal and other provisions mainly comprise amounts provided against open legal and contractual disputes arising in the normal course of business and long-service costs.

The Company has on occasion been required to take legal or other actions to protect its intellectual property rights, to enforce commercial contracts or otherwise and similarly to defend itself against proceedings brought by other parties. Provisions are made for the expected costs associated with such matters, based on past experience of similar items and other known factors, taking into account professional advice received, and represent management's best estimate of the most likely outcome. The timing of utilisation of these provisions is frequently uncertain, reflecting the complexity of issues and the outcome of various court proceedings and associated negotiations.

Other provisions represent the best estimate of the cost of settling current obligations although there is a higher degree of judgement involved.

Where obligations are not capable of being reliably estimated, or if a material outflow of economic resources is considered remote, it is classified as a contingent liability. The Group is of the opinion that any associated claims that might be brought can be defeated successfully and, therefore, the possibility of any material outflow in settlement is assessed as remote.

Subsidiary undertakings within the Group have given unsecured guarantees of £9.2 million (2017: £11.2 million) in the ordinary course of business.

Notes to the consolidated financial statements
continued

23. Provisions and contingent liabilities continued

Environmental provisions

Environmental provisions are made for quantifiable environmental liabilities arising from known environmental issues. The amounts provided are based on the best estimate of the costs required to remedy these issues. At one site, a remediation feasibility study is currently being conducted in relation to a known environmental issue, in conjunction with the local Environmental Regulator. The costs of completing this study have been provided. At this stage it is not possible to reliably quantify the liabilities arising from this environmental issue until the outcome of this feasibility study is known.

Environmental contingent liabilities

The Group is subject to local health, safety and environmental laws and regulations concerning its manufacturing operations around the world. These laws and regulations may require the Group to take future action to remediate the impact of historical manufacturing processes on the environment or lead to other economic outflows. Such contingencies may exist for various sites which the Group currently operates or has operated in the past. There is a contingent liability arising from the known environmental issue referred to above under the heading 'environmental provisions' where the financial impact cannot be reliably estimated until the completion of the remediation feasibility study.

The Group is of the opinion that, whilst the amounts of future costs not provided for could be significant, it is not possible to estimate the amounts involved reliably. However, the Group does not expect that costs associated with these environmental contingent liabilities will significantly impact the Group's operations or its liquidity.

Tax contingent liabilities

The Group is subject to periodic tax audits by various fiscal authorities covering corporate, employee and sales taxes in the various jurisdictions in which it operates. We have provided for estimates of the Group's likely exposures where these can be reliably estimated. These are disclosed in notes 8 and 14.

24. Operating leases

Accounting policies

Operating lease payments

Payments made under operating leases are recognised in the income statement on a straight-line basis over the term of the lease. Lease incentives received are recognised in the income statement as an integral part of the total lease expense.

Leases as lessee

Non-cancellable operating lease rentals are payable as follows:

	2018 £m	2017 £m
Less than one year	**11.3**	10.4
Between one and five years	**26.2**	26.9
More than five years	**27.3**	30.4
	64.8	67.7

The Group leases a number of properties under operating leases of varying duration. In some cases, during the life of the lease, the rental payable is reviewed after a fixed period to reflect market rentals.

The commitments above include no operating lease commitments relating to discontinued operations (2017: £1.4 million).

Leases as lessor

In 2018 the total of future minimum sub-lease income under non-cancellable sub-leases is £nil (2017: £nil).

25. Capital commitments

In 2018 commitments for property, plant and equipment and computer software expenditure for which no provision has been made in these accounts amount to £7.2 million (2017: £2.8 million) for the Group.

26. Related parties

Identification of related parties

The Group has related party relationships with its subsidiaries (a list of all related undertakings and associates is shown in note 44), and with its Directors and executive officers.

Transactions with key management personnel

The Company has written service contracts or letters of appointment with each of its Directors, under which the Directors receive a salary or a fee and other emoluments.

The key management of the Group and parent Company consists of the Board of Directors (including non-executive Directors) and members of the Executive Committee.

The compensation for the executive and non-executive Directors and members of the Executive Committee charged in the year was:

	2018 £m	2017 £m
Short-term employee benefits	6.4	4.9
Employer national insurance contributions	0.6	0.7
Pension and other post-employment costs	0.5	0.5
Share-based payments	1.7	0.9
Termination payments	0.1	0.8
Non-executive Directors' fees and benefits	0.5	0.4
Total compensation of key management personnel	9.8	8.2

Other related party transactions

	2018 £m	2017 £m
Sales to associate	0.3	–
Purchases from associate	1.3	1.3
Loan made to associate	1.0	–
Loan repaid by associate	1.0	–
Trade receivables due from associate	–	–
Trade payables due to associate	1.2	0.3

The balances with the Group's associate are shown in note 18. In 2018 the Group does not have any trade receivables owed by associates that have been fully provided for (2017: £nil).

Notes to the consolidated financial statements
continued

27. Change in accounting policy

The following tables summarise the impact of adopting IFRS 15 *Revenue from Contracts with Customers* on the consolidated income statement and balance sheet. The change in accounting policy had no impact on specific adjusting items, so figures presented show the impact on total results. The IFRS 15 restatement has had no material impact on tax.

Adjustments to the consolidated income statement for the year ended 31 December 2017

	Revenue £m	Total operating costs £m	Operating profit £m	Profit for the period £m
As reported at 31 December 2017	1,021.5	(901.8)	158.1	113.9
Restatement for discontinued operations[1]	(21.0)	22.0	1.0	1.0
2017 continuing operations	1,000.5	(879.8)	159.1	114.9
Adjustments for IFRS 15:				
Timing differences[2]	(1.6)	1.6	–	–
Rebates and discounts[3]	(3.1)	3.1	–	–
Freight and packing[4]	5.6	(5.6)	–	–
Restated 31 December 2017	1,001.4	(880.7)	159.1	114.9

Adjustments to the consolidated balance sheet for the year ended 31 December 2017

	Inventory £m	Trade and other receivables £m	Total assets £m	Liabilities £m	Total net assets £m	Equity £m
As reported at 31 December 2017	141.8	194.2	929.7	(695.4)	234.3	234.3
Adjustments for IFRS 15:						
Timing differences[2]	(0.2)	0.2	–	–	–	–
Restated 31 December 2017	141.6	194.4	929.7	(695.4)	234.3	234.3

Adjustments arising from the adoption of IFRS 15 are summarised below:

1. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. Results for the year ended 31 December 2017 have been restated to reflect this. Further details are provided in note 9 to the consolidated financial statements.
2. Revenue for certain contracts was previously recognised in the earlier stages of a contract in line with the profile of costs incurred. Due to the application of IFRS 15, these contracts have now recognised revenue in line with their output, measured on a contract specific basis.
3. Under IFRS 15, revenue represents the amount of consideration the Group was entitled to receive for transferring its goods and services to its customers, net of rebates, discounts, penalties and similar items. These costs have therefore been reclassified from the cost of sales to reflect this.
4. For certain contracts, the Group is reimbursed for the costs of shipping and packing. Under IFRS 15, this forms part of revenue as it constitutes a separate performance obligation. These reimbursements have been reclassified to reflect this.

There was no net change in cash generated as a result of the adoption of IFRS 15. Accordingly no reconciliation of the consolidated statement of cash flows has been presented.

Practical expedients

The Group has elected to apply the practical expedients available under IFRS 15.129. Contracts with customer have no significant financing components at inception and the incremental costs of obtaining a contracts are not material.

28. Subsequent events

In December 2018, the Group agreed the issuance of a new US private debt placement, raising $25 million with a duration of seven years, at a coupon of 4.87%. This was used to refinance existing financial indebtedness. Funding was completed on 28 January 2019.

