RNS Number : 2808I
Morgan Advanced Materials PLC
04 August 2023

Half-year results for the period ended 30 June 2023

Encouraging progress; FY23 guidance unchanged

£ million unless otherwise stated	**1H 2023**	1H 2022	As reported change	Organic constant-currency[1] change
Adjusted results				
Revenue	**553.9**	530.2	4.5%	2.6%
Group adjusted operating profit[1]	**50.0**	72.5	(31.0)%	(31.4)%
Group adjusted operating profit margin[1]	**9.0%**	13.7%	-470bps	
Return on invested capital[1,2]	**18.7%**	21.9%	-320bps	
Adjusted EPS[1]	**9.9p**	15.9p	(37.7)%	
Free cash flow before acquisitions, disposals and dividends[1]	**(37.1)**	(1.0)	(36.1)	
Net debt (incl. lease liabilities)[1]	**257.7**	128.5	100.5%	
Statutory results				
Revenue	**553.9**	530.2		
Operating profit	**34.5**	70.2	(35.7)	
Profit before taxation	**28.4**	65.7	(37.3)	
Continuing EPS	**5.2p**	15.1p	(9.9)p	
Interim dividend per share	**5.3p**	5.3p	-%	

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20. 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.
2. The return on invested capital calculation has been simplified so that it can be calculated from published information and the prior period comparative has been restated. See details on page 19.

Group highlights

- Organic constant-currency* revenue growth of 2.6%, with 5.6% from our faster growing markets
- Financial performance for the first half of the year reflects short term impact of cyber incident in January, with subsequent recovery well progressed in line with management expectations
- Semiconductor expansion underway, further increasing exposure to faster growing markets over time
- Group adjusted operating profit* margin of 9.0%; pricing measures continue to more than offset inflation
- Cash generated from continued operations of £12.9 million; temporary working capital outflow of £45.2 million to be substantially recovered by year end
- Strong balance sheet with net debt*/EBITDA (excl. leasing)* of 1.3 times
- Interim dividend maintained at 5.3p
- Absolute CO_2e emissions (from scope 1 and 2) reduced by 19% compared with 1H 2022
- Outlook for FY2023 adjusted operating profit* unchanged

Commenting on the results, Chief Executive Officer, Pete Raby said:

"We have delivered revenue growth in the first half in line with our expectations and continue to see the benefits of our leading differentiated positions in attractive growth markets. As previously announced, the cyber event we experienced at the start of the year has impacted sales, profitability and cash in the short term. Our recovery is well progressed and we have used this as an opportunity to accelerate investment in our IT infrastructure across the Group. I want to thank our employees for their hard work during a challenging period of recovery.

Outlook

Customer demand remains robust. We continue to see inflation across the business and have more than offset that through pricing measures. Whilst mindful of market conditions, our outlook for full-year revenue growth remains unchanged at 2-4%, with adjusted operating profit recovering in the second half, in line with our financial framework. Our targeted investment in capacity for our faster growing segments continues at pace, providing us with a solid foundation to continue to deliver in line with our strategy as we go into 2024.

Our overall outlook remains unchanged[1]."

1. Company-compiled summary of current analysts' forecasts for adjusted operating profit at half year 2023 is a range of £120.5 million to £131.0 million.

Cyber impact

We experienced a cyber attack on our networks on 8 January 2023. Our teams worked quickly to compartmentalise the network and shut down our systems to limit the damage. During the first half our recovery from this has progressed well. Our core ERP systems are online and remaining applications are being steadily recovered. We have accelerated our IT modernisation programme which includes changes to our network design, the deployment of additional security tooling, and acceleration of our Group ERP programme.

Our factories have operated throughout the disrupted first half. Our teams have worked closely with our customers to manage their deliveries and customer demand has remained robust during our recovery. Output improved steadily through the first half, as we expected.

Overall, we saw volume decline in the first quarter and volume growth in the second quarter as our factories recovered, leading to a net volume decline for the first half of around 5%. The volume decline, and inefficiencies from the cyber incident led to an operating profit impact of £23 million in the first half as we expected. Our expectation for specific adjusting items related to the incident for the year ending 31 December 2023 is unchanged at around £15 million.

Our purpose

Our purpose is to use advanced materials to make the world more sustainable and to improve the quality of life. This purpose guides our actions: it underpins our work to reduce our environmental impact, informs how we treat our people, and ensures we fulfil our responsibility for good corporate governance.

We deliver on our purpose through the products that we make and the way that we make them.

- We improve the quality of life by supporting 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 people's lives.
- Our products help keep people safe. We are proud to design fire protection in everything from cars to buildings, and ships to oil platforms.
- We design and manufacture our products to help customers save energy. Our thermal insulation enables high temperature industrial processes and makes them more energy efficient. Our ceramic cores enable more efficient engines. Our carbon insulation is integral to efficient and effective semiconductor manufacturing.
- We enable cleaner power 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 strategy

Our strategy builds on our strengths and focuses the Group on scalable businesses in attractive markets, and on the development of our three core capabilities in customer focus, application engineering and materials science. To continue the development of our core capabilities we have three execution priorities:

Big positive difference - making sure we govern our business the right way, looking after the environment, looking after our people and operating to high ethical standards. This priority supports our focus on living and breathing our commitments on inclusion, treating people fairly, reducing waste, managing our water consumption, and reducing emissions.

Delight the customer - following on from our foundational work on sales effectiveness, we are working to shape our product and service offerings further based on customer needs, with the overall objective of making our business more customer-centric. We are gathering customer feedback during the year through a range of channels and using that to understand our customer segments in more detail. This will enable us to align our product, service and support offerings more closely to customer needs.

Innovate to grow - many of our customers have an increasing need to reduce their energy consumption and CO_2e

emissions, these customers need our help. This priority supports our focus on working with the customer to innovate in traditional heavy industries whilst also contributing to greener technologies for the future.

We want to accelerate our growth, by winning in our core markets and increasing our exposure to four faster growing market segments: clean energy, clean transportation, semiconductors and healthcare.

We have been focusing our product development and business development efforts in these four markets over the last several years to develop new and differentiated products that solve complex problems for our customers.

- Clean energy - solutions for energy storage, brushes and slip rings for onshore wind applications and ceramic and carbon products used in solar panel manufacture.
- Clean transportation - our rail collector business for metro and main rail applications, water and vacuum pump components for electric vehicle applications, fire protection solutions for electric vehicles.
- Semiconductors - we supply carbon and ceramic consumables for key semiconductor process steps including crystal growth, deposition, lithography and etch.
- Healthcare - enabling medical imaging and supply of low temperature insulation for medicine and vaccine transport and storage.

Organic constant-currency* revenue growth in these segments was 5.6%, and they represented 21% of our revenue overall.

Our financial framework

During our Capital Markets Event in December 2022, we introduced our financial framework:

- Organic constant-currency* revenue growth of 3%-6% through the cycle
- Adjusted operating profit margin* of 12.5%-15%
- Return on invested capital* of 17%-20%
- Leverage (net debt*/EBITDA excl. leasing*) of 1.0-2.0 times

Our framework drives enhanced earnings growth and underpins our strategy. We expect to return to our target margin range in the second half.

Our environment, social and governance (ESG) priorities

In March 2021, we set stretching targets to improve our environmental, social and governance performance and become a more sustainable business. We take these commitments seriously and have plans in place to deliver against them in the coming years, making a step change in our performance.

Whilst some progress has been made, we recognise that there is more work to do, particularly around water sustainability, safety and employee engagement.

Protect the environment

- Our goal is to be a scope 1 and 2 CO_2e net zero business by 2050. Our 2030 target is to reduce our scope 1 and scope 2 CO_2e emissions by 50% (from a 2015 baseline).
- Our aspiration is to use water sustainably across our business. Our 2030 target is to reduce our overall water usage by 30% and reduce our water usage in high and extremely high stress areas by 30% (from a 2015 baseline).

Provide a safe, fair and inclusive workplace

- Our aspiration is to create an environment and culture with zero harm to our employees. Our 2030 target is a lost-time accident rate below 0.1 (lost-time accidents per 100,000 hours worked).
- Our aspiration is that our employee demographics reflect the communities that we operate in. Our 2030 target is for 40% female representation across the leadership population of our organisation.
- Our aspiration is to be a welcoming and inclusive organisation where our employees can grow and thrive. Our 2030 target is to attain a top quartile employee engagement score.

Our performance to date is as follows:

- Scope 1 & 2 CO_2e emissions. In the first half we have reduced our CO_2e emissions by 19% compared with 1H

2022 through a combination of volume reduction in the first quarter, switching to renewable or carbon free electricity and a range of energy reduction projects across the Group.

- Water usage in stressed areas. In the first half, overall water usage decreased by 8.4% whilst high stress water usage decreased by 14.2% compared with 1H 2022. We saw benefits from capital projects to enable water harvesting and improve recycling as well as benefit from the reduced volumes. We continue to review our manufacturing processes to reduce the amount of water they consume and to implement submetering capabilities to identify further efficiencies.

- Lost-time accident (LTA) rate. Our lost time accident rate in the first half was 0.28, compared with 0.29 for 1H 2022. Following completion of our Group-wide thinkSAFE programme last year, we continue to focus on plant-level activities including start of shift briefings, safety tours, near miss identification and reporting and 5S (Sort, Straighten, Shine, Standardise and Sustain). Safety is our top priority and continues to receive a high level of focus throughout the organisation.

- Diversity in our leadership population. At 30 June 2023, we have 29% females in our leadership population, which is unchanged from 29% as at 31 December 2022. Last year we established three employee resource groups for women, veterans and the LGBTQ+ communities. Training for hiring managers continues and we are standardising and modernising our parental leave policies, starting in the UK.

- We conducted an employee engagement survey in the fourth quarter of 2022 which was designed to direct our attention to the areas which are most important to our people. During the first half, we have been communicating our improvement plans to our employees as they are being developed. Progress has been slower than desired due to the necessary focus on cyber recovery; in the second half we will continue to seek feedback through employee resource groups and meetings across all levels of the organisation to ensure we meet expectations.

Our Group Environment, Health and Sustainability Director and Group HR Director coordinate our improvement projects. In addition, the Board reviews progress quarterly and takes an active role in holding the executive team to account on improving ESG performance.

Enquiries

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Results presentation today

There will be an analyst and investor presentation at 09:30 (UK time) today via web-conference.

A live audio webcast and slide presentation of this event will be available on www.morganadvancedmaterials.com
We recommend that you register by 09:15 (UK time).

Basis of preparation

Non-GAAP measures

Throughout this report adjusted measures are used to describe the Group's financial performance. These 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 they are presented as 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.

Throughout this report these non-GAAP measures are clearly identified by an asterisk (*) where they appear in text, and by a footnote when they appear in tables. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

All periods presented in these condensed consolidated financial statements are for continuing operations, with separate disclosure of discontinued operations where appropriate.

Operating review

	Revenue		**Adjusted operating profit**[1]		**Margin %**[1]	
	1H 2023 £m	1H 2022 £m	**1H 2023 £m**	1H 2022 £m	**1H 2023 %**	1H 2022 %
Thermal Ceramics	**205.2**	200.5	**14.0**	22.7	**6.8%**	11.3%
Molten Metal Systems	**26.1**	28.1	**1.9**	4.2	**7.3%**	14.9%
Electrical Carbon	**95.5**	91.3	**16.4**	18.9	**17.2%**	20.7%
Seals and Bearings	**72.8**	71.8	**5.9**	10.9	**8.1%**	15.2%
Technical Ceramics	**154.3**	138.5	**14.8**	18.8	**9.6%**	13.6%
Segment total[2]	**553.9**	530.2	**53.0**	75.5	**9.6%**	14.2%
Corporate costs			**(3.0)**	(3.0)		

Group adjusted operating profit[1]	**50.0**	72.5	**9.0%**	13.7%
Amortisation of intangible assets	**(2.1)**	(2.3)		
Operating profit before specific adjusting items	**47.9**	70.2	**8.6%**	13.2%
Specific adjusting items included in operating profit[2]	**(13.4)**	-		
Operating profit	**34.5**	70.2	**6.2%**	13.2%
Net financing costs	**(6.1)**	(4.5)		
Profit before taxation	**28.4**	65.7		

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

2. Details of specific adjusting items can be found in note 3 to the condensed consolidated financial statements.

Thermal Ceramics

Revenue for the Thermal Ceramics global business unit for the six months ended 30 June 2023 was £205.2 million, representing an increase of 2.3% compared with £200.5 million in 1H 2022. On an organic constant-currency* basis, year-on-year revenue increased by 2.1%, with growth from petrochemical and industrial market segments, partially offset by a decline in metals.

