

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2020

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 001-35370

Luxfer Holdings PLC

(Exact Name of Registrant as Specified in Its Charter)

England and Wales

98-1024030

State or Other Jurisdiction of
Incorporation or Organization

I.R.S. Employer Identification No.

Lumns Lane, Manchester, United Kingdom M27 8LN

Address of principal executive offices

Registrant's telephone number, including area code: +1 414-269-2419

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Symbol	Name of each exchange on which registered
Ordinary Shares, nominal value £0.50 each	LXFR	New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to section 13 or 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of the Form 10-K or any amendment to the Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company or an emerging growth company. See definition of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer
Non accelerated filer
Emerging growth company

Accelerated filer
Smaller reporting company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of ordinary shares held by non-affiliates of the Registrant was approximately \$359,000,000 based on the last reported sale price of such securities as of June 26, 2020, the last business day of the Registrant's most recently completed second quarter.

The number of shares outstanding of Registrant's only class of ordinary stock on December 31, 2020, was 27,636,153.

DOCUMENTS INCORPORATED BY REFERENCE

Parts of the Registrant's definitive proxy statement for its annual general meeting to be held on June 9, 2021, to be filed no later than 120 days after the end of the fiscal year covered by this annual report, are incorporated by reference in this Form 10-K in response to Part III, Items 10, 11, 12, 13 and 14.

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PART I

Item 1. Business

Background and business overview

Luxfer Holdings PLC ("Luxfer," "the Company," "we," "our") is a global manufacturer of highly-engineered industrial materials which focuses on value creation by using its broad array of technical know-how and proprietary technologies. Luxfer's high-performance materials, components and high-pressure gas containment devices are used in defense and emergency response, healthcare, transportation and general industrial applications.

We focus primarily on product lines related to magnesium alloys, zirconium chemicals and carbon composites. We have a long history of innovation derived from our strong technical expertise, and we work closely with customers to apply solutions to their most demanding product needs. Our proprietary technologies and technical expertise, coupled with strong customer service and global presence, provide competitive advantages and have established us as leaders in the global markets we serve. We believe that we have leading positions in key product areas, including magnesium aerospace alloys, photo-engraving plates, zirconium chemicals for automotive catalytic converters and high-pressure composite cylinders for breathing applications and a wide variety of other uses.

We have a global presence, operating 16 manufacturing plants in the U.S., the U.K., Canada and China, of which four relate to discontinued operations and also have a joint venture in Japan. We employ approximately 1,400 people, including temporary staff, of which approximately 200 relate to discontinued operations. In 2020, our net sales from continuing operations were \$324.8 million (2019: \$373.4 million, 2018: \$401.9 million) and our net income from continuing operations was \$20.8 million (2019: \$8.7 million, 2018: \$27.7 million).

Luxfer operates in two business segments - Elektron and Gas Cylinders.

Elektron Segment

Our Elektron Segment focuses on specialty materials based primarily on magnesium and zirconium. In 2020, sales from our Elektron Segment represented approximately 56% (2019: 59%, 2018: 62%) of our consolidated net sales from continuing operations. Our top ten customers represented 38% of segment sales. No customer represented 10% or more of our Elektron Segment sales.

Key product lines include:

- Advanced lightweight, corrosion-resistant and heat- and flame-resistant magnesium alloys including our dissolvable SoluMag[®] alloy.
- Magnesium powders used in countermeasure flares that protect aircraft from heat-seeking missiles and also for heating pads for self-heating meals used by the military and emergency-relief agencies.
- High-performance zirconium-based materials and oxides used as catalysts and in the manufacture of advanced ceramics, fiber-optic fuel cells, and many other performance products.
- Magnesium, copper, and zinc photoengraving plates for graphic arts and luxury packaging.

Gas Cylinders Segment

Our Gas Cylinders Segment manufactures and markets specialized, highly-engineered cylinders using carbon composites and aluminum alloys. In 2020, sales from our Gas Cylinders Segment represented approximately 44% (2019: 41%, 2018: 38%) of our consolidated net sales. Our top ten customers represented 63% of segment sales. One customer represented 15% and another represented 14% of our Gas Cylinders Segment sales with no other customer greater than 10%.

Key product lines include:

- Carbon composite cylinders for self-contained breathing apparatus (SCBA), used by firefighters and other emergency-responders. Our products are also used by scuba divers and personnel in potentially hazardous environments such as mines.
- Cylinders used for containment of oxygen and other medical gases used by patients, healthcare facilities and laboratories.
- Carbon composite cylinders for compressed natural gas (CNG) and hydrogen containment in alternative fuel (AF) vehicles.

Our Superform aluminum superplastic forming business operating from sites in the U.S. and the U.K, and our U.S. aluminum gas cylinder business were historically included in the Gas Cylinders segment. Beginning in the fourth quarter of 2020, we have reflected the results of operations of these businesses as discontinued operations in the Consolidated Statements of Income for all periods presented, as we look to divest these businesses and exit certain markets. As a result, for all periods presented we have reclassified all income and expenses as discontinued operations in the *Consolidated Statements of Income* and the assets and liabilities as held-for-sale on the *Consolidated Balance Sheets*.