Company balance sheet

as at 31 December 2018

	Note	2018 £m	2017 £m
Non-current assets			
Intangible assets	31	2.8	3.9
Property, plant and equipment	32	6.8	13.1
Investments in subsidiary undertakings	33	1,090.8	1,073.6
Debtors – amounts due after more than one year	34	1.1	–
		1,101.5	1,090.6
Current assets			
Debtors – amounts due within one year	34	47.5	62.3
Cash and cash equivalents		14.4	4.8
		61.9	67.1
Creditors – amounts falling due within one year	35	57.7	78.3
Net current assets/(liabilities)		4.2	(11.2)
Total assets less current liabilities		1,105.7	1,079.4
Non-current liabilities			
Creditors – amounts falling due after more than one year	36	416.7	391.1
Employee benefits: pensions	38	39.0	46.1
Provisions	39	0.6	0.6
		456.3	437.8
Net assets		649.4	641.6
Capital and reserves			
Equity shareholders' funds			
Share capital	40	71.4	71.4
Share premium		111.7	111.7
Merger reserve		17.0	17.0
Capital redemption reserve		35.7	35.7
Retained earnings		413.2	405.4
		649.0	641.2
Non-equity shareholders' funds			
Share capital	40	0.4	0.4
Shareholders' funds		649.4	641.6

The financial statements were approved by the Board of Directors on 26 February 2019 and were signed on its behalf by:

Pete Raby
Chief Executive Officer

Peter Turner
Chief Financial Officer

Company statement of changes in equity

for the year ended 31 December 2018

	Called-up share capital £m	Share premium account £m	Merger reserve £m	Capital redemption reserve £m	Profit and loss account £m	Total equity £m
Balance at 1 January 2017	71.4	111.7	17.0	35.7	315.6	551.4
Total comprehensive income for the period						
Profit for the year	–	–	–	–	117.1	117.1
Other comprehensive income	–	–	–	–	2.8	2.8
Transactions with owners:						
Dividends	–	–	–	–	(31.4)	(31.4)
Equity-settled share-based payment transactions	–	–	–	–	1.7	1.7
Own shares acquired for share incentive schemes	–	–	–	–	(0.4)	(0.4)
Balance at 31 December 2017	71.4	111.7	17.0	35.7	405.4	641.2
Balance at 1 January 2018	**71.4**	**111.7**	**17.0**	**35.7**	**405.4**	**641.2**
Total comprehensive income for the period						
Profit for the year	–	–	–	–	**35.8**	**35.8**
Other comprehensive income	–	–	–	–	**3.4**	**3.4**
Transactions with owners:						
Dividends	–	–	–	–	**(31.4)**	**(31.4)**
Equity-settled share-based payment transactions	–	–	–	–	**2.8**	**2.8**
Own shares acquired for share incentive schemes	–	–	–	–	**(2.8)**	**(2.8)**
Balance at 31 December 2018	**71.4**	**111.7**	**17.0**	**35.7**	**413.2**	**649.0**

Notes to the Company balance sheet

29. Accounting policies

Basis of preparation

These financial statements were prepared in accordance with Financial Reporting Standard 101 *Reduced Disclosure Framework* (FRS 101).

In preparing these financial statements, the Company applies the recognition, measurement and disclosure requirements of International Financial Reporting Standards as adopted by the EU (Adopted IFRSs), but makes amendments where necessary in order to comply with the Companies Act 2006 and has set out below where advantage of the FRS 101 disclosure exemptions has been taken.

Under Section 408(4) of the Companies Act 2006 the Company is exempt from the requirement to present its own profit and loss account.

In these financial statements, the Company has applied the exemptions available under FRS 101 in respect of the following disclosures:

- a cash flow statement and related notes;
- comparative period reconciliations for share capital, tangible fixed assets and intangible assets;
- transactions with wholly owned subsidiaries;
- the effects of new but not yet effective IFRSs;
- the compensation of key management personnel; and
- capital management.

As the consolidated financial statements of Morgan Advanced Materials plc include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 available in respect of the following disclosures:

- IFRS 2 *Share-Based Payments in respect of Group-settled share-based payments*; and
- the disclosures required by IFRS 7 *Financial Instruments Disclosures*.

The Company proposes to continue to adopt the reduced disclosure framework of FRS 101 in its next financial statements.

The accounting policies set out below have, unless otherwise stated, been applied consistently to the period presented in these financial statements.

Measurement convention

The financial statements are prepared on the historical cost basis except that the following assets and liabilities are stated at their fair value – financial instruments classified as fair value through the profit or loss.

Intangible assets

Intangible assets that are acquired by the Company are stated at cost less accumulated amortisation and less accumulated impairment losses.

Amortisation

Amortisation is charged to the income statement on a straight-line basis over the estimated useful lives of intangible assets unless such lives are indefinite. Intangible assets with an indefinite useful life and goodwill are systematically tested for impairment at each balance sheet date. Other intangible assets are amortised from the date they are available for use. The estimated useful lives are as follows:

- software: 3-7 years

Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation and accumulated impairment losses.

Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each part of an item of tangible fixed assets. Land is not depreciated. The estimated useful lives are as follows:

- plant, equipment and fixtures: 3 – 20 years
- buildings: 50 years

Depreciation methods, useful lives and residual values are reviewed at each balance sheet date.

Foreign currency

Transactions in foreign currencies are translated to the Company's functional currencies at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are retranslated to the functional currency at the foreign exchange rate ruling at that date. Foreign exchange differences arising on translation are recognised in the income statement except for differences arising on the retranslation of qualifying cash flow hedges, which are recognised in other comprehensive income. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Non-monetary assets and liabilities denominated in foreign currencies that are stated at fair value are retranslated to the functional currency at foreign exchange rates ruling at the dates the fair value was determined.

Notes to the Company balance sheet
continued

29. Accounting policies continued

Expenses

Operating lease payments
Payments made under operating leases are recognised in the income statement on a straight-line basis over the term of the lease. Lease incentives received are recognised in the income statement as an integral part of the total lease expense.

Taxation
Tax on the profit or loss for the year comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity or other comprehensive income, in which case it is recognised directly in equity or other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the balance sheet date, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided on temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The following temporary differences are not provided for: the initial recognition of goodwill; the initial recognition of assets or liabilities that affect neither accounting nor taxable profit other than in a business combination; and differences relating to investments in subsidiaries to the extent that they will probably not reverse in the foreseeable future. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the balance sheet date.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the temporary difference can be utilised.

Classification of financial instruments issued by the Company
Financial instruments issued by the Company are treated as equity only to the extent that they meet the following two conditions:

(a) they include no contractual obligations upon the Company to deliver cash or other financial assets or to exchange financial assets or financial liabilities with another party under conditions that are potentially unfavourable to the Company; and

(b) where the instrument will or may be settled in the Company's own equity instruments, it is either a non-derivative that includes no obligation to deliver a variable number of the Company's own equity instruments or is a derivative that will be settled by the Company's exchanging a fixed amount of cash or other financial assets for a fixed number of its own equity instruments.

To the extent that this definition is not met, the proceeds of issue are classified as a financial liability. Where the instrument so classified takes the legal form of the Company's own shares, the amounts presented in these financial statements for called-up share capital and share premium account exclude amounts in relation to those shares.

Non-derivative financial instruments
Non-derivative financial instruments comprise investments in equity and debt securities, trade and other debtors, cash and cash equivalents, loans and borrowings, and trade and other creditors.

Trade and other debtors
Trade and other debtors are recognised initially at fair value. Subsequent to initial recognition they are measured at amortised cost using the effective interest method, less any impairment losses.

Trade and other creditors
Trade and other creditors are recognised initially at fair value. Subsequent to initial recognition they are measured at amortised cost using the effective interest method.

Investments in debt and equity securities
Investments in debt and equity securities held by the Company are designated as fair value through other comprehensive income (FVOCI): stated at fair value, with any resultant gain or loss being recognised directly in equity (in the fair value reserve), except for impairment losses and, in the case of monetary items such as debt securities, foreign exchange gains and losses. When these investments are derecognised, the cumulative gain or loss previously recognised directly in equity is recognised in profit or loss. Where these investments are interest-bearing, interest calculated using the effective interest method is recognised in profit or loss. Investments in subsidiaries are carried at cost less impairment.

Interest-bearing borrowings
Interest-bearing borrowings (which include amounts owed to/by Group undertakings) are recognised initially at fair value less attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are stated at amortised cost using the effective interest method, less any impairment losses.

29. Accounting policies continued

Derivative financial instruments and hedging

Derivative financial instruments

Derivative financial instruments are recognised at fair value. The gain or loss on remeasurement to fair value is recognised immediately in profit or loss. However, where derivatives qualify for hedge accounting, recognition of any resultant gain or loss depends on the nature of the item being hedged (see below).

Cash flow hedges

Where a derivative financial instrument is designated as a hedge of the variability in cash flows of a recognised asset or liability, or a highly probable forecast transaction, the effective part of any gain or loss on the derivative financial instrument is recognised directly in the hedging reserve. Any ineffective portion of the hedge is recognised immediately in the income statement.

Fair value hedges

Where a derivative financial instrument is designated as a hedge of the variability in fair value of a recognised asset or liability or an unrecognised firm commitment, all changes in the fair value of the derivative are recognised immediately in the income statement. The carrying value of the hedged item is adjusted by the change in fair value that is attributable to the risk being hedged (even if it is normally carried at cost or amortised cost) and any gains or losses on remeasurement are recognised immediately in the income statement (even if those gains would normally be recognised directly in reserves).

Employee benefits

Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which the Company pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an expense in the income statement in the periods during which services are rendered by employees.

Defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Company's net obligation in respect of defined benefit pension plans and other post-employment benefits is calculated separately for each plan by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value, and the fair value of any plan assets (at bid price) and any unrecognised past service costs are deducted. The liability discount rate is the yield at the balance sheet date on AA-credit-rated bonds denominated in the currency of, and having maturity dates approximating to the terms of the Company's obligations. The calculation is performed by a qualified actuary using the projected unit credit method. When the calculation results in a benefit to the Company, the recognised asset is limited to the total of any unrecognised past service costs and the present value of benefits available in the form of any future refunds from the plan, reductions in future contributions to the plan or on settlement of the plan and takes into account the adverse effect of any minimum funding requirements.