Operating profit for the six months ended 30 June 2023 was £11.4 million (1H 2022: £21.8 million) with an operating profit margin of 5.6% (1H 2022: 10.9%), with margin decline due to the volume reduction in the first quarter and inefficiencies from the cyber incident, whilst pricing measures continue to recover inflation. Adjusted operating profit* was £14.0 million (1H 2022: £22.7 million) with an adjusted operating profit margin* of 6.8% (1H 2022: 11.3%).

Electrical Carbon

Revenue for the Electrical Carbon global business unit for the six months ended 30 June 2023 was £95.5 million, representing an increase of 4.6% compared with £91.3 million in 1H 2022. On an organic constant-currency* basis, year-on-year revenue increased by 3.7%, with strong growth from semiconductors partially offset by decline in industrial markets.

Operating profit for the six months ended 30 June 2023 was £16.0 million (1H 2022: £18.6 million) with an operating profit margin of 16.8% (1H 2022: 20.4%), with margin decline from a fall in volumes and inefficiencies from the cyber incident, whilst pricing measures continue to recover inflation. Adjusted operating profit* was £16.4 million (1H 2022: £18.9 million) with an adjusted operating profit margin* of 17.2% (1H 2022: 20.7%).

Molten Metal Systems

Revenue for the Molten Metal Systems global business unit for the six months ended 30 June 2023 was £26.1 million, representing a decrease of (7.1)% compared with £28.1 million in 1H 2022. On an organic constant-currency* basis, year-on-year revenue decreased by (8.4)% with driven by weakness in metals markets and the impact of the cyber incident, partially offset by pricing.

Operating profit for the six months ended 30 June 2023 was £1.8 million (1H 2022: £4.1 million) with an operating profit margin of 6.9% (1H 2022: 14.6%), with the lower margin due to the drop through of volume reduction and inefficiencies from the cyber incident. Adjusted operating profit* was £1.9 million (1H 2022: £4.2 million) with an adjusted operating profit margin* of 7.3% (1H 2022: 14.9%).

Seals and Bearings

Revenue for the Seals and Bearings global business unit for the six months ended 30 June 2023 was £72.8 million, representing an increase of 1.4% compared with £71.8 million in 1H 2022, with the ceramic armour sales declining slightly to £11.4 million in the first half (1H 2022: £12.0 million). On an organic constant-currency* basis year-on-year revenue decreased by (1.6)%, with weakness in industrial markets and the impact of the cyber incident, partially offset by pricing.

Operating profit for the six months ended 30 June 2023 was £5.4 million (1H 2022: £10.5 million) with an operating profit margin of 7.4% (1H 2022: 14.6%), with the lower margin driven by the volume reduction and inefficiencies from the cyber incident. Adjusted operating profit* was £5.9 million (1H 2022: £10.9 million) with an adjusted operating profit margin* of 8.1% (1H 2022: 15.2%).

Technical Ceramics

Revenue for the Technical Ceramics global business unit for the six months ended 30 June 2023 was £154.3 million, an increase of 11.4% compared with £138.5 million in 1H 2022. On an organic constant-currency* basis, year-on-year revenue increased by 7.1%, with growth in our semiconductor industrial, defence and aerospace market segments.

Operating profit for the six months ended 30 June 2023 was £15.4 million (1H 2022: £18.2 million) with an operating profit margin of 10.0% (1H 2022: 13.1%), with margin reduction from inefficiencies resulting from the cyber incident. Adjusted operating profit* was £14.8 million (1H 2022: £18.8 million) with an adjusted operating profit margin* of 9.6% (1H 2022: 13.6%).

Group financial review

Group revenue for the six months ended 30 June 2023 was £553.9 million (1H 2022: £530.2 million), an increase of 4.5% on a reported basis compared with 1H 2022. On an organic constant-currency* basis revenue increased by 2.6%.

Group adjusted operating profit* for the six months ended 30 June 2023 was £50.0 million (1H 2022: £72.5 million). Adjusted operating profit margin* was 9.0%, compared with 13.7% for 1H 2022.

Specific adjusting items before tax for the six months ended 30 June 2023 totalled £13.4 million. See Note 3 of the condensed consolidated financial statements on page 32, for additional information. For the full year ending 31 December 2023, we expect to incur specific adjusting items of around £15 million in relation to the cyber incident.

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Operating profit for the six months ended 30 June 2023 was £34.5 million (1H 2022: £70.2 million) and profit before taxation was £28.4 million (1H 2022: £65.7 million), with higher IT costs in the first half as a result of the cyber incident.

The Group amortisation charge for the six months ended 30 June 2023 was £2.1 million (1H 2022: £2.3 million).

The net finance charge for the six months ended 30 June 2023 was £6.1 million (1H 2022: £4.5 million) comprising net bank interest and similar charges of £5.0 million (1H 2022: £2.7 million), net interest on IAS 19 pension obligations of £nil (1H 2022: £0.7 million), and interest expense on lease liabilities of £1.1 million (1H 2022: £1.1 million).

Looking forward to the full year, we anticipate that the net finance charge will be around £13-15 million, comprising net bank interest and similar charges of £10-12 million; net interest on IAS 19 pension obligations of £0.5 million; and interest expense on lease liabilities of £2.3 million.

The Group taxation charge for the six months ended 30 June 2023, excluding specific adjusting items, was £11.3 million (1H 2022: £17.7 million), tax on specific adjusting items was a credit of £2.2 million (1H 2022: £nil). The effective tax rate, excluding specific adjusting items, was 27.0% (1H 2022: 27.0%). Note 5 to the condensed consolidated financial statements provides additional information on the Group's tax charge. Looking forward to the full year, we anticipate an effective tax rate around 27.0%.

Adjusted earnings per share* for the six months ended 30 June 2023 was 9.9 pence (1H 2022: 15.9 pence) and basic profit per share from continuing operations was 5.2 pence (1H 2022: 15.1 pence). Details of these calculations can be found in note 7 to the condensed consolidated financial statements.

The Group's balance sheet and liquidity remains robust. Net debt* for the six months ended 30 June 2023 was £257.7 million, with net debt* excluding lease liabilities of £208.5 million. The Group has cash and cash equivalents of £137.5 million, with £39.8 million of its £230.0 million revolving credit facility drawn owing to short term intra group funding needs.

Our key financial covenants are measured on a pre-IFRS 16 *Leases* basis. As at 30 June 2023, net debt* to EBITDA*, excluding the impact of IFRS 16 *Leases*, was 1.3 times compared to a covenant not to exceed 3.0 times, and our interest cover excluding the impact of IFRS 16 Leases was 20.3 times, compared to a covenant to exceed 4.0 times.

Acquisitions, divestments and business exits

There were no acquisitions, divestments or business exits in the six months to 30 June 2023 or the six months to 30 June 2022.

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 an alternative understanding of the financial information and an indication of the underlying performance of the Group.

Details of the specific adjusting items arising during the comparative period are given in note 3 to the condensed consolidated financial statements.

	1H 2023 £m	1H 2022 £m
Specific adjusting items		
Cyber incident recovery costs and charges	**(12.0)**	-
Business closure and exit costs	**(1.8)**	
Restructuring credit	**0.4**	-
Total specific adjusting items before income tax	**(13.4)**	-
Income tax credit from specific adjusting items	**2.2**	-
Total specific adjusting items after income tax	**(11.2)**	-

2023

Cyber incident recovery costs and charges

As disclosed in the 2022 Annual Report, the Group experienced a cyber security incident in January 2023. £11.2 million was incurred during the six months to June 2023 relating to system recovery and specialist support costs and £0.8 million of leased and owned IT assets which were impacted by the incident were impaired.

Business closure and exit costs

In July 2023, the Board of our joint venture in Dalian, China made the decision to liquidate the entity as the joint venture agreement is due to expire in August 2023. A £1.8 million charge associated with the liquidation costs has been recognised, mainly in relation to severance costs, costs of dismantling equipment and advisor fees.

Restructuring credit

The Group recognised a £0.4 million credit relating mainly to the partial release of a provision following final settlement of the US multi-employer pension plan for our Technical Ceramics, Ceramics Cores site which was closed in 2021.

2022

There were no specific adjusting items in the six months to 30 June 2022.

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

	1H 2023		1H 2022	
GBP to:	**Closing rate**	**Average rate**	Closing rate	Average rate
US dollar	**1.27**	**1.23**	1.22	1.30
Euro	**1.16**	**1.14**	1.16	1.19

For illustrative purposes, the table below provides details of the impact on 1H 2023 revenue and adjusted operating profit* if the actual reported results, calculated using 1H 2023 average exchange rates were restated for GBP weakening by 10 cents against US dollar in isolation and 10 cents against the Euro in isolation:

Increase in 2023 revenue/adjusted operating profit[1] if:	**Revenue £m**	**Adjusted operating profit[1] £m**
GBP weakens by 10c against the US dollar in isolation	20.6	1.5
GBP weakens by 10c against the Euro in isolation	11.3	1.5

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

Cash flow

	1H 2023 £m	1H 2022 £m
Cash generated from continuing operations	**12.9**	45.2
Net capital expenditure	**(24.0)**	(22.5)
Net interest on cash and borrowings	**(4.5)**	(2.7)
Tax paid	**(15.8)**	(15.3)
Lease payments and interest	**(5.7)**	(5.7)
Free cash flow before acquisitions, disposals and dividends[1]	**(37.1)**	(1.0)
Dividends paid to external plc shareholders	**(19.1)**	(16.5)
Net cash flows from other investing and financing activities	**(2.4)**	(2.6)
Exchange movement and other non-cash movements	**(1.4)**	(9.5)
Opening net debt[1] excluding lease liabilities	**(148.5)**	(46.7)
Closing net debt[1] excluding lease liabilities	**(208.5)**	(76.3)
Closing lease liabilities	**(49.2)**	(52.2)
Closing net debt[1]	**(257.7)**	(128.5)

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

Cash generated from continuing operations for the six months ended 30 June 2023 was £12.9 million (1H 2022: £45.2 million). Working capital increased by £45.2 million as a result of an increase in receivables of £34.3 million and other working capital of £10.9 million. The increase in working capital reflects temporary growth in receivables which arose as a result of the cyber incident and an increase in safety stocks held to protect against production delays. This will reverse by the year end.

Free cash flow before acquisitions, disposals and dividends* was £(37.1) million (1H 2022: £(1.0) million).

Net debt* for the six months ended 30 June 2023 was £257.7 million (1H 2022: £128.5 million), representing a net debt* to EBITDA* ratio of 1.5 times (1H 2022: 0.7 times).

Net debt* for the six months ended 30 June 2023 excluding lease liabilities was £208.5 million (1H 2022: £76.3 million), representing a net debt* to EBITDA* ratio excluding the impact of IFRS 16 *Leases* of 1.3 times (1H 2022: 0.5 times).

Further information on the Group's net debt* is provided in note 10 to the condensed consolidated financial statements.

