

# Financial performance review

Johnson Matthey had a good year. We have made significant progress in executing our strategy and delivered a financial performance in line with our expectations at the start of the year.

## Group performance review

Reported results		Year ended 31st March		% change
		2018	2017	
Revenue	£ million	<b>14,122</b>	12,031	+17
Operating profit	£ million	<b>359</b>	493	-27
Profit before tax (PBT)	£ million	<b>320</b>	462	-31
Earnings per share (EPS)	pence	<b>155.2</b>	201.2	-23
Ordinary dividend per share	pence	<b>80.0</b>	75.0	+7

Underlying <sup>1</sup> performance		Year ended 31st March		% change	% change, constant rates <sup>2</sup>
		2018	2017		
Sales excluding precious metals (Sales)	£ million	<b>3,846</b>	3,578	+8	+7
Operating profit	£ million	<b>525</b>	513	+2	-
Profit before tax	£ million	<b>486</b>	482	+1	-1
Earnings per share	pence	<b>208.4</b>	209.1	-	-

## 2017/18 highlights

### Underlying performance

- Sales grew 7% at constant rates<sup>2</sup>, slightly ahead of our expectations with 8% growth in the second half.
- Underlying operating profit was flat at constant rates, impacted by the US post-retirement medical plan credit (PRMB) in the prior period. Excluding this, operating profit grew 4%<sup>3</sup>.
- Underlying EPS was flat as translational foreign exchange benefits were offset by higher net finance charges and a higher underlying tax rate.
- Free cash flow of £136 million (2016/17: £230 million) was impacted by the expected working capital outflow.
- Average working capital days excluding precious metals reduced by 7 days for the year to 62 days.
- Return on invested capital (ROIC) decreased from 18.2% to 16.4%, mainly due to an increase in the UK pension fund asset and higher precious metal working capital through the year.
- Strong balance sheet with net debt of £679 million; net debt (including post tax pension deficits) to EBITDA of 1.1 times.

### Reported results

- Reported revenue was up 17% primarily driven by higher precious metal prices.
- Reported operating profit of £359 million. This includes major impairment and restructuring charges of £90 million (see page 71 for details) and a £50 million charge relating to a legal settlement as announced in February 2018.
- Reported EPS was therefore down 23%, reflecting the lower operating profit, partly offset by a £24 million tax credit in relation to the change in US tax legislation.
- Cash inflow from operating activities of £386 million.
- Recommended final dividend up 7% to 58.25 pence reflecting continued confidence in our prospects.

#### Notes:

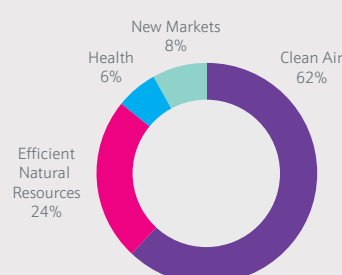
<sup>1</sup> Underlying is before amortisation of acquired intangibles, major impairment and restructuring charges, profit or loss on disposal of businesses, gain or loss on significant legal proceedings together with associated legal costs, significant tax rate changes and, where relevant, related tax effects. For reconciliation see note 4 on page 153.

<sup>2</sup> Unless otherwise stated, sales and operating profit commentary refers to performance at constant rates. Growth at constant rates excludes the translation impact of foreign exchange movements, with 2016/17 results converted at 2017/18 average exchange rates.

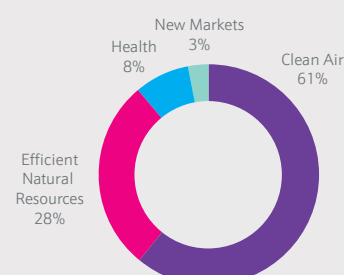
<sup>3</sup> See page 72 for further details of performance excluding the 2016/17 US post-retirement medical plan credit.

For definitions and reconciliations of other non-GAAP measures see page 191.

### Sales by sector



### Underlying operating profit excluding corporate



Strategic Report

# Sector performance review

## Performance summary by sector

### Clean Air

**£2,454m**   **£349m**

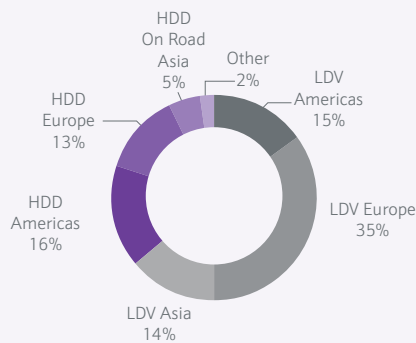
Sales<sup>1</sup> +9%<sup>2</sup>   Operating profit<sup>3</sup> +7%<sup>2</sup>

### Efficient Natural Resources

**£956m**   **£158m**

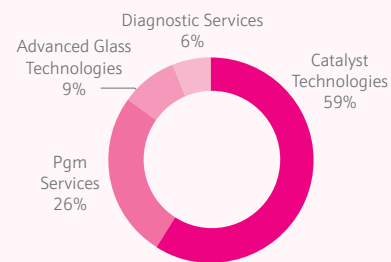
Sales<sup>1</sup> +4%<sup>2</sup>   Operating profit<sup>3</sup> -4%<sup>2</sup>

#### Sales<sup>1</sup> by business



**Heavy Duty Diesel (HDD) 34%**   **Light Duty Vehicles (LDV) 64%**

#### Sales<sup>1</sup> by business



- A global leader providing catalysts to reduce harmful emissions from vehicles
- **Light Duty Vehicles** – catalysts for gasoline and diesel light duty vehicles, including hybrids
- **Heavy Duty Diesel** – catalyst systems for diesel powered trucks and buses and non-road machinery
- **Other** – catalyst systems for stationary equipment

- Creating value from efficient use and transformation of critical natural resources including oil, gas, biomass and platinum group metals (pgms)
- **Catalyst Technologies** – manufactures speciality catalysts and additives, licenses process technology and delivers services to the chemical and oil & gas industry
- **Pgm Services** – marketing, distribution, refining and recycling of pgms, fabricates products using precious metals and related materials and manufactures pgm chemicals
- **Advanced Glass Technologies** – precious metal pastes and enamels primarily for the automotive industry

#### Customer profile

- Car companies
- Heavy duty truck and engine manufacturers
- Local Chinese producers
- Global customer base

#### Major competitors

- BASF
- Umicore
- Cataler

**Margin 14.2%**

**Return on invested capital 30.8%**

**Employees 5,470**

#### Customer profile

- JM businesses and their customers
- Chemical companies
- Engineering contractors
- Oil and gas companies
- Industrial pgm users
- End of life autocatalyst collectors
- Automotive industry suppliers

#### Major competitors

- Haldor Topsøe
- Clariant
- BASF
- Lurgi
- Albemarle
- Grace
- UOP
- Heraeus
- Umicore
- Ferro
- DuPont

**Margin 16.5%**

**Return on invested capital 12.0%**

**Employees 3,711**

<sup>1</sup> Sales excluding precious metals.

<sup>2</sup> At constant rates (see note 2 on page 61).

<sup>3</sup> Underlying (see note 1 on page 61).