Actuarial gains and losses that have arisen since the adoption of FRS 101 are recognised in the period that they occur directly into equity through the statement of comprehensive income.

The Company is the sponsoring and principal employer of two UK defined benefit pension Schemes, the Morgan Pension Scheme and the Morgan Group Senior Staff Pension and Life Assurance Scheme (the UK Schemes). The Company also guarantees certain obligations and liabilities to the employees that currently participate in the two UK Schemes. During 2016 the Company adopted a new policy to allocate costs associated with the UK pension schemes between itself, as Principal Employer, and the various Participating Employers, based on an evaluation of each entity's share of overall Scheme liabilities. This ensures that the pension liability is reflected in the entity that employed the participant. This resulted in a reallocation of £151.5 million of the Schemes' net liabilities to the Participating Employers. Previously all of the Scheme assets and liabilities were recognised on the balance sheet of the Company only. Further details are provided in note 38.

Share-based payment transactions

Share-based payment arrangements in which the Company receives goods or services as consideration for its own equity instruments are accounted for as equity-settled share-based payment transactions, regardless of how the equity instruments are obtained by the Company.

The grant date fair value of share-based payments awards granted to employees is recognised as an employee expense, with a corresponding increase in equity, over the period in which the employees become unconditionally entitled to the awards. The fair value of the awards granted is measured using an option valuation model, taking into account the terms and conditions upon which the awards were granted. The amount recognised as an expense is adjusted to reflect the actual number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognised as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

Notes to the Company balance sheet
continued

29. Accounting policies continued

Share-based payment transactions in which the Company receives goods or services by incurring a liability to transfer cash or other assets that is based on the price of the Company's equity instruments are accounted for as cash-settled share-based payments. The fair value of the amount payable to employees is recognised as an expense, with a corresponding increase in liabilities, over the period in which the employees become unconditionally entitled to payment. The liability is remeasured at each balance sheet date and at settlement date. Any changes in the fair value of the liability are recognised as personnel expense in profit or loss.

Own shares held by The Morgan General Employee Benefit Trust

Transactions of the Group-sponsored Morgan General Employee Benefit Trust are treated as being those of the Company and are therefore reflected in the Company's financial statements. In particular, the Trust's purchases and sales of shares in the Company are debited and credited to equity.

Provisions

A provision is recognised in the balance sheet when the Company has a present legal or constructive obligation as a result of a past event that can be reliably measured, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects risks specific to the liability.

Investments

Investments in subsidiary undertakings, associates and joint ventures are stated at cost less amounts written off unless they are designated as a hedged item in a fair value hedge of foreign currency risk. In this case they are accounted for at historical cost plus a hedging adjustment recognised in profit or loss for the changes in their fair value attributable to the foreign currency exposure from the date the hedge is designated.

Interest-bearing loans and borrowings

Immediately after issue, debt is stated at the fair value of the consideration received. Immediately after issue capital instruments are stated after deduction of issue costs. The finance cost of the debt is allocated to periods over the term of the debt at a constant rate on the carrying amount.

Dividends on shares presented within shareholders' funds

Dividends unpaid at the balance sheet date are only recognised as a liability at that date to the extent that they are appropriately approved and are no longer at the discretion of the Company. Unpaid dividends that do not meet these criteria are disclosed in the notes to the financial statements.

Financial guarantee contracts

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, at which point a liability would be recognised.

30. Staff numbers and costs

The average number of persons employed by the Company (including Directors) during the year was as follows:

	Number of employees	
	2018	2017
Directors and corporate staff	53	51

Full details of the Directors' remuneration for the period can be found in the Remuneration Report on pages 58 to 75. Aggregate employee-related costs were as follows:

	Note	2018 £m	2017 £m
Wages and salaries		10.0	8.8
Equity-settled share-based payments	22	2.8	1.7
Social security costs		1.5	0.7
Other pension costs		0.4	0.3
		14.7	11.5

In 2018 £0.5 million (2017: £0.5 million) of the equity-settled share-based payments amount was recharged to other Morgan Group companies.

31. Intangible assets

	Software £m
Cost	
Balance at 1 January 2018	9.3
Additions – externally purchased	0.7
Balance at 31 December 2018	10.0
Amortisation	
Balance at 1 January 2018	5.4
Amortisation for the year	1.8
Balance at 31 December 2018	7.2
Carrying amounts	
At 31 December 2017	3.9
At 31 December 2018	2.8

32. Property, plant and equipment

	Plant, equipment and fixtures £m	Land and buildings £m	Total £m
Cost			
Balance at 1 January 2018	1.1	13.1	14.2
Additions	–	1.2	1.2
Balance at 31 December 2018	1.1	14.3	15.4
Depreciation			
Balance at 1 January 2018	1.1	–	1.1
Depreciation charge for the year	–	–	–
Impairment charge for the year	–	7.5	7.5
Balance at 31 December 2018	1.1	7.5	8.6
Carrying value			
At 31 December 2017	–	13.1	13.1
At 31 December 2018	–	6.8	6.8

The impairment charge in the year has arisen due to the change in a lease arrangement with a Group undertaking.

Notes to the Company balance sheet
continued

33. Investment in subsidiary undertakings

	Shares in Group undertakings £m	Loans £m	Total £m
Cost			
Balance at 1 January 2018	504.2	781.0	1,285.2
Additions	7.7	19.6	27.3
Disposals	(62.3)	–	(62.3)
Loan repayments	–	(11.3)	(11.3)
Effect of movement in foreign exchange	–	18.1	18.1
Balance at 31 December 2018	449.6	807.4	1,257.0
Provisions			
Balance at 1 January 2018	155.6	56.0	211.6
Provided in the year	–	2.7	2.7
Disposals	(48.1)	–	(48.1)
Effect of movement in foreign exchange	–	–	–
Balance at 31 December 2018	107.5	58.7	166.2
Carrying amounts			
At 31 December 2017	348.6	725.0	1,073.6
At 31 December 2018	342.1	748.7	1,090.8

Note 44 to the financial statements gives details of the Company's fixed asset investments.

34. Debtors

	Note	2018 £m	2017 £m
Due within one year			
Amounts owed by Group undertakings		42.6	43.1
Other debtors		0.1	1.7
Derivative financial assets	45	3.5	16.7
Prepayments and accrued income		1.3	0.8
		47.5	62.3

	2018 £m	2017 £m
Due after more than one year		
Derivative financial assets	1.1	–
	1.1	–

35. Creditors: amounts falling due within one year

	Note	2018 £m	2017 £m
Bank overdrafts	37	18.4	17.6
Bank and other loans	37	14.0	31.6
Trade creditors		3.5	5.1
Amounts owed to Group undertakings		12.6	12.0
Other creditors		–	3.8
Accruals and deferred income		8.3	6.8
Derivative financial liabilities	45	0.9	1.4
		57.7	78.3

36. Creditors: amounts falling due after more than one year

	Note	2018 £m	2017 £m
Amounts payable to Group undertakings		250.0	254.0
Bank and other loans	37	164.7	136.3
Derivative financial liabilities		2.0	0.8
		416.7	391.1

37. Borrowings

	Note	2018 £m	2017 £m
Bank overdrafts	35	18.4	17.6
Bank and other loans falling due within one year	35	14.0	31.6
Bank and other loans falling after more than one year	36	164.7	136.3
		197.1	185.5

Terms and debt repayment schedule

	Currency	Effective interest rate	Year of maturity	Carrying amount 2018 £m	Fair value 2018 £m	Carrying amount 2017 £m	Fair value 2017 £m
Bank overdrafts	Various	1.95%		18.4	18.4	17.6	17.6
1.18% Euro Senior Notes 2023	EUR	1.18%	2023	22.5	22.3	22.2	21.8
3.17% US Dollar Senior Notes 2023	USD	3.17%	2023	11.8	11.3	11.2	10.7
1.55% Euro Senior Notes 2026	EUR	1.55%	2026	22.5	22.3	22.3	21.5
3.37% US Dollar Senior Notes 2026	USD	3.37%	2026	76.4	70.6	72.1	67.4
1.74% Euro Senior Notes 2028	EUR	1.74%	2028	9.0	8.8	8.9	8.5
2.89% Euro Senior Notes 2030	EUR	2.89%	2030	22.5	22.5	–	–
Syndicated revolving credit facility	GBP	1.15%	2019	14.0	14.0	4.6	4.6
Syndicated revolving credit facility	USD	2.15%	2019	–	–	26.6	26.6
				197.1	190.2	185.5	178.7

In 2018 bank and other loans did not include any loans secured on the assets of the Company (2017: £nil).