Defined benefit pension plans

The Group pension deficit for the six months ended 30 June 2023 has increased by £3.6 million since 31 December 2022 to £19.2 million on an IAS 19 (revised) basis, with UK discount rates increasing as a result of an increase in corporate bond yields, whilst the US, Eurozone and the Rest of World discount rates have remained stable:

- The UK schemes surplus decreased by £6.2 million to £19.0 million (FY 2022: surplus £25.2 million; 1H 2022: deficit £30.4 million), (discount rate 1H 2023: 5.26%; FY 2022: 4.81%; 1H 2022: 3.86%).
- The US schemes deficit decreased by £2.3 million to £6.9 million (FY 2022: £9.2 million; 1H 2022: £8.2 million), (discount rate 1H 2023: 4.93%; FY 2022: 4.99%; 1H 2022: 4.52%).
- The European schemes deficit decreased by £0.6 million to £27.3 million (FY 2022: £27.9 million; 1H 2022: £29.8 million), (discount rate 1H 2023: 3.70%; FY 2022: 3.70%; 1H 2022: 3.00%).
- The Rest of World schemes deficit increased by £0.3 million to £4.0 million (FY 2022: £3.7 million; 1H 2022: £5.1 million), (discount rate 1H 2023: 5.30%; FY 2022: 5.30%; 1H 2022: 2.90%).

Note 12 to the condensed consolidated financial statements provides additional information on the Group's pension plans.

The most recent full actuarial valuations of the UK Schemes were undertaken as at 31 March 2022 and resulted in combined assessed deficits of £49.7 million on the 'Technical Provisions' basis. The Company subsequently agreed with the Trustees to make a lump sum contribution to the Schemes of £67.0 million on 29 December 2022 in lieu of the remaining contributions that would otherwise have been due under the existing recovery plans from the 31 March 2019 valuations. The sum paid also represented the value of the deficit on the more prudent 'Long Term Objective' basis. As a result, no further contributions to the UK Schemes are expected to be required pending the results of the next full valuations as at 31 March 2025.

Interim dividend

The Board has resolved to pay an interim dividend of 5.3 pence per Ordinary share. The interim dividend will be paid on 17 November 2023 to Ordinary shareholders on the register of members at the close of trading on 27 October 2023. The ex-dividend date will be 26 October 2023. This compares to an interim dividend paid in the fourth quarter of 2022 of 5.3 pence per Ordinary share.

Principal risks and uncertainties

The Group has an established risk management methodology, which seeks to identify, prioritise and mitigate risks, underpinned by a 'three lines of defence' model comprising of 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 creating long-term sustainable shareholder value.

The current principal risks, 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, are set out in the 2022 Annual Report and Accounts, which are available on the Group's website at www.morganadvancedmaterials.com

The following are the Group's principal risks and uncertainties:

- **Technical leadership**
  The Group's strategic success depends on maintaining and developing its technical leadership in materials science over its competitors. Unforeseen or unmitigated technology obsolescence, the emergence of competing technologies, the loss of control of proprietary technology or the loss of intellectual property/ know-how or inability to recruit, retain and develop the right people would negatively impact the Group's ability to achieve its strategic goals.

- **Operational execution/organisational change**
  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 and to the Group's structure. Further improvements and changes are planned for future years. Failure to manage these changes adequately could result in interruption to operations or customer service, or a failure to maximise the Group's opportunities.

- **Portfolio management**
  Failure to manage the Group's portfolio of businesses proactively and 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.

- **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 resource price shocks.

- **Environment, health and safety**
  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.

- **Pandemic**
  The overall risk severity has been increased based on assessing a potentially higher impact of a future pandemic. Communicable disease impacts ways of working, the supply chain and the ability of employees to travel to work in affected areas. The Company's priority is to take all actions and precautions necessary to ensure the safety and wellbeing of our employees.

- **Climate Change**
  Global climate change poses short-term and longer-term challenges for our business. The expected changes are far-reaching and difficult to reverse.

- **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.

- **IT & cyber security**
  The global regulatory compliance landscape, including export regulations, continues to mature and add complexity to how we process, store and share internal and external data on a global level within the Group, failure adds significant risk to the GBUs and the Company. Key business system failure might impact the ability of the business to deliver on its strategic goals. Following the cyber incident experienced in January 2023, the Group's security and monitoring programme has been expedited.

- **Supply chain and business continuity**
  The Group has a number of potential single-point exposure risks. These include:
  Single-point supplier: a significant interruption of internal or external key supply could impact business continuity.
  Single-point site: a key site exposed to a strike, a natural catastrophe or a serious incident, such as fire, could impact business continuity.

- **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

Group's cash.

- **Pension funding**
  The Group sponsors several defined benefit pension arrangements, whose liabilities are subject to fluctuating interest rates, investment values and inflation. This coupled with the increased longevity of members and a tougher regulatory funding regime can result in increased funding burdens on the Group in the future.

- **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.

- **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.

- **Compliance**
  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.

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 2022 Annual Report and Accounts on pages 2 to 47. The financial position of the Group, its cash flows, liquidity position and borrowing facilities, are described earlier in this Financial Review. In addition, note 11 to the condensed consolidated financial statements for the six months ended 30 June 2023 provides details of 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 £230.0 million unsecured multi-currency revolving credit facility, which matures in November 2027. As at 30 June 2023 the Group had both significant available liquidity and headroom on its covenants. Total committed borrowing facilities were £529.3 million, representing an increase of £111.0 million from 31 December 2022 following the issue of three US Private Placements and a Schuldschein in H1 2023. The amount drawn under these facilities was £339.1 million, which together with net cash and cash equivalents of £130.3 million, gave total headroom of £320.5 million. The multi-currency revolving credit facility was £39.8 million drawn. Total committed borrowing facilities are expected to decrease to £496.0 million by the end of the year due to the maturity of £33.4 million of senior notes in October 2023.

The principal borrowing facilities are subject to covenants that are measured semi-annually in June and December, being net debt* to EBITDA*, excluding the impact of IFRS 16 *Leases*, of a maximum of 3 times and interest cover of a minimum of 4 times, based on measures defined in the facilities agreements which are adjusted from the equivalent IFRS amounts.

The Group has carefully modelled its cash flow outlook, taking account of reasonably possible changes in trading performance, exchange rates and plausible downside scenarios, including the impact of cyber security incident on 2023 cashflows. This review indicated that there was sufficient headroom and liquidity for the business to continue for the 18-month period based on the facilities available. The Group was also expected to be in compliance with the required covenants discussed above.

The Board has also reviewed the Group's reverse stress testing performed to demonstrate how much headroom is available on covenant levels in respect of changes in net debt*, EBITDA*, and underlying revenue*. Based on this assessment, a combined reduction in EBITDA* of 37% and an increase in net debt* of 40% would still allow the Group to operate within its financial covenants. The Directors do not consider either of these scenarios to be plausible given the diversity of the Group's end markets and its broad manufacturing base.

The Board and Executive Committee have regular reporting and review processes in place in order to closely monitor the ongoing operational and financial performance of the Group. As part of the ongoing risk management process, principal and emerging risks are identified and reviewed on a regular basis. In addition, the Directors have assessed the risk of climate change and do not consider that it will impact the Group's ability to operate as a going concern for the period under consideration.

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 this half-yearly report. Accordingly, they continue to adopt the going concern basis in preparing the condensed consolidated financial statements for the six months ended 30 June 2023.

Directors' Responsibility Statement

The Directors confirm that to the best of their knowledge:

- The condensed consolidated financial statements have been prepared in accordance with UK-adopted IAS 34 *Interim Financial Reporting;*

- The interim management report for the six-month period ended 30 June 2023 includes a fair review of the information required by DTR 4.2.7R (indication of important events and their impact during the first six months of the financial year and a description of the principal risks and uncertainties for the remaining six months of the year); and

- The interim management report for the six-month period ended 30 June 2023 includes a fair review of the information required by DTR 4.2.8R (disclosure of related parties' transactions and changes therein).

Information about the current Directors of Morgan Advanced Materials plc responsible for providing this Statement is maintained on the Company's website at www.morganadvancedmaterials.com

By order of the Board

Pete Raby
Chief Executive Officer

Richard Armitage
Chief Financial Officer

3 August 2023

Definitions and reconciliations of non-GAAP to GAAP measures

Reference is made to the following non-GAAP measures throughout this document. 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. As defined in the basis of preparation on page 6, these measures are calculated on a continuing basis.

Adjusted operating profit

Adjusted 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.

	Thermal Ceramics	Molten Metal Systems	Electrical Carbon	Seals and Bearings	Technical Ceramics	**Segment total[1]**	Corporate costs[2]	**Group**
1H 2023	£m	£m	£m	£m	£m	**£m**	£m	**£m**
Operating profit	11.4	1.8	16.0	5.4	15.4	50.0	(15.5)	34.5
Add back specific adjusting items included in operating profit	1.8	-	0.1	0.1	(1.1)	0.9	12.5	13.4
Add back amortisation of intangible assets	0.8	0.1	0.3	0.4	0.5	2.1	-	2.1
Group and segmental adjusted operating profit/(loss)	14.0	1.9	16.4	5.9	14.8	53.0	(3.0)	50.0

1. Corporate costs consist of central head office costs.

	Thermal Ceramics	Molten Metal Systems	Electrical Carbon	Seals and Bearings	Technical Ceramics	**Segment total[1]**	Corporate costs[2]	**Group**
1H 2022	£m	£m	£m	£m	£m	**£m**	£m	**£m**
Operating profit	21.8	4.1	18.6	10.5	18.2	**73.2**	(3.0)	**70.2**
Add back specific adjusting items included in operating profit	-	-	-	-	-	**-**	-	**-**
Add back amortisation of intangible assets	0.9	0.1	0.3	0.4	0.6	**2.3**	-	**2.3**
Group and segmental adjusted operating profit/(loss)	22.7	4.2	18.9	10.9	18.8	**75.5**	(3.0)	**72.5**

1. Corporate costs consist of central head office costs.

Organic growth

Organic growth is the growth of the business excluding the impacts of acquisitions, divestments and foreign currency impacts. This measure is used as it allows revenue and adjusted operating profit to be compared on a like-for-like basis.

Commentary on the underlying business performance is included as part of the operating review on pages 6 to 11.

Year-on-year movements in segment revenue

	Thermal Ceramics	Molten Metal Systems	Electrical Carbon	Seals and Bearings	Technical Ceramics	**Segment total[1]**
	£m	£m	£m	£m	£m	**£m**
1H 2022	200.5	28.1	91.3	71.8	138.5	**530.2**
Impact of foreign currency movements	0.5	0.4	0.8	2.2	5.6	**9.5**
Impacts of acquisitions, disposals and business exits	-	-	-	-	-	**-**
Organic constant-currency change	4.2	(2.4)	3.4	(1.2)	10.2	**14.2**
Organic constant-currency change %	2.1%	(8.4%)	3.7%	(1.6%)	7.1%	**2.6%**
1H 2023	205.2	26.1	95.5	72.8	154.3	**553.9**

Year-on-year movements in segment and Group adjusted operating profit

	Thermal Ceramics	Molten Metal Systems	Electrical Carbon	Seals and Bearings	Technical Ceramics	**Segment total[1]**	Corporate costs[2]	**Group**
	£m	£m	£m	£m	£m	**£m**	£m	**£m**
1H 2022	22.7	4.2	18.9	10.9	18.8	**75.5**	(3.0)	**72.5**
Impact of foreign currency movements	(1.0)	0.1	0.1	0.3	0.9	**0.4**	-	**0.4**
Impact of acquisitions, disposals and business exits	-	-	-	-	-	**-**	-	**-**
Organic constant-currency change	(7.7)	(2.4)	(2.6)	(5.3)	(4.9)	**(22.9)**	-	**(22.9)**
Organic constant-currency change %	(35.5%)	(55.8%)	(13.7%)	(47.3%)	(24.9%)	**(30.3%)**	-	**(31.4%)**
1H 2023	14.0	1.9	16.4	5.9	14.8	**53.0**	(3.0)	**50.0**

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, depreciation and amortisation of intangible assets. The Group uses this measure as it is a key metric in covenants over debt facilities, these covenants use EBITDA on a pre-IFRS 16 *Leases* basis. A reconciliation of operating profit to Group EBITDA is as follows:

	1H 2023 £m	1H 2022 £m
Operating profit	**34.5**	70.2
Add back specific adjusting items included in operating profit	**13.4**	-
Add back depreciation - property, plant and equipment	**15.7**	14.4
Add back depreciation - right-of-use assets	**3.8**	3.9
Add back amortisation of intangible assets	**2.1**	2.3
Group EBITDA	**69.5**	90.8
Group EBITDA excluding IFRS 16 *Leases* impact	**63.8**	85.1

Free cash flow before acquisitions, disposals and dividends

Free cash flow before acquisitions, disposals and dividends is defined as cash generated from continuing operations less net capital expenditure, net interest (interest paid on borrowings, overdrafts and lease liabilities, net of interest received), tax paid and lease payments.