## Health

£247m

Sales<sup>1</sup> +6%<sup>2</sup>

£44m

Operating profit<sup>3</sup> -13%<sup>2</sup>

## New Markets

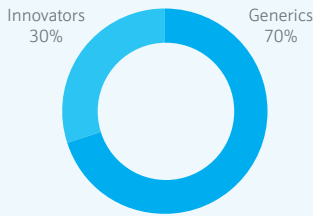
£312m

Sales<sup>1</sup> -2%<sup>2</sup>

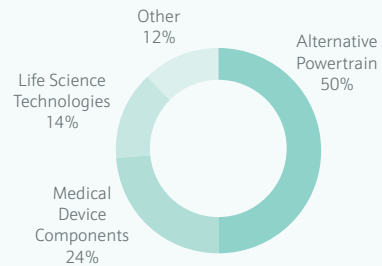
£17m

Operating profit<sup>3</sup> +34%<sup>2</sup>

### Sales<sup>1</sup> by business



### Sales<sup>1</sup> by business



- Leading provider of complex chemistry solutions to generic and innovator pharmaceutical companies
- Develops and manufactures active pharmaceutical ingredients (APIs) for a variety of treatments
- Operates in the large and growing outsourced small molecule API market
- Providing solutions to the complex problems of both generic and innovator companies

- Accessing new areas of potential growth aligned to global priorities of cleaner air, improved health and more efficient use of natural resources
- **Alternative Powertrain** – provides battery materials for automotive applications, battery systems for a range of applications and fuel cell technologies
- **Medical Device Components** – leverages our science and technology to develop products found in devices used in medical procedures
- **Life Science Technologies** – provides advanced catalysts to the pharmaceutical and agricultural chemicals markets

### Customer profile

- Multiple small and large branded generic pharmaceutical companies
- Innovative pharmaceutical companies developing novel products

### Major competitors

- Noramco
- Cambrex
- Hovione
- Francopia
- AMRI
- Almac
- Siegfried
- Alcami

Margin 18.0%

Return on invested capital 8.4%

Employees 964

### Customer profile

- Automotive and heavy duty vehicle companies
- Lithium-ion cell manufacturers
- Fuel cell manufacturers
- High performance cordless tool and niche transport manufacturers
- Medical device companies
- Pharmaceutical, fine chemical and agrochemical companies

### Major competitors

- Umicore
- BASF
- LG
- BMZ
- WL Gore
- 3M
- Heraeus
- Evonik

Margin 5.3%

Return on invested capital 8.1%

Employees 1,714

## Strategic Report

## Operating results by sector

## Clean Air

	Year ended 31st March		% change	% change, constant rates
	2018	2017 restated <sup>1</sup>		
	£ million	£ million		
Sales				
LDV Europe	855	828	+3	-
LDV Asia	351	338	+4	+4
LDV Americas	358	334	+7	+9
<b>Total Light Duty Vehicle (LDV) Catalysts</b>	<b>1,564</b>	1,500	+4	+3
HDD Americas	395	330	+20	+22
HDD Europe	320	259	+23	+20
HDD Asia	131	93	+40	+42
<b>Total Heavy Duty Diesel (HDD) Catalysts</b>	<b>846</b>	682	+24	+24
Other – stationary	44	42	+7	+6
<b>Total sales</b>	<b>2,454</b>	2,224	+10	+9
<b>Underlying operating profit</b>	<b>349</b>	318	+10	+7
<b>Margin</b>	<b>14.2%</b>	14.3%		
Margin excl. PRMB	14.2%	14.0%		
<b>Return on invested capital (ROIC)</b>	<b>30.8%</b>	30.7%		

<sup>1</sup> Restated to reflect a change in group structure.

## Strong sales growth led by double digit growth in HDD catalysts in every region

- Light Duty Europe sales were flat but with a stronger second half. Very strong growth in gasoline offset by a decline in diesel.
- Light Duty Americas sales growth ahead of vehicle production driven by a favourable mix.
- Light Duty Asia sales growth ahead of vehicle production helped by higher substrate content.
- Sales of HDD catalysts were strong across the board and ahead of truck production, helped by a strong Class 8 market, ramp up of business wins in Europe and strong production growth in Asia.
- Excluding the US post-retirement medical benefit (PRMB) plan credit in the prior period, operating profit grew by 9% with margin improving by 0.2 percentage points to 14.2%.

## Light Duty Vehicle (LDV) Catalysts

Our LDV Catalyst business provides catalysts for cars and other light duty vehicles powered by gasoline and diesel. The business grew ahead of global vehicle production.

In Europe, where diesel accounts for approximately 80% of our LDV business, we maintained sales as significant growth in gasoline offset slightly lower sales in diesel.

Sales of diesel catalysts were down 4%, mainly reflecting the impact of lower substrate costs which are passed through directly to customers.

Volume and sales growth excluding substrate were down 1%, broadly in line with market production which was flat year on year. One customer delayed a diesel platform launch from December 2017 to March 2018, which has affected the phasing of our share gains though we remain on track to reach circa 65% by March 2019.

In Western Europe, diesel accounted for 42% of new car sales in 2017/18 compared with 49% in the last financial year. Light duty commercial vehicles remain overwhelmingly diesel today. When these are included the overall share of diesel sales in Western Europe was 48% for 2017/18, compared with 54% in 2016/17.

Diesel's proportion of new car sales has continued to decline and in April 2018 represented 37% of sales. These trends do not change our assumptions of a diesel share of around 25% of total light duty vehicles and 20% of cars by 2025.

Across Europe, production of diesel light duty vehicles for 2017/18 was 10.1 million out of a total of 22.3 million, representing 45%. For 2016/17, 10.1 million diesel light duty vehicles were produced out of a total of 21.8 million, representing 46%.

Sales of catalysts for gasoline vehicles were up 23%, well ahead of the 4% growth in market production. We achieved volume growth ahead of market production and saw an improved sales mix as we applied our science to help customers with solutions for larger and more complex platforms.

As we have outlined, our growth in LDV Europe will be driven, in both diesel and gasoline, by a combination of share gains and increasing value per catalyst over the next few years. Sales in our Asia LDV catalyst business also grew ahead of market production driven by higher substrate content in China, which is passed directly to customers. Excluding substrate, our sales in Asia were flat.

Sales in our Americas LDV catalyst business grew well ahead of market production led by significant growth in sales of catalysts for diesel platforms, which have a higher value.

### Heavy Duty Diesel (HDD) Catalysts

Our HDD business provides catalysts for trucks, buses and non-road equipment. The business had a very strong year, growing significantly ahead of market production in Europe and Asia and benefiting from strong production growth in the Americas, particularly for large (Class 8) trucks.

Our Americas HDD catalyst business saw very strong growth of 22% led by the continued recovery of the Class 8 truck market. Sales of catalysts for Class 8 trucks were in line with the 30% growth in production over the year. We expect the current high levels of production to continue until the end of the 2018 calendar year with year on year growth slowing significantly as it laps a higher base. Catalyst sales to smaller Class 4 to 7 trucks grew slightly.

### Operating profit

Operating profit grew by 7% and margin was broadly maintained. Excluding the US post-retirement medical benefit plan credit in the prior period, margin improved by 0.2 percentage points. Margin was negatively impacted by an adverse platform mix in European Light Duty but this was more than offset by benefits from transactional foreign exchange and from operational gearing in our Americas HDD business given the strong sales growth.

### Estimated LDV sales and production (number of light duty vehicles)\*

		Year ended 31st March		
		2018	2017	%
		millions	millions	change
North America	Sales	20.8	21.1	-1
	Production	17.0	17.9	-5
Total Europe	Sales	20.7	20.2	+3
	Production	22.3	21.8	+2
Asia	Sales	44.1	43.1	+2
	Production	49.3	48.4	+2
Global	Sales	93.6	92.3	+1
	Production	94.6	93.3	+1

\* Source: LMC Automotive.

### Estimated HDD truck sales and production (number of trucks)\*

		Year ended 31st March		
		2018	2017	%
		thousands	thousands	change
North America	Sales	540	479	+13
	Production	540	457	+18
Total Europe	Sales	457	425	+7
	Production	593	565	+5
Asia	Sales	2,019	1,650	+22
	Production	2,092	1,710	+22
Global	Sales	3,112	2,633	+18
	Production	3,321	2,801	+19

\* Source: LMC Automotive.

Our European HDD catalyst business continued to outperform, growing sales by 20% in a market with only a 5% increase in truck production. This outperformance was driven by the ramp up of production from business wins in the last financial year and a continued increase in the proportion of our sales related to higher value products, both coated and extruded.

Our Asian HDD catalyst business continues to grow rapidly from a small base. Sales in China increased by more than 50%, led by high levels of truck production as the impact of loading limits continued to push demand for more trucks and an increase in the catalyst value per vehicle.

### ROIC

Return on invested capital was maintained at 30.8%.

### Outlook

Clean Air is expected to deliver a strong 2018/19 as significant share gains in Light Duty Europe come through. We will mitigate the additional costs from serving these share gains through increased efficiency in our manufacturing footprint and processes. We had previously expected that margin would be negatively impacted by up to one percentage point but we now expect to maintain margin in 2018/19.