Notes to the Company balance sheet
continued

38. Employee benefits: pensions

The Morgan Pension Scheme and the Morgan Group Senior Staff Pension and Life Assurance Scheme

The Company participates in two defined benefit schemes in the UK. The assets of these schemes are held in separate trustee-administered funds, The Morgan Pension Scheme and the Morgan Group Senior Staff Pension and Life Assurance Scheme. These schemes were closed to new entrants on 1 August 2011, with any new employees receiving benefits through the Morgan Group Personal Pension Plan, a defined contribution arrangement. The Morgan Group Senior Staff Pension and Life Assurance Scheme was closed to the future accrual of benefits on and with effect from 6 April 2016. Following a consultation exercise with the remaining active members of the Morgan Pension Scheme, the Trustee of the Scheme agreed to a Company proposal to close the Scheme to future accrual of benefits with effect from 6 April 2018. Current employees, including those who were active in the Schemes at closure were auto-enrolled into The Morgan Group Personal Pension Plan for their future pension benefits.

During 2018 the Group reviewed with the Trustee discretionary practices regarding the calculation of early and late retirement benefits in the Morgan Pension Scheme. The net impact of the terms agreed in December 2018 for the Company was a past service credit of £0.8 million.

	2018 £m	2017 £m
Pension plans and employee benefits		
Present value of funded defined benefit obligations	(178.2)	(194.6)
Fair value of plan assets	139.2	148.5
Net obligations	(39.0)	(46.1)
Movements in present value of defined benefit obligation		
At 1 January	(194.6)	(194.4)
Current service cost	–	(0.1)
Interest cost	(4.5)	(5.0)
Remeasurement gains/(losses):		
Changes in financial assumptions	9.6	(5.3)
Changes in demographic assumptions	1.4	3.1
Experience adjustments on benefit obligations	(0.4)	(0.9)
Benefits paid	9.5	8.0
Net past service credit	0.8	–
At 31 December	(178.2)	(194.6)
Movements in fair value of plan assets		
At 1 January	148.5	143.4
Interest on plan assets	3.5	3.7
Remeasurement (losses)/gains	(7.4)	5.9
Contributions by employer	4.1	3.6
Benefits paid	(9.5)	(8.0)
Administrative expenses	–	(0.1)
At 31 December	139.2	148.5
Actual return on assets	(3.9)	9.6
Pension plans and employee benefits		
Expense recognised in the income statement		
Current service cost	–	(0.1)
Net past service credit	0.8	–
Administrative expenses (including administration expenses incurred by the Company directly)	–	(0.2)
Net interest on net defined benefit liability	(1.0)	(1.3)
Total expense	(0.2)	(1.6)

38. Employee benefits: pensions continued

The fair values of the plan assets were as follows:

	2018 £m	2017 £m
Equities and growth assets	24.7	40.6
Bonds	38.6	26.9
Matching insurance policies	70.0	75.8
Other	5.9	5.2
	139.2	148.5

The assumptions used are best estimate assumptions chosen from a range of possible actuarial assumptions which may not be borne out in practice. The principal assumptions are the discount rate and inflation assumptions which are long-term and measured on external factors, based upon each plan's duration. In addition to these, the mortality assumption in the UK is material to the cost of the promised benefits. The assumed increases in salaries and pensions in payment are derived from assumed future inflation.

Principal actuarial assumptions at the year end were as follows:

Assumptions:	2018 %	2017 %
Inflation (RPI/CPI)	3.17/2.07	3.10/2.02
Discount rate	2.74	2.38
Pensions increase	3.00/3.10/3.70	3.00/3.00/3.60
Salary increase	n/a	n/a
Mortality – post-retirement:		
Life expectancy of a male aged 60 in accounting year (years)	26.5	26.6
Life expectancy of a male aged 60 in accounting year + 20 (years)	28.1	28.2

Funding

The most recent full actuarial valuations of the UK Schemes were undertaken as at March 2016 and resulted in combined assessed deficits of £132 million. On the basis of these full valuations, the Trustees of the UK Schemes, having consulted with the Group, agreed past service deficit recovery payments totalling £12 million a year from April 2017 (Company: £4.0 million in 2018), increasing by 2.75% pa until 2025, with further payments to Morgan Pension Scheme for 2026 and 2027 and contributions in respect of future service as accrued. New full valuations are due with effective dates of March 2019 and the outcome of those consultations will determine the Group's future contribution requirements, with any new deficit arising needing to be met through the payment of additional contributions.

Sensitivity analysis

The sensitivities of the Company's net balance sheet to the principal assumptions are:

	Change in assumption	2018 Increase effect £m	2017 Increase effect £m
Discount rate	Decrease by 0.1%	2.1	2.4
Inflation	Increase by 0.1%	0.8	1.1
Mortality – post-retirement	Pensioners live 1 year longer	4.0	4.7

These sensitivities have been calculated to show the movement in the net balance sheet in isolation, and assuming no other changes in market conditions at the accounting date (except where a fully matching insurance policy is held where this asset is assumed to change in value to match the change in obligations). This is unlikely in practice, for example, a change in discount rate is unlikely to occur without any movement in the value of the assets held by the Company's schemes.

Defined contribution plans

The Group operates a defined contribution pension plan (the Morgan Group Personal Pension Plan). The total Company expense relating to this plan in 2018 was £0.2 million (2017: £0.1 million).

Notes to the Company balance sheet
continued

39. Provisions and contingent liabilities

	Dilapidation provisions £m	Other provisions £m	Total £m
Balance at 31 December 2017	0.1	0.5	0.6
Provisions made during the year	–	–	–
Provisions used during the year	–	–	–
Balance at 31 December 2018	0.1	0.5	0.6

Dilapidation provisions are based on the Company's commitments at the balance sheet date and are expected to be utilised within one year.

Other provisions relate to legal claims and are based on the Company's assessment of the probable cost of these activities.

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, at which point a liability would be recognised.

The Group has been subject to legal claims in a number of countries. In some cases it will not be possible to form a view, either because the facts are unclear or because further time is needed to properly assess the merits of the case, and no provisions are held against such cases. The Board, having taken legal advice, is of the opinion that the remainder of these actions will not have a material impact on the Company's financial position.

There are no other contingent liabilities in the Company as at 31 December 2018.

40. Share capital

	5.5% Cumulative First Preference shares	5.0% Cumulative Second Preference shares	Ordinary shares
In issue at beginning and end of period	125,327	311,954	285,369,988

	2018 £m	2017 £m
Allotted, called up and fully paid		
Ordinary shares of 25 pence each	71.4	71.4
5.5% Cumulative First Preference shares of £1 each	0.1	0.1
5.0% Cumulative Second Preference shares of £1 each	0.3	0.3
	71.8	71.8
Shares classified as equity shareholders' funds	71.4	71.4
Shares classified as non-equity shareholders' funds	0.4	0.4
	71.8	71.8

Refer to note 19 for details of the rights to dividends, voting rights and return of capital relating to the Preference shares.

Dividends payable for the First and Second Preference shares were £22,491 (2017: £22,491).

The 5.5% Cumulative First Preference shares of £1 each and the 5.0% Cumulative Second Preference shares of £1 each confer on the holders thereof the right to receive a cumulative preferential dividend at the rate of 5.5% and 5.0% respectively, calculated up to 30 June and 31 December respectively in every year.

For proposed Ordinary dividends see the consolidated income statement on page 84.

41. Share premium and reserves

The merger reserve comprises the balance associated with the premium of shares issued during previous acquisitions. Further details on share premium and reserves are given in note 19.

Capita Trustees Limited administer a Trust in which shares are held to satisfy awards granted under the Company's share plans. The shares are distributed via discretionary settlement governed by the rules of the Trust deed dated 1 March 1996 (as amended). The total number of own shares held by the Trust at 31 December 2018 was 968,287 (2017: 216,456) and at that date had a market value of £2.6 million (2017: £0.7 million).

In 2018, the amount of reserves of Morgan Advanced Materials plc that may be distributed under Section 831(4) of the Companies Act 2006 was £220.2 million (2017: £208.0 million). This comprises a portion of the profit and loss account.

42. Operating leases

Non-cancellable operating lease rentals are payable as follows:

	2018 £m	2017 £m
Less than one year	0.2	0.2
Between one and five years	0.2	0.4
	0.4	0.6

In 2018 £0.2 million (2017: £0.2 million) was recognised as an expense in the income statement in respect of operating leases.

43. Related parties

The Company has related party relationships with its subsidiaries, its associate and its Directors and executive officers. It is exempt from providing information relating to these parties with the exception of transactions with its associate.

At 31 December 2018 there were no outstanding balances payable to or receivable from the associate (2017: £nil).

44. Fixed asset investments

In accordance with Section 409 of the Companies Act 2006, a full list of related undertakings as at 31 December 2018 is disclosed below. Related undertakings include subsidiary undertakings, all significant holdings (being 20% or more interest), associated undertakings, joint ventures and qualifying partnerships. Unless otherwise stated the Group's shareholding represents Ordinary shares held indirectly by the Company.