The Group discloses this measure of free cash flow as this provides readers of the condensed consolidated financial statements with a measure of the cash flows from the business before corporate level cash flows (acquisitions, disposals and dividends).

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

	1H 2023 £m	1H 2022 £m
Cash generated from continuing operations	12.9	45.2
Net capital expenditure	(24.0)	(22.5)
Net interest on cash and borrowings	(4.5)	(2.7)

Tax paid	(15.8)	(15.3)
Lease payments and interest	(5.7)	(5.7)
Free cash flow before acquisitions, disposals and dividends	**(37.1)**	(1.0)

Net cash and cash equivalents

Net cash and cash equivalents is defined as cash and cash equivalents less bank overdrafts. The Group also discloses this measure as it provides an indication of the net short-term liquidity available to the Group.

	1H 2023 £m	1H 2022 £m
Cash and cash equivalents	137.5	121.6
Bank overdrafts	(7.2)	(1.1)
Net cash and cash equivalents	**130.3**	120.5

Net debt

Net debt is defined as borrowings, bank overdrafts and lease liabilities, less cash and cash equivalents. The Group also discloses this metric excluding lease liabilities as this is the measure used in the covenants over the Group's debt facilities.

	1H 2023 £m	1H 2022 £m
Cash and cash equivalents	**137.5**	121.6
Non-current borrowings	**(305.9)**	(187.1)
Non-current lease liabilities	**(38.0)**	(42.2)
Current borrowings and bank overdrafts	**(40.1)**	(10.8)
Current lease liabilities	**(11.2)**	(10.0)
Closing net debt	**(257.7)**	(128.5)
Closing net debt excluding IFRS 16 *Leases* liabilities	**(208.5)**	(76.3)

Return on invested capital

Return on invested capital (ROIC) is defined as Group adjusted operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the year-on-year average adjusted net assets (excludes long-term employee benefits, deferred tax assets and liabilities, current tax receivable and payable, non-current other receivables, non-trade payables, provisions, cash and cash equivalents, borrowings, bank overdrafts, derivative financial assets and liabilities, and lease liabilities).

	1H 2023 £m	1H 2022[1] £m
Operating profit before specific adjusting items	**124.0**	132.2
Add back amortisation of intangible assets	**4.5**	5.7
Group adjusted operating profit	**128.5**	137.9
Average adjusted net assets:		
Third-party working capital	**197.5**	151.4
Property, Plant and equipment	**271.7**	259.5
Goodwill	**179.3**	176.4
Right-of-use assets	**32.5**	33.2
Intangible assets	**6.8**	10.5
Average adjusted net assets	**687.8**	631.0
ROIC	**18.7%**	21.9%
ROIC excluding IFRS 16 *Leases* impact	**19.6%**	23.1%

1. The return on invested capital calculation has been simplified so that it can be calculated from published information; the prior period comparative has also been restated. Under the previous methodology (which used 12-month adjusted operating profit and 12-month average adjusted net assets), ROIC as at 30 June 2023 was 18.1% (30 June 2022: 22.8%).

Adjusted earnings per share

Adjusted 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 an indication of adjusted performance which is less impacted by adjusting items and therefore reflects the underlying performance trends in the business.

A reconciliation from IFRS profit to the profit used to calculate adjusted earnings per share is included in note 7 to the condensed consolidated financial statements.

Constant-currency revenue and adjusted operating profit

Constant-currency revenue and adjusted 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 10 provides further information on the principal foreign currency exchange rates used in the translation of the Group's results to constant-currency at average exchange rates.

Condensed Consolidated Financial Statements
for the six months ended 30 June 2023

Condensed consolidated income statement

		Six months ended 30 June 2023			Six months ended 30 June 2022			Year ended 31 December 2022		
		Results before specific adjusting items	**Specific adjusting items[1]**	**Total**	Results before specific adjusting items	Specific adjusting items[1]	Total	Results before specific adjusting items	Specific adjusting items[1]	Total
	Note	**£m**	**£m**	**£m**	£m	£m	£m	£m	£m	£m
Revenue	2	**553.9**	**-**	**553.9**	530.2	-	530.2	1,112.1	-	1,112.1
Operating costs before amortisation of intangible assets		**(503.9)**	**(13.4)**	**(517.3)**	(457.7)	-	(457.7)	(961.1)	(5.5)	(966.6)
Profit from operations before amortisation of intangible assets	2	**50.0**	**(13.4)**	**36.6**	72.5	-	72.5	151.0	(5.5)	145.5
Amortisation of intangible assets		**(2.1)**	**-**	**(2.1)**	(2.3)	-	(2.3)	(4.7)	-	(4.7)
Operating profit	2	**47.9**	**(13.4)**	**34.5**	70.2	-	70.2	146.3	(5.5)	140.8
Finance income		**2.2**	**-**	**2.2**	0.4	-	0.4	1.6	-	1.6
Finance expense		**(8.3)**	**-**	**(8.3)**	(4.9)	-	(4.9)	(10.8)	-	(10.8)
Net financing costs	4	**(6.1)**	**-**	**(6.1)**	(4.5)	-	(4.5)	(9.2)	-	(9.2)
Profit before taxation		**41.8**	**(13.4)**	**28.4**	65.7	-	65.7	137.1	(5.5)	131.6
Income tax expense	5	**(11.3)**	**2.2**	**(9.1)**	(17.7)	-	(17.7)	(37.1)	1.1	(36.0)
Profit from continuing operations		**30.5**	**(11.2)**	**19.3**	48.0	-	48.0	100.0	(4.4)	95.6
Profit from discontinued operations	6	**-**	**-**	**-**	-	-	-	-	1.1	1.1
Profit for the period		**30.5**	**(11.2)**	**19.3**	48.0	-	48.0	100.0	(3.3)	96.7
Profit for the period attributable to:										
Shareholders of the Company		**26.0**	**(11.2)**	**14.8**	42.9	-	42.9	91.3	(3.3)	88.0
Non-controlling interests		**4.5**	**-**	**4.5**	5.1	-	5.1	8.7	-	8.7
Profit for the period		**30.5**	**(11.2)**	**19.3**	48.0	-	48.0	100.0	(3.3)	96.7
Earnings per share	7									
Continuing and discontinued operations										
Basic earnings per share				**5.2p**			15.1p			31.0p
Diluted earnings per share				**5.2p**			15.0p			30.7p
Continuing operations										
Basic earnings per share				**5.2p**			15.1p			30.6p
Diluted earnings per share				**5.2p**			15.0p			30.3p
Dividends[2]										
Proposed interim dividend - pence				**5.30p**			5.30p			5.30p
- £m				**15.1**			15.1			15.1
Final dividend - pence										6.70p
- £m										19.1

1. Details of specific adjusting items are given in note 3 to the condensed consolidated financial statements.
2. The proposed interim and approved final dividends are based upon the number of shares outstanding at the balance sheet date.

Condensed Consolidated Financial Statements (continued)
for the six months ended 30 June 2023

Condensed consolidated statement of comprehensive income

	At 30 June 2023	At 30 June 2022	At 31 December 2022
	£m	£m	£m
Profit for the period	**19.3**	48.0	96.7
Other comprehensive income/(expense):			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement (loss)/gain on defined benefit plans	**(5.0)**	23.3	5.5
Tax effect of components of other comprehensive income not reclassified	**(0.4)**	(3.1)	(3.4)

Tax effect of components of other comprehensive income not reclassified	[illegible]	[illegible]	[illegible]
	(5.4)	20.2	2.1
Items that may be reclassified subsequently to profit or loss:			
Foreign exchange translation differences	**(27.5)**	21.6	17.5
Net investment hedges:			
Change in fair value	**(0.3)**	-	-
Cash flow hedges:			
Change in fair value	**0.5**	(0.9)	(0.2)
Transferred to profit or loss	**(0.1)**	-	0.1
	(27.4)	20.7	17.4
Total other comprehensive income	**(32.8)**	40.9	19.5
Total comprehensive income	**(13.5)**	88.9	116.2
Attributable to:			
Shareholders of the Company	**(14.3)**	82.3	106.7
Non-controlling interests	**0.8**	6.6	9.5
	(13.5)	88.9	116.2
Total comprehensive income attributable to shareholders of the Company arising from:			
Continuing operations	**(14.3)**	82.3	105.6
Discontinued operations	**-**	-	1.1
	(14.3)	82.3	106.7

Condensed consolidated balance sheet

	Note	**At 30 June 2023 £m**	At 30 June 2022 £m	At 31 December 2022 £m
Assets				
Property, plant and equipment	8	**275.6**	268.1	283.2
Right-of-use assets		**31.7**	33.2	33.6
Intangible assets: goodwill	9	**177.3**	181.2	181.9
Intangible assets: other	9	**4.6**	8.9	7.1
Other receivables		**3.0**	4.5	3.2
Deferred tax assets		**14.5**	14.9	15.3
Total non-current assets		**506.7**	510.8	524.3
Inventories		**181.4**	169.0	174.2
Derivative financial assets	11	**0.8**	0.4	1.3
Trade and other receivables		**227.7**	195.2	202.5
Current tax receivable		**0.5**	0.6	0.3
Cash and cash equivalents	10	**137.5**	121.6	117.7
Total current assets		**547.9**	486.8	496.0
Total assets		**1,054.6**	997.6	1,020.3
Liabilities				
Borrowings	10	**305.9**	187.1	230.1
Lease liabilities		**38.0**	42.2	41.4
Employee benefits: pensions	12	**19.2**	73.5	15.6
Provisions	13	**9.5**	17.4	16.1
Non-trade payables		**1.8**	2.3	2.1
Deferred tax liabilities		**2.8**	1.1	2.0
Total non-current liabilities		**377.2**	323.6	307.3
Borrowings and bank overdrafts	10	**40.1**	10.8	36.1
Lease liabilities		**11.2**	10.0	10.5
Trade and other payables		**192.2**	186.2	195.0
Current tax payable		**22.2**	29.6	30.3
Provisions	13	**13.7**	13.0	9.9
Derivative financial liabilities	11	**0.6**	1.7	1.6
Total current liabilities		**280.0**	251.3	283.4
Total liabilities		**657.2**	574.9	590.7
Total net assets		**397.4**	422.7	429.6
Equity				
Share capital		**71.3**	71.3	71.3
Share premium		**111.7**	111.7	111.7
Reserves		**11.4**	37.7	35.1
Retained earnings		**163.2**	157.9	170.9
Total equity attributable to shareholders of the Company		**357.6**	378.6	389.0
Non-controlling interests		**39.8**	44.1	40.6
Total equity		**397.4**	422.7	429.6