## Strategic Report

## Efficient Natural Resources

	Year ended 31st March		% change	% change, constant rates
	2018	2017 restated <sup>1</sup>		
	£ million	£ million		
<b>Sales</b>				
Catalyst Technologies	564	542	+4	+3
Pgm Services	253	234	+8	+9
Advanced Glass Technologies	82	85	-4	-6
Diagnostic Services	57	58	-2	-2
<b>Total sales</b>	<b>956</b>	<b>919</b>	<b>+4</b>	<b>+4</b>
<b>Underlying operating profit</b>	<b>158</b>	<b>163</b>	<b>-3</b>	<b>-4</b>
<b>Margin</b>	<b>16.5%</b>	<b>17.7%</b>		
Margin excl. PRMB	16.5%	17.2%		
<b>Return on invested capital (ROIC)</b>	<b>12.0%</b>	<b>13.4%</b>		

<sup>1</sup> Restated to reflect a change in group structure.

## Good sales growth with efficiencies driving margin improvement in the second half

- Sales growth driven by strong demand for catalyst refills and growth in Pgm (Platinum group metal) Services partly offset by the expected significant decline in licensing income.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit declined 2% and margin was only 0.7 percentage points lower at 16.5% despite the significant decline in licensing experienced in the year.
- We are starting to see the benefits of actions we have taken, including restructuring, destocking and product rationalisation, to improve the quality of the business.

## Catalyst Technologies

Sales in our Catalyst Technologies business, which licenses technology and manufactures speciality catalysts and additives for the chemicals and oil and gas industry, grew 3%. Excluding licensing, the business grew strongly, outperforming its markets in aggregate.

As expected we saw a significant decline in licensing income. Licensing activity remained subdued with limited new plant builds, especially for the technologies we license. We do not anticipate any further decline in the business and whilst we see some early signs of improved activity in certain markets (e.g. methanol), we do not expect a material recovery in licensing income in the near term.

Sales of catalyst first fills were stable, supported in the second half by the increased activity in methanol driven by increased industry capacity coming on stream.

Growth was led by high single digit sales growth in refill catalysts and additives. Sales of refill catalysts to ammonia plants were strong, with customers having delayed turnarounds in 2016/17. Additives sales also grew strongly, mainly driven by deteriorating feed quality which resulted in increased demand for environmental additives to remove SO<sub>x</sub> (oxides of sulphur) impurities. Sales of refill catalysts to methanol and hydrogen plants were lower due to the cyclical nature of our customers' orders.

## Pgm Services

Sales in Pgm Services increased 9%. Our Pgm Refining and Recycling business benefited from higher pgm prices with average palladium and rhodium prices up 39% and 79% respectively, while platinum prices decreased 6%, compared to 2016/17. Volumes were up, supported by good demand for refining of autocatalyst scrap in North America, driven in part by higher metal prices. Our precious metal management activities benefited from the volatility in the precious metal prices over the year.

Sales of chemical products also grew strongly, supported by growth in our Clean Air Sector, which uses pgm materials in its catalyst products. Sales of industrial products containing pgms were down in the year as the business focused on rationalising its product portfolio.

## Advanced Glass Technologies

Sales in our Advanced Glass Technologies business, which primarily provides black obscuration enamels and silver paste for automotive glass applications, declined despite a slight increase in global car production. The decline was principally due to destocking in the supply chain in China following a build-up of inventory at the end of the 2016 calendar year.

## Diagnostic Services

Sales in Diagnostic Services were broadly flat as increased activity in the global reservoir market, leading to higher sales of our tracer technologies, was offset by lower equipment sales.

## Operating profit

As expected, operating profit and margin declined. Excluding the US post-retirement medical benefit plan credit in the prior period, margin was down by 0.7 percentage points. In line with our strategy, we made significant progress in improving the efficiency and quality of our business. This came with some additional costs in the period, principally in relation to destocking. Additionally, as expected, licensing income was significantly down. These more than offset the benefit of higher precious metal prices, transactional foreign exchange and the delivery of the expected cost savings.

## ROIC

Return on invested capital declined 1.4 percentage points to 12.0% impacted by higher precious metal working capital especially through the second half. This was driven by increased precious metal prices and reduced liquidity in these markets.

## Outlook

In 2018/19, we expect slight sales growth and we will continue to improve the quality of our business as we focus our resources on areas of higher future growth. Operating profit will grow ahead of sales. In addition, we will also benefit from £7 million of cost savings in relation to the restructuring programme started in 2017/18.

## Health

	Year ended 31st March		% change	% change, constant rates
	2018 £ million	2017 restated <sup>1</sup> £ million		
<b>Sales</b>				
Generics	173	174	-	+1
Innovators	74	62	+19	+20
<b>Total sales</b>	<b>247</b>	236	+5	+6
<b>Underlying operating profit</b>	<b>44</b>	52	-14	-13
<b>Margin</b>	<b>18.0%</b>	21.9%		
Margin excl. PRMB	18.0%	20.9%		
<b>Return on invested capital (ROIC)</b>	<b>8.4%</b>	10.5%		

<sup>1</sup> Restated to reflect a change in group structure.

## Good sales growth but operating profit impacted by inefficiencies in manufacturing

- Sales growth driven by active pharmaceutical ingredients (APIs) for innovators and non-controlled generics, but partly offset by lower sales of controlled generic APIs.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit declined 9% and margin was 2.9 percentage points lower at 18.0% as the benefits of improved pricing and increased profit shares were more than offset by higher manufacturing costs.
- As we build our platform for break out growth, we started to optimise our manufacturing footprint, including developing our new plant in Annan, UK, and announcing the closure of our Riverside, US plant. This optimisation has associated costs in the short term including higher operating costs in Annan and inventory write downs as we drive efficiency across sites.

## Generics

In our Generics business, where we develop and manufacture generic APIs for a variety of treatments, sales were flat with a mixed performance in the business.

Sales of controlled APIs were down. Our speciality opiate sales grew strongly led by customer orders ahead of an anticipated product launch. However, this was offset by lower sales in relation to ADHD APIs in the US and to bulk opiates in Europe. Our sales of ADHD APIs were impacted by the end of a profit share agreement during the year along with increased competition in the US market which continued from the second half of 2016/17.

Non-controlled APIs grew strongly, driven primarily by an increased profit share contribution from dofetilide, which was launched by our customer in June 2016. This remained the only true generic on the market throughout 2017/18 but two competitors have now received US Food and Drug Administration (FDA) approval and are expected to launch in the first half of 2018/19. This will impact our sales and operating profit in 2018/19.

We invested £16 million in the year on our new API product pipeline. This development of a broader, deeper product portfolio continued in line with our plans to scale the business with three submissions for regulatory approval within the year.

## Innovators

Sales in our Innovators business grew strongly. This was mainly driven by improved pricing and volumes of APIs for branded drugs in commercial production. We continue to invest in growing our innovator product pipeline utilising our chemistry strengths to develop complex APIs for our customers.



## Strategic Report

### Operating profit

Operating profit, excluding the US post-retirement medical benefit plan credit in the prior period, was down 9% and margin declined 2.9 percentage points. Improved pricing and increased profit shares benefited margin. However, these were more than offset by additional costs as we optimise our manufacturing footprint, including higher operating costs associated with our plant in Annan, UK coming on stream and inventory write downs as we drive efficiency across sites.

### ROIC

Return on invested capital declined 2.1 percentage points to 8.4% driven by the lower operating profit.

### Outlook

In 2018/19, sales in our Health Sector are expected to be broadly stable. However, operating profit will be down, particularly in the first half. Several API products with high margin or profit sharing agreements move into decline in 2018/19, reflecting normal product lifecycles of generics, while launches of new API products only have a small contribution in the year. The optimisation of our manufacturing footprint partly mitigates this decline, as it will generate a small net benefit in 2018/19 and a significant benefit once Annan is fully operational in 2020/21.

## New Markets

	Year ended 31st March		% change	% change, constant rates
	2018 £ million	2017 restated <sup>1</sup> £ million		
<b>Sales</b>				
Alternative Powertrain	156	160	-2	-7
Medical Device Components	74	69	+8	+8
Life Science Technologies	45	48	-7	-8
Other	37	31	+18	+19
<b>Total sales</b>	<b>312</b>	<b>308</b>	<b>+1</b>	<b>-2</b>
<b>Underlying operating profit</b>	<b>17</b>	<b>12</b>	<b>+37</b>	<b>+34</b>
<b>Margin</b>	<b>5.3%</b>	<b>4.0%</b>		
Margin excl. PRMB	5.3%	3.3%		
<b>Return on invested capital (ROIC)</b>	<b>8.1%</b>	<b>6.2%</b>		

<sup>1</sup> Restated to reflect a change in group structure.