Name of undertaking	Country of incorporation	Registered office address	% shareholding owned by the Group
Carbo San Luis S.A.[11]	Argentina	Talcahuano 736, 4th Floor, Buenos Aires, C1013AAP, Argentina	84.61%
Morgan Technical Ceramics Australia Pty Ltd	Australia	4 Redwood Drive, Clayton, VIC 3168, Australia	100.00%
Morganite Australia Pty Ltd[18]	Australia	Unit 4, 92-100 Belmore Road, Riverwood, NSW 2210, Australia	100.00%
D Brown Carbon (Pty) Ltd	Australia	Unit 4, 92-100 Belmore Road, Riverwood, NSW 2210, Australia	100.00%
Morgan Mechanical Carbon Australasia Pty Ltd[1]	Australia	Unit 4, 92-100 Belmore Road, Riverwood, NSW 2210, Australia	100.00%
Morganite Brasil Ltda[22]	Brazil	Avenida do Taboão 3265, Taboão, São Bernardo do Campo, São Paulo, CEP 09656-000, Brazil	100.00%
Morgan Advanced Materials Canada Inc.[15]	Canada	1185 Walkers Line, Burlington, ON L7M 1L1, Canada	100.00%
Carbo Chile S.A.	Chile	Avenida San Eugenio 12462, Sitio 3, Loteo Estrella del Sur, Santiago, Chile	99.99%
Dalian Morgan Ceramics Company Ltd[23]	China	No. 931 Xi'nan Road, Shahekou District, Dalian, Liaoning Province 116200, China	100.00%
Morgan Guangzhou Co. Ltd	China	2nd Floor, 5 Ming Hua Street, Jin Xiu Road, Guanzhou, Guangdong Province, 510730, China	100.00%
Morgan Haldenwanger Technical Ceramics (Wuxi) Co. Ltd[23]	China	Gongyuanxi Road, Ding Shu Zhen, Yixing, Jiangsu Province 214221 China	100.00%

Notes to the Company balance sheet
continued

44. Fixed asset investments continued

Name of undertaking	Country of incorporation	Registered office address	% shareholding owned by the Group
Morgan Molten Metal Systems (Suzhou) Co. Ltd[1, 19]	China	108 Tongsheng Road, Suzhou Industrial Park, Suzhou, Jiangsu Province, 215126, China	100.00%
Morgan Technical Ceramics (Suzhou) Co. Ltd	China	Gongyuanxi Road, Ding Shu Zhen, Yixing, Jiangsu Province, 214221, China	100.00%
Morgan Thermal Ceramics (Shanghai) Co. Ltd[1, 23]	China	18 Kang An Road, Kang Qiao Industrial Zone, Pudong, Shanghai 201315, China	100.00%
Morgan International Trading (Shanghai) Co. Ltd[1, 23]	China	18 Kang An Road, Kang Qiao Industrial Zone, Pudong, Shanghai 201315, China	100.00%
Shanghai Morgan Advanced Material and Technology Co. Ltd[1, 19]	China	4250 Long Wu Road, Shanghai, 200241, China	100.00%
Jiangsu Morgan Ceramic Core Technology Co. Ltd[22]	China	2 Liye Road, Economic Development Zone, Wuxi, Jiangsu Province, 214131, China	100.00%
Beijing Morgan Ceramics Co. Ltd[23] (in liquidation)	China	6th Floor, building 17, No. A1Chaoqian Road, Changping District, Beijing 102200, China	100.00%
Morgan AM&T (Shanghai) Co. Ltd[5, 22]	China	4250 Long Wu Road, Shanghai, 200241, China	70.00%
Morgan Kailong (Jingmen) Thermal Ceramics Co. Ltd[5, 23]	China	20-1 Quankou Road, Jingmen City, Hubei Province, 448032, China	70.00%
Dalian Morgan Refractories Ltd[5, 23]	China	No. 931 Xi'nan Road, Shahekou District, Dalian, Liaoning Province 116200, China	70.00%
Yixing Morgan Thermal Ceramics Co. Ltd[6, 23]	China	2 Beidan Road, Taodu Industrial Park, Ding Shu Zhen, Yixing, Jiangsu, 214222, China	51.00%
Thermal Ceramics de Colombia[9]	Colombia	Calle 18 No. 23-31, Bodega 1, Guadalajara de Buga-Valle, AA 5086, Colombia	100.00%
Morgan Carbon France S.A.	France	6 rue du Réservoir, 68420 Eguisheim, France	100.00%
Thermal Ceramics de France S.A.S.U.[19]	France	Centre de Vie BP 75, 3 rue du 18 Juin 1827, 42162 Andrézieux-Bouthéon, France	100.00%
Marshall Morganite S.A. (in liquidation)	France	5 bis rue Retrou, 92600 Asnières-sur-Seine, France	99.88%
Thermal Ceramics S.A.[10, 19]	France	Centre de Vie BP 75, 3 rue du 18 Juin 1827, 42162 Andrézieux-Bouthéon, France	100.00%
Morgan Advanced Materials Haldenwanger GmbH[20]	Germany	Teplitzerstraße 27, 84478 Waldkraiburg, Germany	100.00%
Morgan Electrical Carbon Deutschland GmbH	Germany	Zeppelinstraße 26, 53424 Remagen, Germany	100.00%
Morgan Thermal Ceramics Deutschland GmbH	Germany	Borsigstraße 4-6, 21465 Reinbek, Germany	100.00%
Morgan Molten Metal Systems GmbH	Germany	Noltinastraße 29, 37297 Berkatal-Frankenhain, Germany	100.00%
Morgan Deutschland Holding GmbH	Germany	Zeppelinstraße 26, 53424 Remagen, Germany	100.00%
Porextherm Dämmstoffe GmbH	Germany	Heisingerstraße 8/10, 87437 Kempten (Allgäu), Germany	100.00%
Morgan Holding GmbH	Germany	Zeppelinstraße 26, 53424 Remagen, Germany	100.00%
The Morgan Crucible Management GmbH	Germany	Zeppelinstraße 26, 53424 Remagen, Germany	100.00%
Wesgo Ceramics GmbH	Germany	Willi-Grasser-Straße 11, 91056 Erlangen, Germany	100.00%
Ceramicas Termicas S.A.	Guatemala	20 cale, 18-60, Apartamento 2, Zona 10, Guatemala City, Guatemala	100.00%
Refractarios Multiples S.A.	Guatemala	Km. 34.5, Ruta al Pacífico, Palín, Escuintla, Guatemala	100.00%
Refractarios Nacionales S.A.	Guatemala	Km. 34.5, Ruta al Pacífico, Palín, Escuintla, Guatemala	100.00%
Morgan AM&T Hong Kong Company Ltd	Hong Kong	Units 4-6, 11/F, Siu Wai Industrial Centre, 29-33 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong	100.00%
Morgan Materials Hungary Limited Liability Company[23]	Hungary	Csillagvirág utca 7, 1106 Budapest, Hungary	100.00%
Morgan Advanced Materials India Private Ltd	India	P-11, Pandav Nagar, Mayur Vihar Phase 1, Delhi, 110091 India	100.00%
Morganite Crucible (India) Ltd	India	B-11, MIDC Industrial Area, Waluj, Aurangabad, 431136, Maharashtra, India	75.00%
Ciria India Ltd[23]	India	P-11, Pandav Nagar, Mayur Vihar Phase 1, Delhi, 110091 India	70.00%
Murugappa Morgan Thermal Ceramics Ltd[6]	India	PO Box 1570, Dare House Complex, Old No. 234/New No. 2, NSC Bose Road, Chennai, 600001 India	51.00%
Thermal Ceramics Italiana S.R.L.[22]	Italy	Via Delle Rogge 6, Casalpusterlengo, 26841 LODI, Italy	100.00%
Morgan Carbon Italia S.R.L.	Italy	Via Roma 338, Martinsicuro Terni, 64014 d Italy	100.00%
Morganite Carbon Kabushiki Kaisha	Japan	30-31 Enoki-Cho, Suita City, Osaka 564-0053, Japan	100.00%
Shin-Nippon Thermal Ceramics Corporation	Japan	Portus Center Building 12F, 4-45-1 Ebisujimacho, Sakai-ku, Sakai-shi, Osaka 590-0985, Japan	50.00%
Morgan Korea Company Ltd[4, 13]	Korea	27 Nongongjoongang-ro 46 gil, Nongong-eup, Dalseong-gun, Daegu-si, Republic of Korea	93.19%