Condensed consolidated statement of changes in equity

	Share capital	Share premium	Translation reserve	Hedging reserve	Fair value reserve	Capital redemption reserve	Other reserves	Retained earnings	Total parent equity	Non-controlling interests	Total equity
	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
At 1 January 2022	71.3	111.7	(16.7)	(0.1)	(1.0)	35.7	0.6	109.1	**310.6**	39.0	**349.6**
Profit for the period	-	-	-	-	-	-	-	42.9	**42.9**	5.1	**48.0**
Other comprehensive income/(expense):											
Remeasurement gain on defined benefit plans and related taxes	-	-	-	-	-	-	-	20.2	**20.2**	-	**20.2**
Foreign exchange differences	-	-	20.1	-	-	-	-	-	**20.1**	1.5	**21.6**
Cash flow hedging fair value changes and transfers	-	-	-	(0.9)	-	-	-	-	**(0.9)**	-	**(0.9)**
Total comprehensive income/(expense)	-	-	20.1	(0.9)	-	-	-	63.1	**82.3**	6.6	**88.9**
Transactions with owners:											
Dividends	-	-	-	-	-	-	-	(16.5)	**(16.5)**	(1.5)	**(18.0)**
Equity-settled share-based payments	-	-	-	-	-	-	-	3.0	**3.0**	-	**3.0**
Own shares acquired for share incentive schemes (net)	-	-	-	-	-	-	-	(0.8)	**(0.8)**	-	**(0.8)**
At 30 June 2022	**71.3**	**111.7**	**3.4**	**(1.0)**	**(1.0)**	**35.7**	**0.6**	**157.9**	**378.6**	**44.1**	**422.7**
At 1 January 2022	71.3	111.7	(16.7)	(0.1)	(1.0)	35.7	0.6	109.1	**310.6**	39.0	**349.6**
Profit for the year	-	-	-	-	-	-	-	88.0	**88.0**	8.7	**96.7**
Other comprehensive income/(expense):											
Remeasurement gain on defined benefit plans and related taxes	-	-	-	-	-	-	-	2.1	**2.1**	-	**2.1**
Foreign exchange differences	-	-	16.7	-	-	-	-	-	**16.7**	0.8	**17.5**
Cash flow hedging fair value changes and transfers	-	-	-	(0.1)	-	-	-	-	**(0.1)**	-	**(0.1)**
Total comprehensive income/(expense)	-	-	16.7	(0.1)	-	-	-	90.1	**106.7**	9.5	**116.2**
Transactions with owners:											
Dividends	-	-	-	-	-	-	-	(31.6)	**(31.6)**	(7.9)	**(39.5)**
Equity settled share-based payments	-	-	-	-	-	-	-	5.7	**5.7**	-	**5.7**
Own shares acquired for share incentive schemes (net)	-	-	-	-	-	-	-	(2.4)	**(2.4)**	-	**(2.4)**
At 31 December 2022	**71.3**	**111.7**	**-**	**(0.2)**	**(1.0)**	**35.7**	**0.6**	**170.9**	**389.0**	**40.6**	**429.6**
At 1 January 2023	71.3	111.7	-	(0.2)	(1.0)	35.7	0.6	170.9	**389.0**	40.6	**429.6**
Profit for the period	-	-	-	-	-	-	-	14.8	**14.8**	4.5	**19.3**
Other comprehensive income/(expense):											
Remeasurement loss on defined benefit plans and related taxes	-	-	-	-	-	-	-	(5.4)	**(5.4)**	-	**(5.4)**
Foreign exchange differences	-	-	(23.8)	-	-	-	-	-	**(23.8)**	(3.7)	**(27.5)**
Net investment hedging fair value changes and transfers	-	-	-	(0.3)	-	-	-	-	**(0.3)**	-	**(0.3)**
Cash flow hedging fair value changes and transfers	-	-	-	0.4	-	-	-	-	**0.4**	-	**0.4**
Total comprehensive income/(expense)	-	-	(23.8)	0.1	-	-	-	9.4	**(14.3)**	0.8	**(13.5)**
Transactions with owners:											
Dividends	-	-	-	-	-	-	-	(19.1)	**(19.1)**	(1.6)	**(20.7)**
Equity-settled share-based payments	-	-	-	-	-	-	-	2.6	**2.6**	-	**2.6**
Own shares acquired for share incentive schemes (net)	-	-	-	-	-	-	-	(0.6)	**(0.6)**	-	**(0.6)**
At 30 June 2023	**71.3**	**111.7**	**(23.8)**	**(0.1)**	**(1.0)**	**35.7**	**0.6**	**163.2**	**357.6**	**39.8**	**397.4**

Condensed consolidated statement of cash flows

	Note	**Six months ended 30 June 2023**	Six months ended 30 June 2022	Year ended 31 December 2022
		£m	£m	£m
Operating activities				
Profit for the period from continuing operations		**19.3**	48.0	95.6
Profit for the period from discontinued operations	6	**-**	-	1.1
Adjustments for:				
Depreciation - property, plant and equipment	2,8	**15.7**	14.4	30.3
Depreciation - right-of-use assets	2	**3.8**	3.9	7.8
Amortisation	2,9	**2.1**	2.3	4.7
Net financing costs	4	**6.1**	4.5	9.2
Profit on disposal of business	3,6	**-**	-	(0.4)
Non-cash specific adjusting items included in operating profit	3,6	**0.8**	-	6.6

Profit on sale of property, plant and equipment		**-**	(0.2)	(0.3)
Income tax expense	5	**9.1**	17.7	36.0
Equity-settled share-based payment expenses		**2.6**	2.3	5.1
Cash generated from operations before changes in working capital and provisions		**59.5**	92.9	195.7
Increase in trade and other receivables		**(34.3)**	(23.4)	(26.5)
Increase in inventories		**(17.2)**	(18.8)	(25.2)
Increase in trade and other payables		**6.3**	3.5	7.0
Decrease in provisions		**(1.6)**	(0.7)	(4.9)
Payments to defined benefit pension plans (net of IAS 19 pension charges)		**0.2**	(8.3)	(85.9)
Cash generated from operations		**12.9**	45.2	60.2
Interest paid - borrowings and overdrafts		**(6.7)**	(3.1)	(7.0)
Interest paid - lease liabilities		**(1.1)**	(1.1)	(2.4)
Income tax paid		**(15.8)**	(15.3)	(31.8)
Net cash from operating activities		**(10.7)**	25.7	19.0
Investing activities				
Purchase of property, plant and equipment and software		**(24.0)**	(22.9)	(58.0)
Purchase of investments		**(0.2)**	(0.3)	-
Proceeds from sale of property, plant and equipment		**-**	0.4	0.6
Interest received		**2.2**	0.4	1.6
Disposal of investments		**-**	-	0.4
Net cash from investing activities		**(22.0)**	(22.4)	**(55.4)**
Financing activities				
Purchase of own shares for share incentive schemes		**(0.7)**	(0.9)	(2.9)
Net proceeds from exercise of share options		**0.1**	0.1	0.5
Increase in borrowings		**200.5**	23.6	113.3
Reduction and repayment of borrowings		**(112.2)**	(13.9)	(39.0)
Payment of lease liabilities		**(4.6)**	(4.6)	(9.0)
Dividends paid to shareholders of the Company		**(19.1)**	(16.5)	(31.6)
Dividends paid to non-controlling interests		**(1.6)**	(1.5)	(7.9)
Net cash from financing activities		**62.4**	(13.7)	23.4
Net increase/(decrease) in cash and cash equivalents		**29.7**	(10.4)	(13.0)
Cash and cash equivalents at start of period		**117.7**	127.3	127.3
Effect of exchange rate fluctuations on cash held		**(9.9)**	4.7	3.4
Cash and cash equivalents at period end	10	**137.5**	121.6	117.7

Notes to the condensed consolidated financial statements

Note 1. Basis of preparation, accounting policies and judgment and estimates

Morgan Advanced Materials plc (the 'Company') is a company incorporated in the UK under the Companies Act 2006.

The unaudited condensed consolidated financial statements of the Company for the six months ended 30 June 2023 comprise the Company and the Group's subsidiaries (together 'the Group').

The condensed consolidated financial statements for the six months ended 30 June 2023 have been prepared in accordance with International Accounting Standard 34 *Interim Financial Reporting* and International Financial Reporting Standards ('IFRSs') as adopted by the UK. There has been no change to the recognition, measurement or disclosure from preparation in previous periods under IFRSs as adopted by the European Union. Selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in financial position and performance of the Group since the last annual consolidated financial statements for the year ended 31 December 2022.

The condensed consolidated financial statements and the comparative information for the six months ended 30 June 2023 have neither been audited nor reviewed, do not comprise statutory accounts for the purpose of section 434 of Companies Act 2006 and should be read in conjunction with the Annual Report and Accounts for the year ended 31 December 2022. Those accounts have been reported on by the Group's auditor and delivered to the Registrar of Companies. The report of the auditor was unqualified, did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying his report, and did not contain a statement under section 498(2) or (3) of the Companies Act 2006. The condensed consolidated financial statements have been prepared on a going concern basis, see page 27 for further details.

The consolidated financial statements of the Group for the year ended 31 December 2022 are available on request from the Company's registered office at York House, Sheet Street, Windsor, SL4 1DD or at morganadvancedmaterials.com

The condensed consolidated financial statements for the six months ended 30 June 2023 were approved by the Board on 3 August 2023.

Accounting policies

As required by the Disclosure and Transparency Rules of the Financial Conduct Authority, these condensed consolidated financial statements have been prepared by applying the accounting policies that were applied in the preparation of the Group's published consolidated financial statements for the year ended 31 December 2022, except for newly effective standards listed below.

Use of judgements and estimates

Preparing the condensed consolidated financial statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expense. Actual results may differ from these estimates. The Group's critical accounting judgments and key sources of estimation uncertainty remain unchanged from those set out in the Group's consolidated financial statements for the year ended 31 December 2022.

Adoption of new and revised accounting standards

During the period the following amendments to standards became effective. The amendments did not have a material impact on the Group:

- Amendments to IFRS 17 - Insurance Contracts;
- Amendments to IAS 1 - Classification of Liabilities as Current or Non-current;
- Amendments to IFRS 4 - Extension of the Temporary Exemption from Applying IFRS 9;
- Amendments to IAS 1 and IFRS Practice Statement 2 - Disclosure of Accounting Policies;
- Amendments to IAS 12 - Deferred Tax related to Assets and Liabilities arising from a Single Transaction;
- Amendments to IAS 8 - Definition of Accounting Estimates;

- Amendments to IAS 8 - Definition of Accounting Estimates;
- Amendments to IFRS 17 - Initial Application of IFRS 17 and IFRS 19 - Comparative Information; and
- Amendment to IAS 12 - International Tax Reform - Pillar Two Model Rules.

Accounting developments and changes

New standards and interpretations that are in issue but not yet effective are listed below, none of which are anticipated to have a material impact on the Group's financial statements:

- Amendment to IFRS 16 - Covid-19-Related Rent Concessions beyond 30 June 2021;
- Amendment to IFRS 16 - Lease Liability in a Sale and Leaseback;
- Amendments to IAS 7 and IFRS 7 - Supplier Finance Arrangements; and
- Amendments to IAS 1 - Non-current Liabilities with Covenants.

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 a table. **Definitions of these non-GAAP measures, and their reconciliation to the relevant GAAP measure, are provided on pages 16 to 20.**

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 2022 Annual Report and Accounts on pages 2 to 47. The financial position of the Group, its cash flows, liquidity position and borrowing facilities, are described earlier in this Financial Review. In addition, note 11 to the condensed consolidated financial statements for the six months ended 30 June 2023 provides details of 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 £230.0 million unsecured multi-currency revolving credit facility, which matures in November 2027. As at 30 June 2023 the Group had both significant available liquidity and headroom on its covenants. Total committed borrowing facilities were £529.3 million, representing an increase of £111.0 million from 31 December 2022 following the issue of three US Private Placements and a Schuldschein in H1 2023. The amount drawn under these facilities was £339.1 million, which together with net cash and cash equivalents of £130.3 million, gave total headroom of £320.5 million. The multi-currency revolving credit facility was £39.8 million drawn. Total committed borrowing facilities are expected to decrease to £496.0 million by the end of the year due to the maturity of £33.4 million of senior notes in October 2023.

The principal borrowing facilities are subject to covenants that are measured semi-annually in June and December, being net debt* to EBITDA*, excluding the impact of IFRS 16 *Leases*, of a maximum of 3 times and interest cover of a minimum of 4 times, based on measures defined in the facilities agreements which are adjusted from the equivalent IFRS amounts.

The Group has carefully modelled its cash flow outlook, taking account of reasonably possible changes in trading performance, exchange rates and plausible downside scenarios, including the impact of cyber security incident on 2023 cashflows. This review indicated that there was sufficient headroom and liquidity for the business to continue for the 18 month period based on the facilities available. The Group was also expected to be in compliance with the required covenants discussed above.