### Lower LFP sales led to a small sales decline; significant progress in developing eLNO

- Significant decline of lithium iron phosphate (LFP) battery materials was partially offset by strong growth in fuel cells and Medical Device Components.
- Excluding the US post-retirement medical benefit plan credit in the prior period, operating profit grew by 60% reflecting comparison against a £5 million impairment charge in the second half of last year.
- Significant progress in developing eLNO and our strategy to commercialise this market leading next generation product.

## Alternative Powertrain

Our Alternative Powertrain business provides battery materials for automotive applications, battery systems for a range of applications and fuel cell technologies.

Sales were down 7% as the decline in LFP battery material sales more than offset significant growth in fuel cell products. As expected, the business grew sales in the second half following stronger orders for battery system products.

Sales of our LFP battery materials continue to be subdued as the number of platforms we serve is significantly lower than in previous years. This primarily reflects changes in electric vehicle tax incentives in China which has led to increased substitution of LFP by high energy materials. While a recovery in our LFP sales is expected in the medium term, led by demand for our next generation LFP for a range of higher value hybrid applications, we do not see a recovery in the near term given the current competitive landscape and price points.

We continue to make significant progress in the development of our ultra-high energy density battery material, eLNO, as discussed on pages 8 and 10.

Sales of fuel cell products grew by over 50% in the year, helped by increased volumes to stationary applications for existing and new customers. Sales of battery system products were flat following a strong second half as expected.

## Medical Device Components

Our Medical Device Components business leverages our science and technology to develop products found in devices used in medical procedures. Sales growth was strong across product areas, including for example, components for cochlear implants to aid hearing. Growth was driven by customer growth as demand for our products across the world continues to expand.

## Life Science Technologies

Our Life Science Technologies business provides advanced catalysts to the pharmaceutical and agricultural chemicals markets. As expected, sales were lower in the period reflecting lower sales to two large customers.

## Operating profit

Operating profit grew by 34%, helped by comparison against a £5 million impairment charge last year. Excluding this, operating profit was flat as strong growth in medical device components and improved profitability in fuel cells was offset by the decline in LFP sales and by increased development costs for our eLNO battery material.

## ROIC

Return on invested capital increased to 8.1% reflecting the improvement in operating profit.

## Outlook

New Markets is expected to deliver sales and operating profit growth in 2018/19 led by continued growth in fuel cells and Medical Device Components and a stronger year for battery systems.

# Financial review

## Introduction

Johnson Matthey delivered results in line with expectations in 2017/18. At constant rates, sales grew 7% and underlying operating profit was flat. Further aspects of the group's financial performance in 2017/18 are outlined below.

## Corporate

In line with our guidance, corporate costs in the period were £43 million which was an increase of £11 million from 2016/17. This was driven by additional spend on central programmes that will deliver operational excellence and efficiency across the group, including rolling out the global procurement programme, and higher legal costs.

Corporate costs are expected to be higher in 2018/19 reflecting further investment in group efficiency programmes and our IT systems.

## Research and development (R&D)

We invested £193 million on R&D in the period, including £18 million of capitalised R&D, representing 5% of sales.

This was 4% lower than last year, reflecting more focused and disciplined investment into areas of higher potential return. Key areas of spend included next generation technologies in Clean Air, our Health API product pipeline and development of our eLNO battery material.

## Foreign exchange

The calculation of growth at constant rates excludes the impact of foreign exchange movements arising from the translation of overseas subsidiaries' profit into sterling (see note 2 on page 61). The group does not hedge the impact of translation effects on the income statement.

The principal overseas currencies, which represented 86% of non-sterling denominated underlying operating profit in the year ended 31st March 2018, were:

	Share of 2017/18 non-sterling denominated underlying operating profit	Average exchange rate Year ended 31st March		% change
		2018	2017	
US dollar	38%	<b>1.328</b>	1.308	+2
Euro	35%	<b>1.134</b>	1.191	-5
Chinese renminbi	13%	<b>8.79</b>	8.79	-



**Anna Manz**  
Chief Financial Officer

# We had a good year, delivering results in line with our expectations at the start of the year

In our first half, sterling decreased in value against most major currencies compared to the half year ended 30th September 2016. However, this partly reversed in the second half of the year especially in relation to the US dollar. This meant that overall the impact of exchange rates increased sales and underlying operating profit for the year as a whole by £33 million and £9 million respectively following an £86 million and £18 million benefit respectively in our first half.

If current exchange rates (£:\$ 1.354, £:€ 1.143, £:RMB 8.62) are maintained throughout the year ending 31st March 2019, foreign currency translation will have a negative impact of approximately £6 million on underlying operating profit. A one cent change in the average US dollar and euro exchange rates each has an impact of approximately £2 million and £2 million respectively on full year underlying operating profit and a ten fen change in the average rate of the Chinese renminbi has an impact of approximately £1 million.

## Pgm prices

Higher average pgm prices benefited operating profit by around £15 million in the year in Efficient Natural Resources.

## Reconciliation of underlying operating profit to operating profit

	Year ended 31st March	
	2018 £ million	2017 £ million
Underlying operating profit	525	513
Amortisation of acquired intangibles <sup>1</sup>	(19)	(20)
Major impairment and restructuring charges <sup>1</sup>	(90)	-
Loss on disposal of businesses <sup>1</sup>	(7)	-
Loss on significant legal proceedings <sup>1</sup>	(50)	-
<b>Operating profit</b>	<b>359</b>	<b>493</b>

<sup>1</sup> For further detail on these items please see notes 5 to 8 on pages 153 and 154.

## Legal settlement

As announced in February 2018, a lawsuit against a group company, Johnson Matthey Inc. was settled on mutually acceptable terms with no admission of fault. Under the settlement agreement, we have recognised a charge of £50 million in connection with resolution of the lawsuit. This charge has been excluded from underlying operating profit for the year ended 31st March 2018.

## Major impairment and restructuring costs

We have taken restructuring and impairment charges of £90 million in the year, as we execute our strategy and build our platform for future growth. Cash spend was £13 million and in 2018/19 cash spend on restructuring is expected to be £10 million.

The implementation of our group restructuring programme resulted in costs of £43 million, which was below our previous guidance of £50 – 65 million. This programme delivered £12 million of cost savings in 2017/18. We remain on track to deliver around £25 million of annualised cost savings.

In March 2018 we notified employees at our Health Sector Riverside, US facility of our intention to close the plant, as we continue our strategic focus on speciality, low volume, complex APIs. The closure of Riverside led to a charge of £36 million. We expect the plant to cease production by the end of the first half of 2018/19. This is a key part of our plan to optimise our Health manufacturing footprint, which will deliver a small net benefit in 2018/19.

We have also impaired goodwill by £11 million relating to our Water Technologies business within New Markets reflecting lower growth assumptions for this business.

£ million	Impairment and restructuring charge	Associated total cash costs
Group restructuring programme	43	19
Health – Closure of Riverside, US	36	4
New Markets - Impairment of Water	11	-
<b>Total</b>	<b>90</b>	<b>23</b>

## Loss on disposal of businesses

On 31st January 2018, the group sold its UK automotive battery systems business for net proceeds of £5 million which resulted in a loss on sale of £7 million. This is excluded from underlying operating profit.

## Finance charges

Net finance charges in the year amounted to £38 million, up from £31 million in 2016/17. This was the result of higher precious metal funding costs.

We anticipate that net finance charges will be slightly higher in 2018/19 due to rising US interest rates and higher borrowing costs as we expand in China. These will be only partly offset by lower precious metal funding costs.

 The five year record can be found online at: [matthey.com/five-year-record](http://matthey.com/five-year-record)

## Strategic Report

### Taxation

The effective tax rate on reported profit for the year was 6.9%, a reduction of 9.8% from 2016/17.