44. Fixed asset investments continued

Name of undertaking	Country of incorporation	Registered office address	% shareholding owned by the Group
Morganite Luxembourg S.A.	Luxembourg	BP 15, Capellen, L-8301 Luxembourg	100.00%
Morgan Carbon (M) Sdn Bhd (in liquidation)	Malaysia	c/o Messrs Chor Pee Arwarul & Co, 2790, Mezzanine Floor, Jalan Changkat Permata, Taman Permata, 53300 Kuala Lumpur, Malaysia	100.00%
Grafitos y Maquinados S.A. de C.V.[1, 24]	Mexico	Cerrada de la Paz No. 101, Col. Industrial La Paz, Pachuca Hidalgo, Mexico	100.00%
Grupo Industrial Morgan S.A. de C.V.[1, 24]	Mexico	Cerrada de la Paz No. 101, Fraccionamiento Industrial La Paz, Mineral de la Reforma, 42181 Hidalgo, 42092 Mexico	100.00%
Morgan Technical Ceramics S.A. de CV.[24]	Mexico	Av. Fulton No. 20, Fraccionamiento Industrial Valle de Oro, San Juan del Rio, Queretaro C.P. 76802, Mexico	100.00%
Morgan Holding Netherlands B.V.	Netherlands	Oude Veiling 3, 1689 AA Zwaag, The Netherlands	100.00%
Gunac B.V.	Netherlands	Oude Veiling 3, 1689 AA Zwaag, The Netherlands	100.00%
Morgan Terrassen B.V.	Netherlands	Oude Veiling 3, 1689 AA Zwaag, The Netherlands	100.00%
Morgan AM&T B.V.	Netherlands	Oude Veiling 3, 1689 AA Zwaag, The Netherlands	100.00%
Thermal Ceramics Benelux B.V.	Netherlands	Tramweg 27, 3255 MB Oude Tonge, The Netherlands	100.00%
Morgan Donald Brown Ltd	New Zealand	c/o KPMG, 18 Viaduct Harbour Avenue, Maritime Square, Auckland, 1010 New Zealand	100.00%
Morgan Carbon Polska Sp.zoo	Poland	ul. Iskry 26, 01-472 Warszawa, Poland	100.00%
Thermal Ceramics Polska Sp.zoo	Poland	Towarowa 9, 44-100 Gliwice, Poland	100.00%
Morgan Thermal Ceramics Sukhoy Log LLC[25]	Russia	Russia 624800, Sverdlovsk District, Sukhoi Log 624800, Ul. Militseyskaya 2	51.00%
Morgan Ceramics Asia Pte Ltd[1]	Singapore	150 Kampong Ampat, #05-06A, KA Centre, 368324 Singapore	100.00%
Morganite Ujantshi (Pty) Ltd	South Africa	149 South Rand Road, Tulisa Park, Johannesburg 2197, South Africa	74.90%
Thermal Ceramics South Africa (Pty) Ltd	South Africa	149 South Rand Road, Tulisa Park, Johannesburg 2197, South Africa	100.00%
Morganite South Africa (Pty) Ltd	South Africa	149 South Rand Road, Tulisa Park, Johannesburg 2197, South Africa	100.00%
Thermal Ceramics España S.L.	Spain	Juan Pablo II, no. 6, 2, Local A, 12003 Castellon, Spain	100.00%
Morganite Española S.A.	Spain	Juan Pablo II, no 6. 2e Local A, 12003 Castellon, Spain	100.00%
Morgan Matroc S.A. (in liquidation)	Spain	Roger de Lluria 104 5º-2ª, 08037 Barcelona, Spain	100.00%
Morgan Advanced Materials (Taiwan) Co. Ltd	Taiwan	25 Hsin-Yeh Street, Hsiao Kang, Kaohsiung 81208, Taiwan	100.00%
Morganite Thermal Ceramics (Taiwan) Ltd	Taiwan	c/o Baker & McKenzie, 15/f, 168 Tun Hwa North Road, Taipei 105, Taiwan	88.00%
Morgan Holdings (Thailand) Ltd[2]	Thailand	22nd-25th Floor, No. 990 Rama IV Road, Khwaeng Silom, Bangrak District, Bangkok 10500, Thailand 990, 22nd-25th Floor, Rama IV Road, Khwaeng Silom Sub-district, Bangrak District, Bangkok, 10500, Thailand	100.00%
Morgan Technical Ceramics (Thailand) Ltd[2]	Thailand	No. 958 On-nuch Road, Khwaeng Suanluang, Khet Suanluang, Bangkok, 10250, Thailand	100.00%
MKGS Morgan Karbon Grafit Sanayi Anonim Sirketi	Turkey	Osmangazi Mahallesi 2647, Sokak No. 27/3, Kıraç, Esenyurt, Istanbul 34522, Turkey	100.00%
Morgan Advanced Materials Industries Ltd	United Arab Emirates	KHIA4–07A, Khalifa Industrial Zone Abu Dhabi (KIZAD), Abu Dhabi, United Arab Emirates	100.00%
Morgan Ceramics Middle East FZE	United Arab Emirates	Post Box 16426, #403/404B, Business Centre, 4RAK Free Trade Zone, Ras Al Khaimah, United Arab Emirates	100.00%
Morgan International Holdings Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Terrassen Holdings Ltd[8]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan Technical Ceramics Ltd	United Kingdom	Morgan Drive, Stourport-on-Severn, Worcestershire DY13 8DW, UK	100.00%
Morganite Electrical Carbon Ltd	United Kingdom	Upper Fforest Way, Morriston, Swansea, West Glamorgan SA6 8PP, UK	100.00%
Thermal Ceramics UK Ltd	United Kingdom	Tebay Road, Bromborough, Wirral CH62 3PH, UK	100.00%
Morganite Special Carbons Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Clearpower Ltd[3, 17]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	99.01%
Morgan Trans Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
MCCo Ltd[7]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Thermal Ceramics Europe Ltd[7]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Thermal Ceramics Ltd[7]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morganite Crucible Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Certech International Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan Electro Ceramics Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan Europe Holding Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan Holdings Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan North America Holding Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%

Notes to the Company balance sheet
continued

44. Fixed asset investments continued

Name of undertaking	Country of incorporation	Registered office address	% shareholding owned by the Group
Morganite Carbon Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Petty France Investment Nominees Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
The Morgan Crucible Company Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Jemmtec Ltd[16]	United Kingdom	Magma Ceramics, Low Road, Earlsheaton, Dewsbury, West Yorkshire WF12 8BU, UK	34.96%
TCG Guardian 1 Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
TCG Guardian 2 Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
MNA Finance Ltd[1]	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan Finance Management Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Morgan European Finance Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	100.00%
Law Debenture MC Senior Pension Trust Corporation	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	n/a
Morgan Crucible Pension Trustees Ltd	United Kingdom	Quadrant, 55/57 High Street, Windsor, Berkshire SL4 1LP, UK	n/a
Certech Inc.[14]	United States	1 Park Place West, Wood-Ridge, New Jersey 07075, USA	100.00%
Graphite Die Mold Inc.[14]	United States	18 Air Line Park, Durham, Connecticut 06422-1000, USA	100.00%
Morgan Advanced Ceramics Inc.[14]	United States	2425 Whipple Road, Hayward, California 94544, USA	100.00%
Morgan Advanced Materials and Technology Inc.[14]	United States	441 Hall Avenue, St Marys, Pennsylvania 15857, USA	100.00%
Morganite Crucible Inc.[21]	United States	22 N. Plains Industrial Road, Suite 1, Wallingford, Connecticut 06492, USA	100.00%
Morganite Inc.[14]	United States	4000 West Chase Blvd, Suite 170, Raleigh, North Carolina 27607, USA	100.00%
Morganite Industries Inc.[12]	United States	4000 West Chase Blvd, Suite 170, Raleigh, North Carolina 27607, USA	100.00%
National Electrical Carbon Products Inc.[15]	United States	PO Box 1056, 251 Forrester Drive, Greenville, South Carolina 29602, USA	100.00%
Thermal Ceramics Inc.[14]	United States	PO Box 923, 2102 Old Savannah Road, Augusta, Georgia 30906, USA	100.00%
Thermal Ceramics Venezuela C.A.[23]	Venezuela	Zona Ind. El Recreo, Av. 87 N°105-121, Flor Amarillo, Valencia Estado Carabobo, Zona Postal 2003, Venezuela	100.00%

1. Directly owned by Morgan Advanced Materials plc.
2. 99.98% owned by Morgan Advanced Materials plc.
3. 99% owned by Morgan Advanced Materials plc.
4. 93.19% owned by Morgan Advanced Materials plc.
5. 70% owned by Morgan Advanced Materials plc.
6. 51% owned by Morgan Advanced Materials plc.
7. 50% owned by Morgan Advanced Materials plc.
8. 8.18% owned by Morgan Advanced Materials plc.
9. 4% owned by Morgan Advanced Materials plc.
10. 1.98% owned by Morgan Advanced Materials plc.
11. Ownership held in Class A and Class B Common Stock.
12. Ownership held in Class A, Class B and Class C Common Stock.
13. Ownership held in Common and Preference Shares.
14. Ownership held in Common Stock.
15. Ownership held in Common Stock of no par value.
16. Ownership held in Ordinary A and B Shares.
17. Ownership held in Ordinary A, B and C and Preference A and B Shares.
18. Ownership held in Ordinary and Non-Cumulative Non-Participating Redeemable Preference Shares.
19. Ownership held in Ordinary Shares of no par value.
20. Ownership held in Partnership Shares.
21. Ownership held in Preferred Stock and no par Common Stock.
22. Ownership held in Quotas.
23. Ownership held in Registered Capital.
24. Ownership held in Series A and Series B.
25. Subsidiary not included in consolidated accounts as the Company does not exercise management control.