The Board has also reviewed the Group's reverse stress testing performed to demonstrate how much headroom is available on covenant levels in respect of changes in net debt*, EBITDA*, and underlying revenue*. Based on this assessment, a combined reduction in EBITDA* of 37% and an increase in net debt* of 40% would still allow the Group to operate within its financial covenants. The Directors do not consider either of these scenarios to be plausible given the diversity of the Group's end markets and its broad manufacturing base.

The Board and Executive Committee have regular reporting and review processes in place in order to closely monitor the ongoing operational and financial performance of the Group. As part of the ongoing risk management process, principal and emerging risks are identified and reviewed on a regular basis. In addition, the Directors have assessed the risk of climate change and do not consider that it will impact the Group's ability to operate as a going concern for the period under consideration.

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 this half-yearly report. Accordingly, they continue to adopt the going concern basis in preparing the condensed consolidated financial statements for the six months ended 30 June 2023.

Note 2. Segment reporting

The Group reports as five global business units, which have been identified as the Group's reportable operating segments. 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, borrowings and related expenses, corporate assets and head office expenses, and income tax assets and liabilities.

The information presented below represents the operating segments of the Group.

								Six months ended 30 June 2023
	Thermal Ceramics	Molten Metal Systems	Electrical Carbon	Seals and Bearings	Technical Ceramics	**Segment totals**	Corporate costs	**Group**
Continuing operations	£m	£m	£m	£m	£m	**£m**	£m	**£m**
Revenue from external customers	205.2	26.1	95.5	72.8	154.3	**553.9**	-	**553.9**
Segment adjusted operating profit[1]	14.0	1.9	16.4	5.9	14.8	**53.0**	-	**53.0**
Corporate costs							(3.0)	**(3.0)**
Group adjusted operating profit[1]								**50.0**
Amortisation of intangible assets	(0.8)	(0.1)	(0.3)	(0.4)	(0.5)	**(2.1)**	-	**(2.1)**
Operating profit before specific adjusting items	13.2	1.8	16.1	5.5	14.3	**50.9**	(3.0)	**47.9**
Specific adjusting items included in operating profit[2]	(1.8)	-	(0.1)	(0.1)	1.1	**(0.9)**	(12.5)	**(13.4)**
Operating profit	11.4	1.8	16.0	5.4	15.4	**50.0**	(15.5)	**34.5**
Finance income								**2.2**
Finance expense								**(8.3)**
Profit before taxation								**28.4**
Segment assets	355.9	42.8	161.9	119.4	214.5	**894.5**	160.1	**1,054.6**
Segment liabilities	92.0	7.9	32.1	23.2	78.2	**233.4**	423.8	**657.2**

Segment capital expenditure	6.1	1.2	5.6	5.2	5.9	**24.0**	-	**24.0**
Segment depreciation - property, plant and equipment	5.8	1.0	2.9	3.0	3.0	**15.7**	-	**15.7**
Segment depreciation - right-of-use assets	1.5	0.1	0.5	0.3	1.4	**3.8**	-	**3.8**
Segment impairment of non-financial assets	-	-	-	-	-	**-**	0.8	**0.8**

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

2. Details of specific adjusting items are given in note 3 to the condensed consolidated financial statements.

								Six months ended 30 June 2022
Continuing operations	Thermal Ceramics £m	Molten Metal Systems £m	Electrical Carbon £m	Seals and Bearings £m	Technical Ceramics £m	**Segment totals £m**	Corporate costs £m	**Group £m**
Revenue from external customers	200.5	28.1	91.3	71.8	138.5	**530.2**	-	**530.2**
Segment adjusted operating profit[1]	22.7	4.2	18.9	10.9	18.8	**75.5**	-	**75.5**
Corporate costs							(3.0)	**(3.0)**
Group adjusted operating profit[1]								**72.5**
Amortisation of intangible assets	(0.9)	(0.1)	(0.3)	(0.4)	(0.6)	**(2.3)**	-	**(2.3)**
Operating profit before specific adjusting items	21.8	4.1	18.6	10.5	18.2	**73.2**	(3.0)	**70.2**
Specific adjusting items included in operating profit[2]	-	-	-	-	-	-	-	-
Operating profit	21.8	4.1	18.6	10.5	18.2	**73.2**	(3.0)	**70.2**
Finance income								**0.4**
Finance expense								**(4.9)**
Profit before taxation								**65.7**
Segment assets	360.9	45.9	152.5	112.4	183.5	**855.2**	142.4	**997.6**
Segment liabilities	98.9	8.7	31.9	22.6	80.8	**242.9**	332.0	**574.9**
Segment capital expenditure	6.9	1.1	3.0	3.8	8.1	**22.9**	-	**22.9**
Segment depreciation - property, plant and equipment	5.2	1.0	2.5	3.0	2.7	**14.4**	-	**14.4**
Segment depreciation - right-of-use assets	1.7	0.1	0.5	0.3	1.3	**3.9**	-	**3.9**
Segment impairment of non-financial assets	-	-	-	-	-	-	-	-

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

2. Details of specific adjusting items are given in note 3 to the condensed consolidated financial statements.

								Year ended 31 December 2022
Continuing operations	Thermal Ceramics £m	Molten Metal Systems £m	Electrical Carbon £m	Seals and Bearings £m	Technical Ceramics £m	**Segment totals £m**	Corporate costs £m	**Group £m**
Revenue from external customers	421.4	57.8	188.7	148.5	295.7	**1,112.1**	-	**1,112.1**
Segment adjusted operating profit[1]	48.7	7.8	39.7	19.0	41.7	**156.9**	-	**156.9**
Corporate costs							(5.9)	**(5.9)**
Group adjusted operating profit[1]								**151.0**
Amortisation of intangible assets	(1.6)	(0.3)	(0.7)	(0.8)	(1.3)	**(4.7)**	-	**(4.7)**
Operating profit before specific adjusting items	47.1	7.5	39.0	18.2	40.4	**152.2**	(5.9)	**146.3**
Specific adjusting items included in operating profit[2]	(2.8)	-	0.1	(1.6)	(1.2)	**(5.5)**	-	**(5.5)**
Operating profit	44.3	7.5	39.1	16.6	39.2	**146.7**	(5.9)	**140.8**
Finance income								**1.6**
Finance expense								**(10.8)**
Profit before taxation								**131.6**
Segment assets	361.2	44.0	159.5	115.8	199.8	**880.3**	140.0	**1,020.3**
Segment liabilities	93.2	8.9	32.6	26.5	86.3	**247.5**	343.2	**590.7**
Segment capital expenditure	16.8	3.5	8.7	9.7	19.3	**58.0**	-	**58.0**
Segment depreciation - property, plant and equipment	11.2	2.1	5.3	6.0	5.7	**30.3**	-	**30.3**
Segment depreciation - right-of-use assets	3.2	0.3	1.0	0.6	2.7	**7.8**	-	**7.8**
Segment impairment of non-financial assets	3.2	-	-	1.6	1.7	**6.5**	-	**6.5**

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

2. Details of specific adjusting items are given in note 3 to the condensed consolidated financial statements.

Revenue from external customers by geography

Continuing operations	**Six months ended 30 June 2023 £m**	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
US	**203.7**	190.7	405.6
China	**56.7**	61.0	121.4
Germany	**45.3**	39.1	85.1
UK (the Group's country of domicile)	**22.6**	22.9	53.2
Other Asia, Australasia, Middle East and Africa	**97.3**	94.1	194.1

Other Europe	**92.3**	88.2	182.0
Other North America	**21.4**	18.2	39.1
South America	**14.6**	16.0	31.6
	553.9	530.2	1,112.1

Revenue from external customers is based on geographic location of the end-customer. No customer represents more than 5% of revenue.

Revenue from external customers by end-market

Continuing operations	**Six months ended 30 June 2023 £m**	Six months ended 30 June 2022[1] £m	Year ended 31 December 2022 £m
Semiconductors	**51.6**	43.2	91.3
Healthcare	**39.1**	36.8	74.7
Clean energy and clean transportation	**24.4**	26.4	51.7
Faster growing markets	**115.1**	106.4	217.7
Industrial	**170.3**	165.2	344.5
Conventional transportation	**91.8**	82.2	179.9
Metals	**72.0**	75.6	159.9
Petrochemical and chemical	**57.2**	56.2	112.6
Security and defence	**32.4**	29.6	65.2
Conventional energy	**15.1**	15.0	32.3
Core markets	**438.8**	423.8	894.4
	553.9	530.2	1,112.1

1. Revenue from external customers by end market for the period ended 30 June 2022 has been re-presented to better reflect the end-markets of our customers.

Intercompany sales to other segments

Continuing operations	**Six months ended 30 June 2023 £m**	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
Thermal Ceramics	**0.3**	0.3	0.4
Molten Metal Systems	**-**	-	0.1
Electrical Carbon	**0.1**	0.1	0.5
Seals and Bearings	**0.3**	0.4	0.7
Technical Ceramics	**0.1**	0.6	1.0
	0.8	1.4	2.7

Note 3. Specific adjusting items

Continuing operations	**Six months ended 30 June 2023 £m**	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
Specific adjusting items:			
Cyber incident recovery costs and charges	**(12.0)**	-	-
Business closure and exit costs	**(1.8)**	-	-
Restructuring credit	**0.4**	-	0.6
Impairment of non-financial assets	**-**	-	(6.5)
Net profit on disposal of businesses	**-**	-	0.4
Total specific adjusting items before income tax	**(13.4)**	-	(5.5)
Income tax credit from specific adjusting items	**2.2**	-	1.1
Total specific adjusting items after income tax	**(11.2)**	-	(4.4)

There were no specific adjusting items in relation to discontinued operations in the six months to 30 June 2023 and to 30 June 2022.

2023

Cyber incident recovery costs and charges

As disclosed in the 2022 Annual Report, the Group experienced a cyber security incident in January 2023. £11.2 million was incurred during the six months to June 2023 relating to system recovery and specialist support costs and £0.8 million of leased and owned IT assets which were impacted by the incident were impaired.

Business closure and exit costs

In July 2023, the Board of our joint venture in Dalian, China made the decision to liquidate the entity as the joint venture agreement is due to expire in August 2023. A £1.8 million charge associated with the liquidation costs has been recognised, mainly in relation to severance costs, costs of dismantling equipment and advisor fees.

Restructuring credit

The Group recognised a £0.4 million credit relating to the partial release of a provision following final settlement of the US multi-employer pension plan for our Technical Ceramics, Ceramics Cores site which was closed in 2021.

2022

There were no specific adjusting items in the six months to 30 June 2022.

Note 4. Finance income and expense

	Six months ended	Six months ended	Year ended

Continuing operations	Six months ended 30 June 2023 £m	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
Interest on bank balances and cash deposits	**2.2**	0.4	1.6
Finance income	**2.2**	0.4	1.6
Interest expense on borrowings and overdrafts	**(7.2)**	(3.1)	(7.0)
Interest expense on lease liabilities	**(1.1)**	(1.1)	(2.4)
Net interest on IAS 19 defined benefit pension obligations	**-**	(0.7)	(1.4)
Finance expense	**(8.3)**	(4.9)	(10.8)
Net financing costs recognised in profit or loss	**(6.1)**	(4.5)	(9.2)

No finance income or expense related to discontinued operations in either the current or preceding periods.

Note 5. Taxation

Continuing operations	Six months ended 30 June 2023 £m	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
Income tax charge on profit before specific adjusting items	**(11.3)**	(17.7)	**(37.1)**
Income tax credit from specific adjusting items	**2.2**	-	**1.1**
Total income tax expense recognised in profit or loss	**(9.1)**	(17.7)	(36.0)

The Group's consolidated effective tax rate, excluding specific adjusting items, was 27.0% for the six months ended 30 June 2023 (30 June 2022: 27.0%; 31 December 2022: 27.0%) and is based on the Directors' best estimate of the effective tax rate for the year.

The Group operates in many jurisdictions around the world and is subject to factors that may impact future tax charges including the 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.