The lowering of the US federal tax rate led to a revaluation of our US deferred tax assets and liabilities, which has resulted in a £24 million non-cash benefit in the income tax expense line in the income statement for the year ended 31st March 2018. Of this, £23 million has been excluded from the tax on underlying profit.

Tax on underlying profit was 17.7%, an increase of 0.7% from 2016/17.

We currently expect the tax rate on underlying profit for the year ending 31st March 2019 to be around 16%, due to changes in the US tax legislation.

### Our approach to tax

Johnson Matthey has developed a reputation over the last 200 years for integrity and our people take pride in doing the right thing across all aspects of our business. These principles underpin our approach to the management of tax.

We want to be clear and open on our approach so that our stakeholders understand it. Today we have operations in over 30 countries and, for each of those countries, we endeavour to pay our fair share of tax. We follow the laws of the relevant country and our group tax strategy so that we pay the correct and appropriate amount of tax at the right time.

Through implementation of our tax strategy we plan to:

- Optimise global tax incentives and exemptions, such as those which support the research and development of our next generation of sustainable technologies. We will only engage in tax planning which is supported by a clear commercial rationale.
- Have clear and consistent tax policies and procedures to support our business strategy. All our tax policies and guidelines are managed and maintained by our professional tax function which is supported by external advisers. This ensures compliance and allows us to properly respond to global tax changes and developments.
- Proactively identify, evaluate, manage and monitor tax risks arising from our business operations to ensure they remain in line with the group's risk appetite, seeking external advice where necessary.
- Ensure that all tax returns are accurate, complete and are submitted in a timely manner through the activation of a thorough tax risk compliance management process.
- Maintain open, positive and cooperative relationships with governments and global tax authorities.

We also partake in constructive discussions on taxation policies that are relevant to our business. The board approves our tax strategy each year and reviews compliance against it on a regular basis. That way, our strategy will encompass any learning and remain relevant and consistent with our values. The tax strategy satisfies the requirements of UK Finance Act 2016. In line with our code of ethics and commitment to doing the right thing, together with the requirements of Part 3 of The Criminal Finances Act 2017, we are also taking steps to put in place adequate procedures to prevent the facilitation of tax evasion.

### 2016/17 US PRMB

Profit growth for the period was impacted by the comparison against a one-off gain of £17 million mainly following the implementation of an inflation cap on the US post-retirement medical benefit (PRMB) plan. The table below shows the impact of this by sector:

£ million	Year ended 31st March 2017 US PRMB gain
Clean Air	6
Efficient Natural Resources	5
Health	3
New Markets	2
Corporate	1
<b>Total</b>	<b>17</b>

The table below shows the performance excluding the impact of the PRMB:

Adjusted underlying operating profit growth	% change, at constant rates, excl. PRMB <sup>1</sup>
Clean Air	+9
Efficient Natural Resources	-2
Health	-9
New Markets	+60
<b>Group</b>	<b>+4</b>

<sup>1</sup> Excludes the translational FX impact on the PRMB as the impact is immaterial.

### Post-employment benefits

#### IFRS – accounting basis

At the year end the group's net post-employment benefit position, after taking account of the bonds held to fund the UK pension scheme deficit, was a surplus of £190 million, up from a surplus of £63 million at 31st March 2017. This increase in the surplus mainly reflects a reduction in obligations in the UK plan due to a 20 basis point increase in the real (after inflation) discount rate caused by rising corporate bond yields and falling market-implied inflation.

The cost of providing post-employment benefits in the year was £69 million, an increase of £23 million, mainly as a result of the impact of the £17 million one-off credit in the prior year in relation to the implementation of an inflation cap in the US post-retirement medical plan.

#### Actuarial – funding basis

The UK pension scheme has a legacy defined benefit career average section which was closed to new entrants on 1st October 2012 when a new defined benefit cash balance section was opened.

The last triennial actuarial valuation of the career average section as at 1st April 2015 revealed a deficit of £69 million, or £28 million after taking account of the future additional deficit funding contributions from the special purpose vehicle set up in January 2013. The latest valuation update of this section as at 1st April 2017 revealed a deficit of £67 million, or £22 million after taking account of the special purpose vehicle.

During the year a pension increase exchange exercise was conducted whereby current retirees were invited to exchange an inflationary-linked pension for a higher non-increasing pension.

The last triennial actuarial valuation of the cash balance section as at 1st April 2015 revealed a surplus of £2 million with the latest update as at 1st April 2017 showing a deficit of £3 million.

The latest actuarial valuations of our two US pension schemes showed a deficit of £11 million at 30th June 2017 up from a £2 million deficit at 30th June 2016.

The deterioration in the funding position of our defined benefit pension schemes is mainly due to a reduction in gilt yields and in the UK is also due to an increase in inflationary expectations, both of which increased the value placed on the liabilities.

### Capital expenditure

Capital expenditure was £217 million for the year ended 31st March 2018, 1.4 times depreciation and amortisation (excluding amortisation of acquired intangibles). In the year, key projects included:

- A new Clean Air manufacturing plant in Poland to support demand from tightening legislation and the significant share gains made in European Light Duty diesel while also enhancing our efficiency and operating flexibility.
- Continued investment in a new pgm catalyst plant in Germany to meet future demand for a range of products in our Catalyst Technologies business.
- Investment in our Health manufacturing and development facilities in Annan, UK and continued investment in our Health API product pipeline.
- Upgrading our core IT business systems to drive efficiency across the group.

Capital expenditure was below our previous guidance of £285 million for the year due to more rigorous capital allocation and lower than planned spend on our Poland Clean Air plant caused by permitting delays.

Capital expenditure for 2018/19 is expected to be around £390 million as our investments into growth projects increases. Key projects include:

- Clean Air plants in Poland and China to meet the growing demand for our technology.
- Investment in our eLNO demonstration and commercial plants as we commercialise our market leading product.
- Upgrading our core IT business systems.

Depreciation and amortisation (excluding amortisation of acquired intangibles) is expected to increase by around £7 million in 2018/19 primarily as we start depreciation of our investment in upgrading our core IT systems.

### Free cash flow and working capital

Free cash flow was £136 million. Within this, working capital outflows of £158 million were impacted by a precious metal outflow of £84 million driven by higher precious metal prices and volumes, and non-precious metal related outflows of £64 million.

Improvements in efficiency and better control of working capital have driven a reduction in working capital days as sales have grown. Excluding precious metal working capital days have improved to 50 days from 54 days at 31st March 2017. Average working capital days excluding precious metal decreased from 69 days to 62 days. Our target is for working capital excluding precious metal to be in the 50 to 60 day range.

### Dividend

The board has recommended an increase of 7% in the final dividend to 58.25 pence per share. Together with the interim dividend of 21.75 pence per share this gives a total ordinary dividend for the year ended 31st March 2018 of 80.0 pence per share (2016/17: 75.0 pence per share). Subject to approval by shareholders, the final dividend will be paid to shareholders on 7th August 2018, with an ex dividend date of 7th June 2018.

### Return on invested capital (ROIC)

ROIC declined to 16.4% from 18.2%, mainly due to an increase in the UK pension fund asset and higher precious metal working capital during the year. It was also impacted by higher levels of non-current assets reflecting increased investment to drive future growth.

### Capital structure

Net debt at 31st March 2018 was £679 million. This is down £212 million from 30th September 2017 and is a decrease of £37 million from 31st March 2017. Net debt increases to £725 million when adjusted for the post-tax pension deficits. The group's underlying EBITDA increased to £681 million (2016/17: £665 million). As a result, the group's net debt (including post tax pension deficits) to EBITDA was 1.1 times (2016/17: 1.1 times) and, whilst below our target range of 1.5 to 2.0 times, ensures we have flexibility to invest further in the future growth of the business.

### Contingent liability

Johnson Matthey has been informed of failures in certain engine systems for which the group supplied a particular coated substrate as a component for emissions after-treatment. The extent to which, if any, the reported failures are due to the coated substrate supplied by Johnson Matthey group companies has not been demonstrated. Potential solutions for the reported engine system issues and any associated costs have not yet been notified to the group. Johnson Matthey has not been contacted by any regulatory authority and no Johnson Matthey group company has been served with any contract dispute lawsuit, nor has any formal claim for recovery of identified costs been made at this point. Having reviewed its contractual obligations and the information currently available to it, the group believes that were it to be served with a contract dispute lawsuit, it would have defensible warranty positions in respect of its supplies of coated substrate for the after-treatment systems in the affected engines. If required, it will vigorously assert its available contractual protections and defences. The outcome of any discussions is not certain, nor is the group able to make a reliable estimate of the possible financial impact at this stage, if any.