45. Derivative financial assets and liabilities

	2018 £m	2017 £m
Derivative financial assets		
Forward foreign exchange contracts non-designated	4.6	16.7
Derivative financial liabilities		
Forward foreign exchange contracts non-designated	(2.9)	(2.2)

Fair values are measured using a hierarchy where the inputs are:

Level 1 – quoted prices (unadjusted) in active markets for identical assets or liabilities

Level 2 – inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly

Level 3 – inputs for the assets or liability that are not based on observable market data (unobservable inputs).

The derivative financial assets and liabilities are all measured using Level 2 inputs. The fair value of forward foreign exchange contracts is estimated by discounting the future cash flows using appropriate market-sourced data at the balance sheet date.

Group statistical information
under adopted IFRSs

	2014 Results before specific adjusting items restated[1,2] £m	2015 Results before specific adjusting items restated[1] £m	2016 Results before specific adjusting items restated[1] £m	2017 Results before specific adjusting items restated[1,3] £m	**2018 Results before specific adjusting items £m**
Revenue	889.8	884.1	958.8	1,001.4	**1,033.9**
Profit from operations before restructuring costs, other items and amortisation of intangible assets	117.2	110.6	116.8	120.7	**124.8**
Restructuring costs and other items:					
Restructuring costs	(5.9)	(3.8)	(1.4)	–	**–**
Gain on disposal of properties	0.3	0.5	0.5	–	**–**
Profit from operations before amortisation of intangible assets	111.6	107.3	115.9	120.7	**124.8**
Amortisation of intangible assets	(5.4)	(5.2)	(6.5)	(7.3)	**(8.0)**
Operating profit	106.2	102.1	109.4	113.4	**116.8**
Net financing costs	(20.9)	(18.1)	(20.0)	(22.5)	**(13.2)**
Share of profit of associate (net of income tax)	–	0.3	0.6	0.2	**0.8**
Profit before taxation	85.3	84.3	90.0	91.1	**104.4**
Income tax expense	(25.7)	(24.9)	(26.9)	(26.9)	**(29.0)**
Profit after taxation before discontinued operations	59.6	59.4	63.1	64.2	**75.4**
Discontinued operations	(0.9)	0.7	(0.1)	(1.0)	**(1.4)**
Profit for the period	58.7	60.1	63.0	63.2	**74.0**
Assets employed					
Property, plant and equipment	241.0	256.7	303.7	297.8	**314.5**
Intangible assets	235.3	229.8	240.4	217.0	**215.6**
Investments and other receivables	10.2	10.7	10.7	11.7	**12.2**
Deferred tax assets	8.5	4.4	6.1	9.1	**6.9**
Net current assets	143.2	151.3	91.6	129.4	**106.8**
Total assets less current liabilities	638.2	652.9	652.5	665.0	**656.0**
Employee benefits	211.8	204.5	271.1	218.0	**190.4**
Provisions and other items	236.3	259.7	208.4	202.2	**177.4**
Deferred tax liabilities	2.4	2.3	8.3	10.5	**11.0**
	187.7	186.4	164.7	234.3	**277.2**
Equity					
Total equity attributable to equity holders of the Parent Company	151.2	149.8	120.8	195.2	**232.8**
Non-controlling interests	36.5	36.6	43.9	39.1	**44.4**
Total equity	187.7	186.4	164.7	234.3	**277.2**
Ordinary dividends per share	10.9p	11.0p	11.0p	11.0p	**11.0p**
Earnings per share					
Continuing and discontinued operations					
Basic earnings per share	2.7p	11.9p	18.4p	37.8p	**16.2p**
Diluted earnings per share	2.7p	11.9p	18.4p	37.5p	**16.1p**
Headline earnings per share[4]	22.1p	20.8p	22.7p	22.8p	**26.7p**
Diluted headline earnings per share[4]	22.1p	20.8p	22.7p	22.7p	**26.6p**

1. The Group disposed of the Composites and Defence Systems business in 2018, the disposal group formed the Composites and Defence Systems operating segment and has been classified as a discontinued operation under IFRS 5. Figures for 2014-2017 have been restated to reflect these changes.
2. 2014 has been restated for the reclassification of deferred tax assets and liabilities.
3. 2017 has been restated to reflect the adoption of IFRS 15 *Revenue from Contracts with Customers*. Figures for 2014-2016 have not been restated for these changes.
4. Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 31 to 33.

Cautionary statement

This document has been prepared for and only for the members of the Company as a body and no other persons. Its purpose is to assist members in assessing how the Directors have performed their duties, the Company's strategies and the potential for those strategies to succeed and for no other purpose. Save as would otherwise arise under English law, the Company, its Directors, employees, agents or advisers do not accept or assume responsibility or liability to any third parties to whom this document is shown or into whose hands it may come and any such responsibility or liability is expressly disclaimed.

This document contains forward-looking statements that are subject to risk factors associated with, amongst other things, the economic and business circumstances occurring from time to time in the countries, sectors and markets in which the Group operates. These and other factors could adversely affect the outcome and financial effects of the plans and events described. Forward-looking statements by their nature involve a number of risks, uncertainties and assumptions because they relate to events and/or depend on circumstances that may or may not occur in the future and could cause actual results and outcomes to differ materially from those expressed in or implied by the forward-looking statements.

It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a wide range of such variables. No assurances can be given that the forward-looking statements in this document will be realised. The forward-looking statements reflect the knowledge and information available at the date this document was prepared and will not be updated during the year, but will be considered in the Annual Report for next year. Nothing in this document should be construed as a profit forecast.

Glossary of terms

Cash flow from operations[1]	Cash generated from operations before cash flows from restructuring costs and other items.
Constant-currency[1]	Constant-currency revenue and Group headline operating profit are derived by translating the prior year results at current year average exchange rates.
Corporate costs	Corporate costs consist of the costs of the central head office.
Energy use	Energy from all sources.
Free cash flow before acquisitions and dividends[1]	Cash generated from operations less net capital expenditure, net interest paid and tax paid.
Group earnings before interest, tax and amortisation (EBITA)[1]	EBITA is defined as Group operating profit before specific adjusting items and amortisation of intangible assets. Segment – Divisional and global business unit – EBITA is stated before unallocated corporate costs.
Group earnings before interest, tax, depreciation and amortisation (EBITDA)[1]	EBITDA is defined as operating profit before specific adjusting items, amortisation of intangible assets and depreciation.
Group headline operating profit[1]	Operating profit adjusted to exclude specific adjusting items and amortisation of intangible assets.
Headline earnings per share (EPS)[1]	Headline earnings per share is defined as operating profit adjusted to exclude specific adjusting items and amortisation of intangible assets, plus share of profit of associate less net financing costs, income tax expense and non-controlling interests, divided by the weighted average number of Ordinary shares during the period.
Lost-time accident (LTA)	Accident which results in one or more days' Lost-time.
Lost-time per LTA	Total time lost from health and safety in the year divided by the number of Lost-time accidents reported in the year.
Net debt[1]	Interest-bearing loans and borrowings and bank overdrafts less cash and cash equivalents.
Return on invested capital (ROIC)[1]	Group headline operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the 12-month average adjusted net assets (excludes long-term employee benefits, deferred tax assets and liabilities, current tax payable, provisions, cash and cash equivalents and interest-bearing loans and borrowings.
Return on operating capital employed (ROCE)[1]	Group headline operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the sum of working capital as defined below and the net book value, plant and equipment and land and buildings. Goodwill and other intangible assets are excluded.
Revenue growth	Revenue growth is defined as current year revenue translated using current year average exchange rates divided by prior year revenue translated using prior year average exchange rates.
Specific adjusting items	See note 6 to the consolidated financial statements for further details
Waste	Hazardous and non-hazardous waste, including recycled material.
Water use/intensity	Water from all sources, including process, irrigation and sanitary use.
Working capital (as used in the ROCE[1] calculation)	Working capital as used in the calculation of ROCE is the sum of inventories, trade and other receivables, net derivative financial liabilities, net assets classified as held-for-sale, trade and other payables, plus the net of deferred consideration, third-party dividends payable and other sundry items.

1. Items marked with an asterisk are non-GAAP measures, see definitions and reconciliations of non-GAAP measures to GAAP measures on pages 31 to 33.

Shareholder information

Analysis of Ordinary shareholdings as at 31 December 2018

		Number of holdings	% of total holdings	Number of shares	% of share capital
Size of holding	1-2,000	4,409	75.55	2,237,066	0.78
	2,001-5,000	724	12.41	2,343,940	0.82
	5,001-10,000	262	4.49	1,841,562	0.64
	10,001-50,000	213	3.65	4,729,572	1.66
	50,001-100,000	48	0.82	3,526,467	1.24
	100,001 and above	180	3.08	270,691,381	94.86
		5,836	**100.00**	**285,369,988**	**100.00**
Holding classification	Individuals	5,092	87.25	8,073,030	2.83
	Nominee companies	712	12.20	276,636,773	96.94
	Trusts (pension funds etc.)	8	0.14	84,947	0.03
	Others	24	0.41	575,238	0.20
		5,836	**100.00**	**285,369,988**	**100.00**

Key dates

10 May 2019	2019 Annual General Meeting (AGM), commencing at 10:30am.
25 July 2019	Interim results announced via the Regulatory News Service and on the Company's website. Since 2015 Interim results are available online only.