Note 6. Discontinued operations

The results from discontinued operations, which represent the Composites and Defence Systems business disposed in 2018, are set out below:

	Six months ended 30 June 2023			Six months ended 30 June 2022			Year ended 31 December 2022		
	Results before specific adjusting items £m	Specific adjusting items £m	Total £m	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	-	-	-	-	-	-	-	0.7	0.7
Operating income	-	-	-	-	-	-	-	0.4	0.4
Profit before taxation	-	-	-	-	-	-	-	1.1	1.1
Income tax expense	-	-	-	-	-	-	-	-	-
Profit from discontinued operations	-	-	-	-	-	-	-	1.1	1.1
Basic profit per share from discontinued operations			-			-			**0.4p**
Diluted profit per share from discontinued operations			-			-			**0.4p**

In 2022, a gain of £1.1 million was recognised following the receipt of cash from a long-term contract and disposal of an investment in accordance with the terms of the disposal agreement.

There was no income tax expense in relation to the discontinued operations in either the current or preceding periods.

There were no cash flows from discontinued operations for the six months ended 30 June 2023 or 30 June 2022. There were net cash inflows from operating activities of £1.1 million during the year ended 31 December 2022.

Note 7. Earnings per share

	Six months ended 30 June 2023			Six months ended 30 June 2022			Year ended 31 December 2022		
	Earnings £m	Basic earnings per share pence	Diluted earnings per share pence	Earnings £m	Basic earnings per share pence	Diluted earnings per share pence	Earnings £m	Basic earnings per share pence	Diluted earnings per share pence
Profit for the period attributable to shareholders of the Company	**14.8**	**5.2p**	**5.2p**	42.9	15.1p	15.0p	88.0	31.0p	30.7p
Profit from discontinued operations	-	-	-	-	-	-	(1.1)	(0.4)p	(0.4)p
Profit from continuing operations	**14.8**	**5.2p**	**5.2p**	42.9	15.1p	15.0p	86.9	30.6p	30.3p
Specific adjusting items	**13.4**	**4.7p**	**4.7p**	-	-	-	5.5	1.9p	1.9p
Amortisation of intangible assets	**2.1**	**0.8p**	**0.7p**	2.3	0.8p	0.8p	4.7	1.7p	1.6p
Tax effect of the above	**(2.2)**	**(0.8)p**	**(0.8)p**	-	-	-	(1.1)	(0.4)p	(0.4)p
Non-controlling interests' share of the above adjustments	-	-	-	-	-	-	-	-	-
Adjusted profit for the period from continuing operations as used in adjusted earnings per share[1]	**28.1**	**9.9p**	**9.8p**	45.2	15.9p	15.8p	96.0	33.8p	33.5p

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

	Six months ended 30 June 2023 millions	Six months ended 30 June 2022 millions	Year ended 31 December 2022 millions
Number of shares			

Weighted average number of Ordinary shares for the purposes of basic earnings per share[1]	**284.5**	284.4	284.2
Effect of dilutive potential Ordinary shares:			
Share options	**1.8**	1.8	2.6
Weighted average number of Ordinary shares for the purposes of diluted earnings per share	**286.3**	286.2	286.8

1. The calculation of the weighted average number of shares excludes the shares held by The Morgan General Employee Benefit Trust, on which dividends are waived.

Note 8. Property, plant and equipment

	Land and buildings £m	Plant, equipment and fixtures £m	Total £m
Cost			
At 1 January 2023	**219.2**	**770.2**	**989.4**
Additions	1.7	19.7	21.4
Disposals	-	(1.1)	(1.1)
Transfer between categories	0.4	(0.4)	-
Effect of movement in foreign exchange	(10.9)	(34.6)	(45.5)
At 30 June 2023	210.4	753.8	964.2
Depreciation and impairment losses			
At 1 January 2023	117.7	588.5	706.2
Depreciation charge for the period	2.7	13.0	15.7
Disposals	-	(1.0)	(1.0)
Effect of movement in foreign exchange	(6.4)	(25.9)	(32.3)
At 30 June 2023	114.0	574.6	688.6
Carrying amounts			
At 1 January 2023	101.5	181.7	283.2
At 30 June 2023	96.4	179.2	275.6

Note 9. Intangible assets

	Acquisition intangibles					
	Goodwill £m	Customer relationships £m	Other £m	Capitalised development costs £m	Computer software £m	Total £m
Cost						
At 1 January 2023	181.9	63.9	4.3	0.8	37.8	288.7
Additions	-	-	-	-	0.2	0.2
Disposals	-	-	-	-	(0.7)	(0.7)
Effect of movement in foreign exchange	(4.6)	(2.9)	0.2	-	(1.0)	(8.3)
At 30 June 2023	177.3	61.0	4.5	0.8	36.3	279.9
Amortisation and impairment losses						
At 1 January 2023	-	63.1	3.8	0.8	32.0	99.7
Amortisation charge for the period	-	0.3	0.1	-	1.7	2.1
Impairment losses	-	-	-	-	0.4	0.4
Disposals	-	-	-	-	(0.7)	(0.7)
Effects of movement in foreign exchange	-	(2.9)	0.3	-	(0.9)	(3.5)
At 30 June 2023	-	60.5	4.2	0.8	32.5	98.0
Carrying amounts						
At 1 January 2023	181.9	0.8	0.5	-	5.8	189.0
At 30 June 2023	177.3	0.5	0.3	-	3.8	181.9

Note 10. Cash and cash equivalents reconciled to net debt*

	At 30 June 2023 £m	At 30 June 2022 £m	At 31 December 2022 £m
Bank balances	**123.9**	114.6	105.8
Cash deposits	**13.6**	7.0	11.9
Cash and cash equivalents	**137.5**	121.6	117.7

Reconciliation of cash and cash equivalents to net debt*

	Six months ended 30 June 2023 £m	Six months ended 30 June 2022 £m	Year ended 31 December 2022 £m
Opening borrowings and lease liabilities	**(318.1)**	(223.8)	(223.8)
Increase in borrowings	**(200.5)**	(23.6)	(113.3)
Reduction and repayment of borrowings	**112.2**	13.9	39.0

Payment of lease liabilities	**4.6**	4.6	9.0
Total changes from cash flows	**(83.7)**	(5.1)	(65.3)
New leases and lease remeasurement	**(4.0)**	(3.0)	(6.7)
Effect of movements in foreign exchange on borrowings	**10.6**	(18.2)	(22.3)
Closing borrowings and lease liabilities	**(395.2)**	(250.1)	(318.1)
Cash and cash equivalents	**137.5**	121.6	117.7
Closing net debt[1]	**(257.7)**	(128.5)	(200.4)

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

The table below details changes in the Group's liabilities arising from financing activities, including both cash and non-cash changes.

	Borrowings £m	Lease liabilities £m	Total financing liabilities £m	Cash and cash equivalents £m	Movement in net debt[1] £m
At 1 January 2023	(266.2)	(51.9)	**(318.1)**	117.7	**(200.4)**
Cash inflow	-	-	**-**	38.2	**38.2**
Borrowings and lease liability cash flow	(88.3)	4.6	**(83.7)**	-	**(83.7)**
Interest paid	-	-	**-**	(7.8)	**(7.8)**
Net cash inflow/(outflow)	(88.3)	4.6	**(83.7)**	30.4	**(53.3)**
Share purchases	-	-	**-**	(0.7)	**(0.7)**
New leases and lease remeasurement	-	(4.0)	**(4.0)**	-	**(4.0)**
Exchange and other movements	8.5	2.1	**10.6**	(9.9)	**0.7**
At 30 June 2023	**(346.0)**	**(49.2)**	**(395.2)**	**137.5**	**(257.7)**

1. Definitions of these non-GAAP measures can be found in the glossary of terms on page 43, reconciliations of the statutory results to the adjusted measures can be found on pages 16 to 20.

Note 11. Financial risk management

Fair values

	At 30 June 2023				At 30 June 2022				At 31 December 2022			
		Fair value				Fair value				Fair value		
	Carrying amount £m	Level 1 £m	Level 2 £m	Total £m	Carrying amount £m	Level 1 £m	Level 2 £m	Total £m	Carrying amount £m	Level 1 £m	Level 2 £m	Total £m
Financial assets and liabilities held at amortised cost												
1.18% Euro Senior Notes 2023	**(21.5)**	-	**(21.2)**	**(21.2)**	(21.6)	-	(21.3)	(21.3)	(22.1)	-	(21.6)	(21.6)
3.17% US Dollar Senior Notes 2023	**(11.9)**	-	**(11.7)**	**(11.7)**	(12.4)	-	(12.2)	(12.2)	(12.4)	-	(12.1)	(12.1)
1.55% Euro Senior Notes 2026	**(21.5)**	-	**(19.5)**	**(19.5)**	(21.6)	-	(20.7)	(20.7)	(22.2)	-	(20.1)	(20.1)
3.37% US Dollar Senior Notes 2026	**(76.8)**	-	**(69.8)**	**(69.8)**	(80.1)	-	(75.4)	(75.4)	(80.6)	-	(73.5)	(73.5)
4.87% US Dollar Senior Notes 2026	**(20.1)**	-	**(19.2)**	**(19.2)**	(20.9)	-	(20.8)	(20.8)	(21.1)	-	(20.2)	(20.2)
1.74% Euro Senior Notes 2028	**(8.6)**	-	**(7.6)**	**(7.6)**	(8.6)	-	(8.1)	(8.1)	(8.9)	-	(7.7)	(7.7)
2.89% Euro Senior Notes 2030	**(21.5)**	-	**(18.7)**	**(18.7)**	(21.5)	-	(20.2)	(20.2)	(22.1)	-	(19.0)	(19.0)
5.47% US Dollar Senior Notes 2031	**(7.9)**	-	**(7.6)**	**(7.6)**	-	-	-	-	-	-	-	-
5.53% US Dollar Senior Notes 2033	**(7.9)**	-	**(7.6)**	**(7.6)**	-	-	-	-	-	-	-	-
5.61% US Dollar Senior Notes 2035	**(23.7)**	-	**(22.7)**	**(22.7)**	-	-	-	-	-	-	-	-
5.50% Cumulative First Preference shares	**(0.1)**	-	**(0.1)**	**(0.1)**	(0.1)	-	(0.1)	(0.1)	(0.1)	-	(0.1)	(0.1)
5.00% Cumulative Second Preference shares	**(0.3)**	-	**(0.3)**	**(0.3)**	(0.3)	-	(0.3)	(0.3)	(0.3)	-	(0.3)	(0.3)
	(221.8)	-	**(206.0)**	**(206.0)**	(187.1)	-	(179.1)	(179.1)	(189.8)	-	(174.6)	(174.6)
Derivatives held at fair value												
Derivative financial assets	**0.8**	**-**	**0.8**	**0.8**	0.4	-	0.4	0.4	1.3	-	1.3	1.3
Derivative financial liabilities	**(0.6)**	**-**	**(0.6)**	**(0.6)**	(1.7)	-	(1.7)	(1.7)	**(1.6)**	**-**	**(1.6)**	**(1.6)**
	0.2	**-**	**0.2**	**0.2**	(1.3)	-	(1.3)	(1.3)	**(0.3)**	**-**	**(0.3)**	**(0.3)**
	(221.6)	**-**	**(205.8)**	**(205.8)**	(188.4)	-	(180.4)	(180.4)	**(190.1)**	**-**	**(174.9)**	**(174.9)**

The table above analyses financial instruments carried at fair value, by valuation method, together with the carrying amounts shown in the balance sheet. The fair value of cash and cash equivalents, current trade and other receivables/payables and floating-rate bank and other borrowings are excluded from the preceding table as their carrying amount approximates to their fair value.

Fair value hierarchy

The different levels have been defined as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: not traded in an active market but the fair values are based on quoted market prices or alternative pricing sources with reasonable levels of price transparency. Fair value is calculated using discounted cash flow methodology, future cash flows are estimated based on forward exchange rates.

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

There were no transfers between Level 1 and Level 2 during the six months to 30 June 2023 or 2022 and there were no Level 3 financial instruments in either the six months to 30 June 2023 or 2022.

The major methods and assumption used in estimating the fair values of financial instruments reflected in the preceding table are as follows:

The major methods and assumption used in estimating the fair values of financial instruments reflected in the preceding table are as follows:

Fixed-rate 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 borrowings are 4.3-7.1% (30 June 2022: 2.1-5.1%; 31 December 2022: 4.2-6.4%).