# Treasury policies, going concern and viability

## Treasury policies and financial risk management

Group Treasury is a centralised function within Johnson Matthey based in the UK and US. The role of Group Treasury is to secure funding for the group, manage financial risks and provide treasury services to the group's operating businesses. Group Treasury is run as a service centre rather than a profit centre. The group does not undertake any speculative trading activity in financial instruments.

## Funding and liquidity risk

The group's policy on funding capacity is to ensure that we always have sufficient long term funding and committed bank facilities in place to meet foreseeable peak borrowing requirements.

At 31st March 2018 the group had cash and deposits of £329 million and £510 million of undrawn committed bank facilities available to meet future funding requirements. The group also has a number of uncommitted facilities, including overdrafts and metal lease lines, at its disposal. The maturity dates of the group's debt and committed borrowing facilities as at 31st March 2018 are illustrated in the chart on page 75.

Of the committed bank facilities, £155 million has a final maturity date within the 15 months to 30th June 2019 (the going concern period). £53 million of these committed bank facilities were refinanced in May 2018 for a further two years with a long term relationship bank.

## Going concern

The directors have assessed the future funding requirements of the group and the company and compared it to the level of long term debt and committed bank facilities for the 15 months from the balance sheet date. The assessment included a sensitivity analysis on the key factors which could affect future cash flow and funding requirements. Having undertaken this work, the directors are of the opinion that the group has adequate resources to fund its operations and so determine that it is appropriate to prepare the accounts on a going concern basis.

## Viability

In accordance with provision C.2.2 of the UK Corporate Governance Code 2016, the directors have assessed the viability of the company over a longer period than the 15 months covered by the 'Going Concern' statement.

During the year, the board has carried out a robust assessment of the principal risks affecting the company, particularly those which could threaten the business model. These risks and the actions taken to mitigate them are described in the section on risks and uncertainties. To reach the viability statement conclusion we have undertaken the following process:

- The Audit Committee annually reviews the risk management process to ensure its continuing effectiveness.
- A rolling programme is in place of deep dive reviews of principal risks. In each one, the board receives a presentation on the risk and mitigations from the GMC risk owner.
- Twice a year, a presentation is made to the board from the Group Assurance and Risk Director, explaining the process followed by management to identify, assess and manage risks throughout the business. At this time all of our principal risks are considered along with the linkages between them.
- Throughout the year, a number of deep dives into specific risk areas were conducted by the Corporate Assurance and Risk team, the results of which were presented to and discussed by the board.

The group's prospects are assessed through the annual strategic and business planning processes. This process includes a review of assumptions made and the ongoing assessment of annual and longer term plans, including appraisal of the group strategy and significant capital investment decisions. Reviews are led by the Group Chief Executive and Chief Financial Officer in conjunction with Sector Chief Executives. In addition, the board participates fully in the annual process by reviewing sector strategies throughout the year. During these reviews, the group's current position and its prospects over the forthcoming years are reviewed which allows reaffirmation of the group strategy.

The directors have determined that a three year period to 31st March 2021 is an appropriate period over which to assess the group's viability. As part of our long term planning, the group also prepares forecasts for longer periods than three years, but there is inevitably more uncertainty associated with longer time horizons. We have therefore chosen a three year horizon since this period is also aligned with our normal and well established business planning process which includes preparing and reviewing a three year plan each year.

In making the assessment, we have considered a number of severe but plausible stress scenarios linked to the group's principal risks. We have analysed the impact of the following three hypothetical stress scenarios plus all of them occurring at the same time.

Scenario 1: Business performance risks. Under this scenario we evaluated the possible impact from a faster than expected uptake of electric vehicles and the failure to grow existing businesses and to launch new products.

Scenario 2: Execution risks. This includes poor management of capital projects, significant production losses due to downtime at a major site and the inability to improve certain businesses or sites.

Scenario 3: External and macroeconomic risks. This scenario assesses the impact from a hard Brexit, cyber and IP related risks and from adverse events and movements in commodity markets.

All of our stress tests were derived through discussions with senior management and the board after considering our principal risks and uncertainties.

Our evaluation took account of the group's current financing arrangements and assumes that existing debt and borrowing facilities can be refinanced as they mature, but we have also considered the potential capacity for additional funding should this be required. Our stress testing showed that certain combinations of these hypothetical scenarios would increase JM's funding requirements substantially and risk breaching a key financial covenant, requiring additional funding and potentially mitigating actions in order to maintain sufficient headroom against the covenant limit.

However, we are satisfied that the mitigating actions and our capacity for additional financing will allow JM to effectively respond to the negative impact from a combination of these stress scenarios.

We have also undertaken a reverse stress test in order to identify what additional or alternative scenarios and circumstances would threaten our current financing arrangements.

Based on the results of our assessment, the directors have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over a period of at least three years.

### Foreign currency risk

Johnson Matthey's operations are located in over 30 countries, providing global coverage. A significant amount of profit is earned outside the UK. In order to protect the group's sterling balance sheet and reduce cash flow risk, the group has financed a significant portion of its investment in the US and Europe by borrowing US dollars and euros respectively. Additionally, the group uses foreign currency swaps to hedge a portion of its assets.

The group uses forward exchange contracts to hedge foreign exchange exposures arising on forecast receipts and payments in foreign currencies. Details of the contracts outstanding on 31st March 2018 are shown on pages 175 and 176.

### Interest rate risk

At 31st March 2018 the group had net borrowings of £679 million of which 99% was at fixed rates with an average interest rate of 3.1%. The remaining 1% of the group's net borrowings was funded on a floating rate basis. A 1% change in all interest rates would have an immaterial impact on underlying profit before tax.


### Precious metal prices

Fluctuations in precious metal prices have an impact on Johnson Matthey's financial results. Our policy for all manufacturing businesses is to limit this exposure by hedging against future price changes where such hedging can be done at acceptable cost. The group does not take material exposures on metal trading.

A proportion of the group's precious metal inventories are unhedged due to the ongoing risk over security of supply.

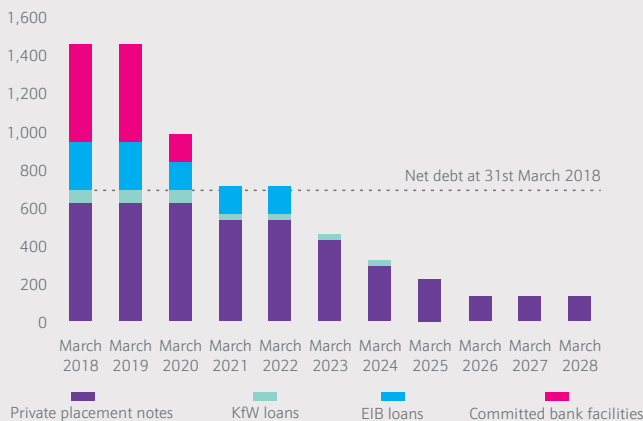
### Credit risk

The group is exposed to credit risk on its commercial and treasury activities. In both cases counterparties are assessed against the appropriate credit ratings, trading experience and market position. Credit limits are then defined and exposures monitored against these limits. In treasury and precious metal management, these exposures include the mark to market of outstanding transactions and potential settlement risks.

 Pages 76 to 81: Our principal risks

### Maturity profile of debt facilities

At 31st March 2018 exchange rates  
£ million





Strategic Report

# Risks and uncertainties

## A holistic approach to managing risk

Our approach to risk management focuses on identifying key risks early and action to reduce the likelihood of these having a detrimental effect on the business. During the year we:

- Continued to strengthen our processes, monitoring and reporting capabilities so that risks continue to be appropriately identified and managed. As with all Johnson Matthey processes, we regularly review our approach to ensure that it continues to meet business needs and supports the effective management of risks while meeting the requirements of the UK Corporate Governance Code.