Dividend payment dates

23 November 2018	An interim cash dividend of 4.0 pence per Ordinary share of 25 pence each was paid to shareholders registered at the close of business on 2 November 2018.
24 May 2019	Subject to shareholders' approval at the 2019 AGM, a final cash dividend of 7.0 pence per Ordinary share of 25 pence each will be paid to shareholders registered at the close of business on 3 May 2019.
1 April 2019 and 1 October 2019	Dividend payment dates in respect of the 5.5% Cumulative First Preference shares of £1 each and the 5.0% Cumulative Second Preference shares of £1 each.

Other information

Capital gains tax	The market values of quoted shares and stocks at 31 March 1982 were: Ordinary shares of 25 pence each 122.5 pence 5.5% Cumulative First Preference shares of £1 each 30.5 pence 5.0% Cumulative Second Preference shares of £1 each 28.5 pence For capital gains tax purposes, the cost of Ordinary shares is adjusted to take account of rights issues. Any capital gains arising on disposal will also be adjusted to take account of indexation allowances. Since the adjustments will depend on individual circumstances, shareholders are recommended to consult their professional advisers.
Share price	The price can be obtained on the Company's website: **www.morganadvancedmaterials.com**
ISIN Code	GB0006027295
LEI	I4KI4LL95N2PHDL7EG85
Ticker symbol	MGAM

Shareholder information
continued

Company details

Company name change	The Company changed its name to Morgan Advanced Materials plc (from The Morgan Crucible Company plc) on 27 March 2013. Following this change, share certificates issued in the name 'The Morgan Crucible Company plc' remain valid (replacement share certificates in the name 'Morgan Advanced Materials plc' were not issued to existing shareholders).
Registered office	Quadrant, 55-57 High Street, Windsor, Berkshire SL4 1LP Registered in England and Wales No. 286773 Telephone: +44 (0)1753 837000 **www.morganadvancedmaterials.com**
Website	The Company's website provides information about the Group including the markets in which it operates, its strategy and recent news from the Group. The Investors section is a key source of information for shareholders, containing details of financial results, shareholder meetings and dividends, and providing access to frequently asked questions. Current and past annual, half-year and EHS reports are also available to view and download.
Company registrars	Link Asset Services (Link), The Registry, 34 Beckenham Road, Beckenham, Kent BR3 4TU Telephone (in the UK): 0871 664 0300 Telephone (from outside the UK): +44 (0)371 664 0300 Email: **shareholderenquiries@linkgroup.co.uk** Website: **www.linkassetservices.com/shareholders-and-investors** Calls cost 12 pence per minute plus your phone company's access charge. Calls outside the UK will be charged at the applicable international rate. Lines are open between 9am and 5.30pm, Monday to Friday excluding public holidays in England and Wales. Shareholders with queries relating to their shareholding should contact Link directly. Alternatively, shareholders may find the Investors section of our website useful for general enquiries.
Share portal **www.signalshares.com**	The 'Signal shares' share portal is a secure online site where you can manage your shareholding quickly and easily, reducing the need for paperwork and providing 24-hour access for your convenience. Through Signal shares you can view your holding and get an indicative valuation, change your address, arrange to have dividends paid into your bank account and view your dividend payment history. To register visit **www.signalshares.com**. You will need your investor code, which can be found on your share certificate or by contacting Link.
Dividend payments	You can choose to receive your dividend in a number of ways. Dividends will automatically be paid to you by cheque and sent to your registered address unless you have chosen one of the options below: Direct payment to your bank Cash dividends can be paid directly to a UK bank or building society account. This means that your dividend reaches your bank account on the payment date, it is more secure (cheques can sometimes get lost in the post), you avoid the inconvenience of depositing a cheque and cheque fraud is reduced. If you have a UK bank account you can sign up for this service on the share portal at **www.signalshares.com** (by clicking on 'Manage your account' and then 'Payment preferences' and following the on-screen instructions), or by contacting Link. International payments service If you live outside the UK, Link has partnered with Deutsche Bank to provide you with a service that will convert your sterling dividends into your local currency at a competitive rate. You can choose to receive payment directly into your local bank account or, alternatively, you can be sent a currency draft. You can sign up for this service on the share portal at **www.signalshares.com** (by clicking on 'Manage your account' and then 'Payment preferences' and following the on-screen instructions), or by contacting Link. For further information contact Link by telephone on +44 (0)371 664 0300, or by email at **ips@linkgroup.co.uk**. Calls are charged at the standard geographic rate and will vary by provider. Calls outside the UK will be charged at the applicable international rate. Lines are open between 9am and 5.30pm, Monday to Friday excluding public holidays in England and Wales.

Company details

Multiple accounts on the shareholder register	If a shareholder receives two or more sets of AGM documents, this means that there is more than one account in their name on the shareholder register, perhaps because the name or the address appears on each account in a slightly different way. If you have multiple accounts and would like them to be combined, please contact Link.
Buying and selling shares	Link Asset Services provides a simple and competitively priced service to buy and sell shares. There is no need to pre-register and there are no complicated application forms to complete. For more information, visit **www.linksharedeal.com** or call +44 (0)371 664 0445. Calls are charged at the standard geographic rate and will vary by provider. Calls outside the UK will be charged at the applicable international rate. Lines are open between 8am and 4.30pm, Monday to Friday, excluding public holidays in England and Wales. This is not a recommendation to buy or sell shares and this service may not be suitable for all shareholders. The price of shares can go down as well as up and you are not guaranteed to get back the amount you originally invested. Terms, conditions and risks apply. Link Asset Services is a trading name of Link Market Services Trustees Limited, which is authorised and regulated by the Financial Conduct Authority. This service is only available to private shareholders resident in the European Economic Area, the Channel Islands or the Isle of Man.
Donate your shares to charity	If you have only a small number of shares which are uneconomical to sell, you may wish to consider donating them to charity, free of charge, through ShareGift (registered charity 1052686), a charity that specialises in the donation of small, unwanted shareholdings to good causes. You can find out more by visiting **www.sharegift.org** or by telephoning +44 (0)20 7930 3737.
Unsolicited telephone calls and mail	Shareholders in companies may receive unsolicited phone calls or correspondence concerning investment matters. If you are offered unsolicited investment advice, discounted shares, a premium price for shares you own, or free company or research reports, please check the company or person contacting you is properly authorised by the Financial Conduct Authority before getting involved. Further information about what you should do is available on our website in the 'Shareholder Centre' within the Investors section.

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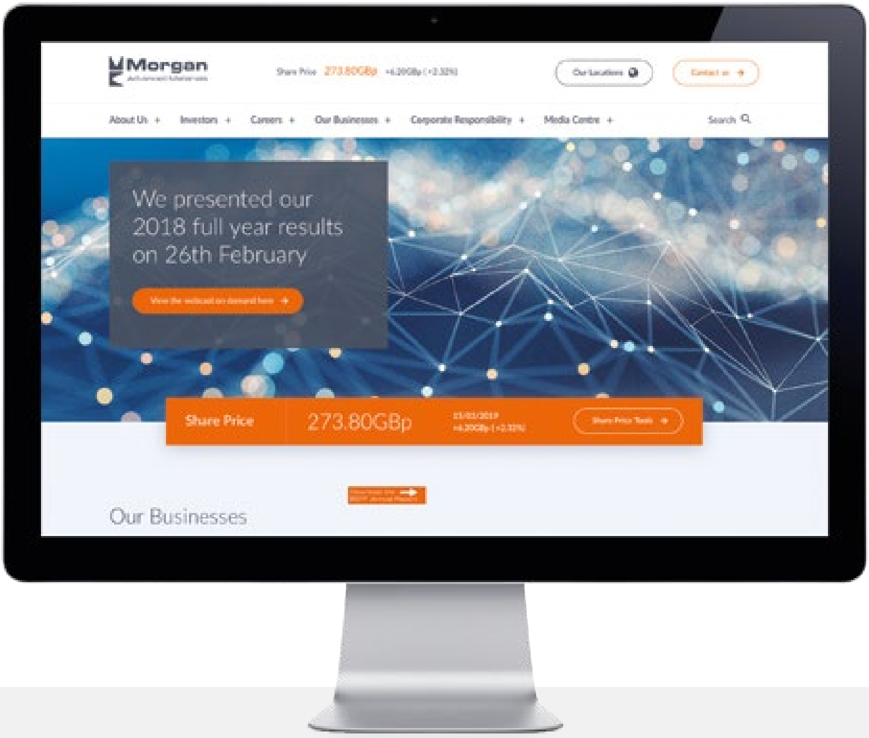

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This Annual Report is available at **www.morganadvancedmaterials.com**

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