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.

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 current economic climate gives rise to an increased credit risk, primarily with respect to trade receivables.

The Group establishes an allowance for impairment that represents its estimate of expected credit losses in respect of trade receivables.

The loss allowance for trade receivables by ageing category is as follows:

	At 30 June 2023				At 30 June 2022				At 31 December 2022			
	Expected credit loss rate	**Gross trade receivables**	**Expected credit losses**	**Net trade receivables**	Expected credit loss rate	Gross trade receivables	Expected credit losses	Net trade receivables	Expected credit loss rate	Gross trade receivables	Expected credit losses	Net trade receivables
	%	**£m**	**£m**	**£m**	**%**	**£m**	**£m**	**£m**	**%**	**£m**	**£m**	**£m**
Not past due	**0.1%**	**152.1**	**(0.1)**	**152.0**	0.1%	146.9	(0.1)	146.8	0.1%	**144.7**	(0.2)	144.5
Past due 0-30 days	**0.4%**	**25.7**	**(0.1)**	**25.6**	0.5%	18.9	(0.1)	18.8	0.5%	**21.5**	(0.1)	21.4
Past due 31-60 days	**0.0%**	**7.2**	**-**	**7.2**	0.0%	3.6	-	3.6	-	**3.9**	-	3.9
Past due 61-90 days	**2.2%**	**4.5**	**(0.1)**	**4.4**	7.7%	1.3	(0.1)	1.2	61.9%	**2.1**	(1.3)	0.8
Past due more than 90 days	**77.4%**	**11.5**	**(8.9)**	**2.6**	90.7%	10.7	(9.7)	1.0	100.0%	**7.5**	(7.5)	-
		201.0	**(9.2)**	**191.8**		181.4	(10.0)	171.4		**179.7**	(9.1)	170.6

Full details of the Group's policies and processes for managing financial risk are described in note 21 of the Group's 2022 Annual Report and Accounts.

Offsetting financial assets and liabilities

The following table shows the amounts recognised for forward exchange contracts, which are subject to offsetting arrangements on a gross basis, and the amounts offset in the balance sheet.

The Group also has cash pooling agreements which cannot be offset under IFRS, but which could be settled net under the terms of master netting agreements, are also presented in the table to show the total net exposure of the Group.

	Gross amounts of recognised financial assets/ (liabilities)	Amounts offset	**Net amounts presented on the balance sheet**	Financial instruments not offset in the balance sheet	**Net amount**
	£m	£m	**£m**	£m	**£m**
At 30 June 2023					
Derivative financial assets	61.1	(60.3)	**0.8**	-	**0.8**
Derivative financial liabilities	(60.9)	60.3	**(0.6)**	-	**(0.6)**
Cash and cash equivalents	137.5	-	**137.5**	(6.8)	**130.7**
Current bank and other borrowings	(6.8)	-	**(6.8)**	6.8	**-**
At 30 June 2022					
Derivative financial assets	75.2	(74.8)	**0.4**	-	**0.4**
Derivative financial liabilities	(76.5)	74.8	**(1.7)**	-	**(1.7)**
Cash and cash equivalents	121.6	-	**121.6**	(1.1)	**120.5**
Current bank and other borrowings	(10.8)	-	**(10.8)**	1.1	**(9.7)**
At 31 December 2022					
Derivative financial assets	97.4	(96.1)	**1.3**	-	**1.3**
Derivative financial liabilities	(97.7)	96.1	**(1.6)**	-	**(1.6)**
Cash and cash equivalents	117.7	-	**117.7**	(1.5)	**116.2**
Current bank and other borrowings	(1.5)	-	**(1.5)**	1.5	-

Note 12. Pensions and other post-retirement employee benefits

Defined benefit obligations

					Six months ended 30 June 2023
	UK £m	**US £m**	**Europe £m**	**Rest of World £m**	**Total £m**
Summary of net obligations					
Present value of unfunded defined benefit obligations	-	**(5.4)**	**(26.6)**	**(3.8)**	**(35.8)**
Present value of funded defined benefit obligations	**(341.1)**	**(109.0)**	**(0.9)**	**(7.8)**	**(458.8)**
Fair value of plan assets	**360.1**	**107.5**	**0.2**	**7.6**	**475.4**
	19.0	**(6.9)**	**(27.3)**	**(4.0)**	**(19.2)**

Movements in present value of defined benefit obligation					
At 1 January 2023	(359.5)	(121.9)	(28.3)	(12.1)	**(521.8)**
Current service cost	-	-	(0.3)	(1.0)	**(1.3)**
Interest cost	(8.3)	(2.8)	(0.5)	(0.1)	**(11.7)**
Actuarial gain/(loss):					
Experience (loss)/gain on plan obligations	(1.2)	-	-	0.4	**(0.8)**
Changes in financial assumptions - gain/(loss)	17.7	(0.1)	-	-	**17.6**
Benefits paid	10.2	4.6	0.7	0.5	**16.0**
Exchange adjustments	-	5.8	0.9	0.7	**7.4**
At 30 June 2023	**(341.1)**	**(114.4)**	**(27.5)**	**(11.6)**	**(494.6)**

Movements in fair value of plan assets					
At 1 January 2023	384.7	112.7	0.4	8.4	**506.2**
Interest on plan assets	8.9	2.6	-	0.2	**11.7**
Remeasurement loss/(gain)	(23.3)	1.8	0.1	(0.4)	**(21.8)**
Contributions by employer	-	0.3	0.7	0.6	**1.6**
Benefits paid	(10.2)	(4.6)	(0.7)	(0.5)	**(16.0)**
Exchange adjustments	-	(5.3)	(0.3)	(0.7)	**(6.3)**
At 30 June 2023	**360.1**	**107.5**	**0.2**	**7.6**	**475.4**
Actual return on assets	**(14.4)**	**4.4**	**0.1**	**(0.2)**	**(10.1)**

Fair value of plan assets by category					
Equities	-	5.9	-	-	**5.9**
Growth assets	48.9	-	-	-	**48.9**
Bonds	24.9	98.3	-	-	**123.2**
Liability-driven investments (LDI)	186.0	-	-	-	**186.0**
Matching insurance policies	99.0	1.3	0.2	5.9	**106.4**
Other	1.3	2.0	-	1.7	**5.0**
	360.1	**107.5**	**0.2**	**7.6**	**475.4**

Principal actuarial assumptions at 30 June 2023 were:	%	%	%	%
Discount rate	5.26	4.93	3.70	5.30
Inflation (UK: RPI/CPI)	3.28/2.52	n/a	2.20	n/a

					Six months ended 30 June 2022
	UK £m	US £m	Europe £m	Rest of World £m	Total £m
Summary of net obligations					
Present value of unfunded defined benefit obligations	-	(7.1)	(29.1)	(4.3)	(40.5)
Present value of funded defined benefit obligations	(404.7)	(121.2)	(1.1)	(8.2)	(535.2)
Fair value of plan assets	374.3	120.1	0.4	7.4	502.2
	(30.4)	(8.2)	(29.8)	(5.1)	(73.5)

Principal actuarial assumptions at 30 June 2022 were:	%	%	%	%
Discount rate	3.86	4.52	3.00	2.90
Inflation (UK: RPI/CPI)	3.23/2.44	n/a	2.00	n/a

					Year ended 31 December 2022
	UK £m	US £m	Europe £m	Rest of World £m	Total £m
Summary of net obligations					
Present value of unfunded defined benefit obligations	-	(5.8)	(26.7)	(4.0)	(36.5)
Present value of funded defined benefit obligations	(359.5)	(116.1)	(1.6)	(8.1)	(485.3)
Fair value of plan assets	384.7	112.7	0.4	8.4	506.2
	25.2	(9.2)	(27.9)	(3.7)	(15.6)

Principal actuarial assumptions at 31 December 2022 were:	%	%	%	%
Discount rate	4.81	4.99	3.70	5.30
Inflation (UK: RPI/CPI)	3.26/2.47	n/a	2.20	n/a

Note 13. Provisions and contingent liabilities

	Closure and restructuring provisions £m	Legal and other provisions £m	Environmental provisions £m	Total £m
At 1 January 2023	**10.5**	**8.1**	**7.4**	**26.0**
Provisions made during the period	2.8	0.6	-	**3.4**
Provisions used during the period	(1.7)	(0.9)	(0.6)	**(3.2)**
Provisions reversed during the period	(1.3)	(0.6)	-	**(1.9)**
Effect of movements in foreign exchange	(0.6)	(0.4)	(0.1)	**(1.1)**
At 30 June 2023	**9.7**	**6.8**	**6.7**	**23.2**
Current	7.3	2.9	3.5	**13.7**
Non-current	2.4	3.9	3.2	**9.5**
At 30 June 2023	**9.7**	**6.8**	**6.7**	**23.2**

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.

We retain provisions for remaining lease exit costs and a multi-employer pension plan from two US sites which were closed during 2021. The cash outflows relating to the pension obligations may continue for up to eighteen years, subject to any settlement being reached in advance of that date. Cash outflows in relation to the lease may continue for the next four years.

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. 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.

Legal and other contingent liabilities

Whilst we have completed our investigation into the cyber incident which occurred in January, we are in the process of informing impacted parties and consequently have a contingent liability relating to potential enforcement action or civil claims pending the completion of these discussions.

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 and in conjunction with the local Environmental Regulator. A remediation plan has been prepared. The provision recorded reflects the estimated costs of remediation and awaits final regulatory approval. The provision is expected to be utilised in the next five years.

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 additional, as yet unknown, environmental issues at the site referred to above, pending the completion of the feasibility study.

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.

Note 14. Related parties

Identification of related parties

The Company has related party relationships with its subsidiaries and with its Directors and executive officers.

Transactions with key management personnel

Details of transactions with key management personnel are described in note 26 of the Group's 2022 Annual Report and Accounts.

Transactions with related parties

There were no related party transactions during the period that have materially affected the financial position or the performance of the Group during the period. There have been no changes in the nature of related party transactions as described in note 26 to the Group's 2022 Annual Report and Accounts which could have a material effect on the financial position or performance of the Group during the period.

Note 15. Subsequent events

There were no reportable events subsequent to the balance sheet date.

Glossary

Constant-currency[1]	Constant-currency revenue and Group adjusted 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.
Free cash flow before acquisitions, disposals and dividends[1]	Cash generated from continuing operations less net capital expenditure, net interest paid, tax paid and lease payments.
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 adjusted operating profit[1]	Operating profit adjusted to exclude specific adjusting items and amortisation of intangible assets.
Group adjusted operating profit margin[1]	The ratio of Group adjusted operating profit to revenue.
Group organic[1]	The Group results excluding acquisition, disposal and business exit impacts at constant-currency.
Adjusted earnings per share (EPS)[1]	Adjusted 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 and non-controlling interests, divided by the weighted average number of Ordinary shares during the period.
Net debt[1]	Borrowings, bank overdrafts and lease liabilities less cash and cash equivalents.
Net cash and cash equivalents[1]	Net cash and cash equivalents is defined as cash and cash equivalents less bank overdrafts.
Return on invested capital (ROIC)[1]	Group adjusted operating profit (operating profit excluding specific adjusting items and amortisation of intangible assets) divided by the year-on-year average adjusted net assets (excludes long-term employee benefits, deferred tax assets and liabilities, current tax receivable and payable, non-current other receivables, non-trade payables, provisions, cash and cash equivalents, borrowings, bank overdrafts, derivative financial assets and liabilities, and lease liabilities).
Specific adjusting items	See note 3 to the condensed consolidated financial statements for further details.
Underlying	Reference to underlying reflects the trading results of the Group without the impact of specific adjusting items and amortisation of intangible assets that would otherwise impact the users' understanding of the Group's performance. The Directors believe that adjusted results provide additional useful information on the core operational performance of the Group and review the results of the Group on an adjusted basis internally.

1. See definitions and reconciliations of non-GAAP measures to GAAP measures on pages 16 to 20.

END

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