The effective management of risk enables Johnson Matthey to:

- Improve our decision making, planning and prioritisation.
- Pursue opportunities while keeping risks at an acceptable level in a rapidly changing external environment.
- Effectively deal with risks should they materialise.
- Consider risk and reward and implement controls in the areas that matter most to us.

All this helps us to deliver our strategic objectives.

## Our risk framework

We operate a holistic risk management system that is applied throughout the business:



## How we manage risk

### Evolution of our framework

We recognise that risk management is an important part of our business and continually seek to improve our processes.

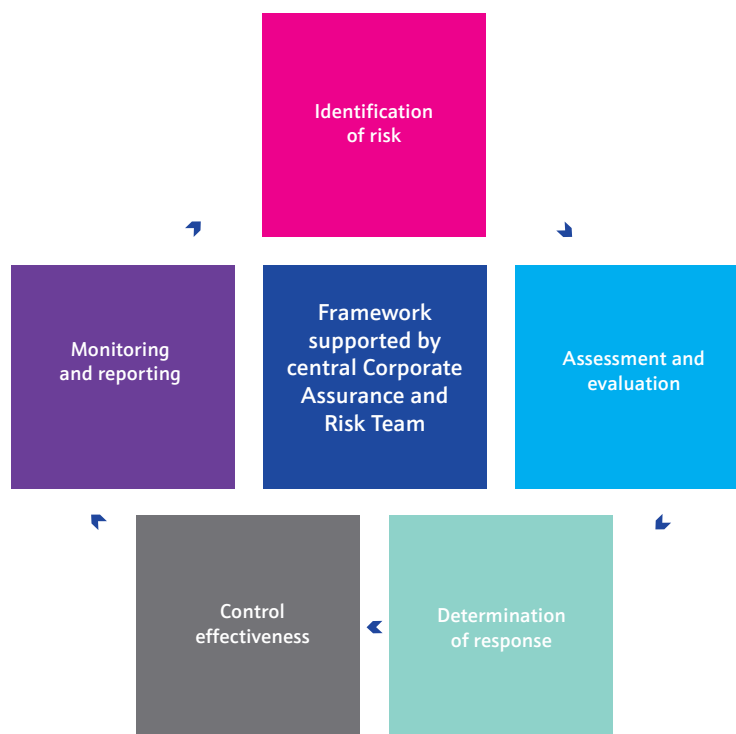
This year we have enhanced our existing processes by continuing to review and refine:

- Our bottom up risk management process, ensuring that our sectors have an embedded risk management process in their businesses which are consolidated and reviewed by the sector leadership twice a year. Training and facilitation is provided to support this.
- Our top down risk management process, to ensure that any risks not materialising through the bottom up process were captured through looking at the external environment and internal environment with the GMC and board.
- Following the revision of our strategy in 2017, we took a fresh look at our risks to confirm that these continued to be aligned to our strategy. With greater clarity of our strategic priorities, we have tightened our risks so that we can focus on understanding worst case scenarios that could threaten our business model, future performance, solvency or liquidity.
- Our approach has meant that we have effective risk related conversations and that these are embedded within the GMC and board agendas; and not just as specific discussions on risk.
- As a result of this activity, our assessment of our risks has changed, narrowing the focus towards the worst case scenario; and deeper more informed conversations that include constructive challenging debates.
- We have embedded risk mitigation monitoring in our business management processes. This therefore means that we are continually monitoring our mitigating activities as part of our normal course of business management and not waiting for a risk management process deep dive to flag progress against plan.
- Our new process puts significantly more focus on monitoring the quality of our mitigation plans. We have embedded continuous monitoring and improvement of the mitigation plans within the business, and ensure there is ongoing challenge to further improve effectiveness of the plans.

### Our risk process

Our risk process is designed to support everyone, at all levels of the business, in identifying and managing risks.

All risks, whether they are identified at the most senior level or throughout the business, are described, analysed and reported using a standard framework. The central Corporate Assurance and Risk team acts as an advisory function and provides independent challenge and review. Each of our business functions also participates in the process, identifying any risks that may prevent them achieving their objectives and describing these in terms of cause and consequence. These are scored using a variety of impact measures, including financial, operational, reputational and people factors. Controls for each risk are described and assessed. Each risk, at every level, has a designated owner who is responsible for ensuring the described controls are effective and efficient. We continually review the level of risk throughout the business and complete a formal submission every six months for reporting purposes (as illustrated in our risk framework opposite).



Strategic Report

Our principal risks and uncertainties

Understanding why and how our principal risks change

The ongoing review of our principal risks ensures that we reflect on the challenges facing our business and the changes that we have made to our business in response to those challenges.

We continually map our principal risks and uncertainties to strategic and business plans to ensure that we have appropriate coverage of risks. Following the revision of our strategy in 2017, we took a fresh look at our risks to confirm that these continued to be aligned to the strategy. With greater clarity of our strategic priorities we have better focused our risks, understanding the worst case scenarios that could threaten our business model, future performance, solvency or liquidity.

As a result of these exercises, we have concluded that for the most part, the overarching areas of risk remain unchanged. In all cases we continue to review and refine the documented mitigations for each risk.

We have also changed our risk reporting to consider whether the risk profile is increasing, decreasing or remaining constant. We believe that provides our board and shareholders greater transparency in reporting compared to reporting the gross or net risk as high, medium or low.

Changes to our principal risks and uncertainties in 2017/18:

- Future revenue growth. Now this is the risk specifically associated with our failure to deliver against the growth opportunities identified in our strategy. Previously it was defined more broadly as the risk associated with revenue growth opportunities, investment decisions, significant capital investment, mergers and acquisitions and research and development activities.

- Applications systems and cyber security. This was added to our principal risks during the year. The external cyber threat is increasing with more sophisticated attacks on a wide range of organisations. The elevation of this risk ensures that the board has greater visibility of the actions we take to mitigate the risk.

**Brexit**

Whilst not a principal risk and uncertainty, Johnson Matthey continues to monitor closely the potential EU exit (Brexit) risks through our businesses. Our well established Brexit working group is composed of a number of functional experts who look to mitigate risks for a range of Brexit scenarios with a specific focus on trade, regulation and our people. Whilst there remains a great deal of uncertainty as to what Brexit will mean for the company, the Brexit working group is developing and implementing plans to ensure Johnson Matthey is able to navigate the best possible outcome for our people, our business and our customers.

**The following table sets out the principal risks and uncertainties facing the group, the mitigating actions for each and an update on any change in the profile of each risk during the course of the year.**

Our risks are not listed from greatest risk to lowest risk; we list our strategic risks first, followed by operational risks. As explained above, we added applications, systems and cyber risk this year. It is our newest risk and so it is listed last.

**1 Existing market outlook**

**Risk and impact**

The risk of a change to the outlook for our key markets is either unplanned or unforeseen and as a result we are poorly positioned to respond.

This risk would include legislative change, for example as a result of Brexit or changes in customer or consumer behaviour impacting our business.

**Mitigation**

- Strategic planning process in place to assess and understand trends across our sectors and markets with an understanding and assessment of the impact of economic and geopolitical uncertainty and legislative changes.
- Plans in place to execute mitigation strategies.
- Mechanisms to monitor changes and launch mitigation actions if required.

**Changes since 2017 annual report**

As we continue to strengthen our strategic planning process, the robustness of our scenario planning is also increasing. However, uncertainty will always be present in the external environment. This risk is unchanged.

**2 Future growth**

**Risk and impact**

To deliver growth as communicated in our capital markets day, we are making significant investments in key growth opportunity areas. This risk considers the potential failure to deliver this growth and create value.

**Mitigation**

- A clear strategy, which is continuously reviewed in the light of new information, and a business review process to track execution of that strategy.
- Appropriate investment in R&D, capital and talent identified to support realisation of the strategy.
- Ongoing monitoring and review of new technologies and market competitiveness.
- Project Management Offices (PMOs) in place to ensure appropriate governance in place and plans are delivering to expected timelines.

**Changes since 2017 annual report**

This risk has been refined to consider our key growth areas as described in our capital markets day. This risk is therefore not directly comparable with that reported in 2016/17.

### 3 Maintaining our competitive advantage

#### Risk and impact

Failure to maintain our competitive advantage in existing markets and, as a result, not meeting customers' evolving needs as efficiently as our competitors.

#### Mitigation

- Strong customer relationships, built around technical proposition, reputation in the market and a high level of technical service.
- Regular strategy reviews to retest the external environment.
- Embedding analysis of competitor strategy and benchmarking relative performance.
- Strong balance sheet to support significant ongoing investment in R&D.
- Active prioritisation of R&D and capital investment to areas of greatest opportunity.

#### Changes since 2017 annual report

This risk is unchanged. We will continue to evolve our position to maintain our competitive advantage.

### 4 Environment, health and safety

#### Risk and impact

In common with other similar manufacturing companies, the group operates in a challenging safety environment that is subject to numerous health, safety and environmental laws, regulations and standards.

If we fail to operate safely we could injure our people. We could breach applicable laws, regulations and standards which could adversely impact our employees, result in lost production time and could attract negative media and regulator interest.

#### Mitigation

- Setting the tone from the top with senior managers leading by example.
- Understanding of our business risk profile.
- Systems and processes to facilitate adherence to corporate policies, procedures and standards.
- Ongoing investment in the business to ensure that our equipment is appropriate.
- Training and awareness activities.
- Risk, audit and safety checks.
- Safety culture programme and behavioural standards.
- Investigations to determine the cause of incidents and accidents and the development of remediation plans.
- An independent hotline for employees to report concerns.

#### Changes since 2017 annual report

This risk is unchanged. Health and safety continues to be our priority and we take our responsibility for environmental impact very seriously.

### 5 Sourcing of strategic materials

#### Risk and impact

As JM has limited suppliers from which to source certain strategic raw materials, any significant breakdown in the supply of these materials would lead to an inability to manufacture and satisfy customer demand.

#### Mitigation

- Strengthening supplier relationship management, regular reviews to discuss supplier capacity constraints.
- Continuing to build expertise in supply chain, logistics, procurement and trade export controls.
- Supplier quality management processes.
- Safety stocks held in strategic locations.
- Research and development to consider alternative materials.
- Business continuity management, identification of critical failure risks and plans in place to manage these.

#### Changes since 2017 annual report

This risk is inherent in our Automotive and Health related businesses, where validated materials are utilised in our products. Risk landscape unchanged.

### 6 People

#### Risk and impact

To execute the JM strategy and deliver growth, we need to ensure that we have the breadth and depth of leadership and the appropriate capabilities.

#### Mitigation

- Assessment of skills and capability requirements.
- JM leadership values and behaviours.
- Robust talent management processes.
- Leadership development programmes.
- Building high quality personal development plans in place for all leaders.

#### Changes since 2017 annual report

With greater clarity of our strategic priorities we have tightened this risk to focus on the skills and capabilities we need now and in the future. We are investing in our leadership and growing talent through robust succession planning to build our future leaders.

## Strategic Report

## 7 Security of metal and highly regulated substances

**Risk and impact**

On any given day, the group has significant quantities of high value precious metals or highly regulated substances on site and in transit; loss or theft due to a failure of the security management systems associated with the protection of metal or highly regulated substances may result in performance impact, reduced customer confidence and potential legal action.

**Mitigation**

- Assay and other process controls.
- Stock takes to check inventories.
- Security awareness campaigns and training.
- Security management systems and site security systems.
- Audits of site security systems and process controls.
- Use of approved carriers for transit.
- Liaison with local law enforcement for high risk sites.
- Insurance coverage for losses from theft or fraud.

**Changes since 2017 annual report**

As reflected at the half year, we saw this risk increase in response to the impact of the metal price on our balance sheet.

## 8 Intellectual capital management

**Risk and impact**

Failure to identify and protect the group's intellectual capital or failure to identify third party intellectual capital rights could lead to a loss in business advantage, loss of freedom to operate and reputational damage associated with litigation.

**Mitigation**

- Business intellectual capital management strategy.
- Ensuring we maintain a data security strategy to protect our intellectual capital.
- Investment in cyber security (see risk 13).
- Annual research and development and intellectual property reviews.
- Monitoring of third party intellectual capital.
- Use of intellectual capital lawyers to provide specialist guidance.
- Training and awareness.

**Changes since 2017 annual report**

We are developing market leading intellectual capital, through intellectual property, in the battery materials and health markets, both of which are crowded and litigious. Although cyber risk to our business is considered separately, it is also recognised as a threat to this risk area. As such we are investing in our mitigating activity to manage our increased risk profile.

## 9 Failure of significant sites

**Risk and impact**

Potential risks include a disruptive event such as fire, flood or earthquake, a major incident at site level such as an explosion or other events such as geopolitical instability.

The consequences associated with this risk include the impact on our ability to manufacture goods and satisfy customer demand.

**Mitigation**

- Assessment of significant sites.
- Business impact analysis for sites covering all activities, e.g. supply chain, production, commercial etc.
- Building plans that enable a comprehensive response to an event and annual testing.
- Insurance of activities.

**Changes since 2017 annual report**

Risk landscape unchanged.

## 10 Ethics and compliance

**Risk and impact**

Failure to comply with ethical and regulatory compliance standards leading to reputational damage, to civil or criminal legal exposure for the company or for individuals or to risk of contractual breach.

**Mitigation**

- Code of ethics and tone from the top set by senior leadership.
- Use of subject matter experts, internal and external, to identify risks, set standards and provide advice and training.
- Suite of legal compliance policies and procedures to mitigate key ethics and compliance risks.
- Code of ethics in place supported by online training and formal acknowledgement.
- Global network of ethics ambassadors.
- Independent confidential speak up hotline for employees, contractors and third parties.
- Investigation / response to all matters overseen by an Ethics Panel.

**Changes since 2017 annual report**

This risk is reassessed on an ongoing basis in the light of the evolving regulatory and business background. In response, we review our policies, processes and controls and amend these as appropriate.

Examples of this include General Data Protection Regulations (GDPR) and the CCO (Corporate Criminal Offence).

## 11 Business transition

### Risk and impact

To position the group for future growth and maximise available efficiencies, we continue to evolve the way in which we run our business. This includes standardising some activities across the group, directed by strong functional leaders, in order to ensure best practice is used and maintained across the group.

The risk is that we fail to achieve the benefits of these efficiencies, lose our business agility and / or fail to maintain a very high level of customer responsiveness.

### Mitigation

- Strategic PMO in place to monitor progress and provide assurance across the workstreams.
- Programme management in place for key initiatives, with group owners cascading plans and agreed deliverables with business leads.
- Audit of key projects with third party assurance where appropriate.
- Communication and employee engagement plans associated with key initiatives.

### Changes since 2017 annual report

Risk landscape unchanged. A number of programmes are in place to mitigate this risk.

## 12 Product quality

### Risk and impact

Our products are used in a wide range of applications, processes and systems. The safety and quality of these products is crucial to ensuring they operate as intended.

Should a product fail to perform as expected, we could be responsible for consumer harm or exposed to liability claims. This could lead to loss of future business, reputational damage and loss of licence to operate.

### Mitigation

- Regulatory framework for compliance in place.
- Developing robust new product introduction process and technical change processes.
- Developing robust manufacturing systems supported by standardised processes.
- Monitoring and reporting of quality performance, taking corrective action where required.
- Quality management systems in place supported by education and audit.
- Robust contract terms and conditions.

### Changes since 2017 annual report

The regulatory environment continues to tighten and our customers are experiencing greater scrutiny which has created pressure for our business.

## 13 Applications, systems and cyber

### Risk and impact

Risks that our applications and systems security is inadequate or fails to adapt to changing business requirements and / or external threats.

The impact of these may adversely affect our financial position and could harm our reputation.

### Mitigation

- Ensuring we maintain a data security strategy in line with the evolving threat.
- Investment in information security systems, monitoring and assurance in support of our data security strategy.
- Mapping of all at risk data and understanding of regulatory requirements.
- Maintenance of a breach reaction plan.

### Changes since 2017 annual report

The external cyber threat is increasing with more sophisticated attacks on a wide range of organisations. Against this backdrop we are investing in our IT infrastructure to support a more efficient business and, in doing so, we are increasing the global consistency and connectivity of our applications and infrastructure. As such, we have decided to elevate the risk of cyber attack from within the risk of failure of a critical site to a principal risk in its own right, to ensure greater board visibility.