All information included within this section relates to continuing operations, unless otherwise stated

Financial Information about Segments and Geographic Areas

See Note 17 ("Segmental Information") to our consolidated financial statements for further information regarding our operating segments and our geographic areas.

Suppliers and raw materials

Elektron Segment

Key raw materials used by our Elektron Segment are magnesium, zircon sand and rare earths.

The world demand for magnesium is around one million metric tons per year. China provides about 70% of the world supply. Western primary production is, however, significant, from North American suppliers, Dead Sea Magnesium in Israel, RIMA Industrial in Brazil and two smelters in Russia. We purchase approximately 40% our magnesium needs from China. We use only U.S.-sourced materials for our products sold to the U.S. military, for which U.S. sourcing is mandatory.

We generally purchase raw materials from suppliers on a spot basis under standard terms and conditions. We have supply contracts in place with U.S. Magnesium for raw material purchases of magnesium ingot for both military and commercial applications. The military contract covers magnesium purchases through December 31, 2023, whereas the commercial contract covers through December 31, 2021.

We purchase and process zircon sand, which is found in heavy-minerals sand, titanium dioxide and other products. Global production of zircon is estimated at approximately 1.5 million metric tons. We source premium-grade zircon sand from suppliers in South Africa and Australia. We also purchase intermediate zirconium chemicals from suppliers in China; the level of these purchases is based on a number of factors, including required properties and relative market prices.

There are 17 rare earth metals that are reasonably common in nature. Usually found mixed together with other mineral deposits, these rare earths have magnetic and light-emitting properties that make them invaluable to high-technology manufacturers. These are ingredients in our zirconium chemical and magnesium alloy products, with our main requirement is for cerium, which we use in automotive catalysis compounds because of its unique oxygen-storage capabilities.

Gas Cylinders Segment

A key material in the Gas Cylinder segment is high-strength carbon fiber used in our composite products. Our main suppliers are Toray and Mitsubishi. In recent years, carbon fiber shortages have occurred from increased demand for commercial aerospace and military applications. Over time, we have built relationships with our suppliers, providing them predictable requirements and fixed-price annual contracts to encourage successful procurement of our required volume of carbon fiber.

In 2020, we purchased approximately 40% of our aluminum from Rio Tinto Alcan and its associated companies, and aluminum represented approximately 40% of the segment's raw material costs in the year.

The price of aluminum has been somewhat volatile in the past and while we pass on most price movements to our customers, sometimes through contractual cost-sharing formulas, doing so can be more difficult or time consuming with our higher-value products.

Our end-markets

Key end-markets for Luxfer products fall into three categories:

Transportation (28% of 2020 sales): Many Luxfer products serve a growing need to improve and safeguard the environment in the field of transportation, including our lightweight, high-pressure carbon composite alternative fuel cylinders that contain clean-burning compressed natural gas and hydrogen; our zirconium-based products that reduce automotive emissions; and our lightweight magnesium alloys used in fuel-efficient aerospace and automotive designs.

Area of Focus	Product	End-market drivers
<i>Alternative fuels</i>	<ul style="list-style-type: none"> • Alternative fuel ("AF") cylinders • Bulk gas transportation cylinders 	<ul style="list-style-type: none"> • "Clean air" initiatives • Abundance of natural gas • Acceptance of hydrogen as fuel source for public transport in Europe • Increasing compressed natural gas ("CNG") filling infrastructure
<i>Environmental catalysts (cleaning of exhaust emissions)</i>	<ul style="list-style-type: none"> • Zirconium compounds with specific properties used in auto-catalysis washcoats 	<ul style="list-style-type: none"> • Emissions legislation and regulation generally including gasoline particulate filtration • Cost effective for vehicle manufacturers as they reduce the use of precious metals • Increasing demand for gasoline-electric hybrid vehicles
<i>Civil helicopters</i>	<ul style="list-style-type: none"> • Elektron® aerospace alloys in cast, extruded, and sheet form 	<ul style="list-style-type: none"> • Growing aircraft build rate • Lightweighting • Fuel efficiency

Defense, First Response & Healthcare (37% of 2020 sales) : Luxfer offers several products that address principal factors driving growth in this market, such as increased protection of people, equipment and property during conflicts and emergencies. Our products include magnesium powders for countermeasure flares that defend aircraft against heat-seeking missile attack and for flameless heaters used in meals, life-support cylinders for firefighters and other emergency-service personnel, and chemical agent decontamination products. Other products include lightweight gas cylinders for containment of medical and laboratory gases; zirconium powders for pharmaceutical products; magnesium materials for lightweight orthopedic devices; specialized magnesium alloys for cardiovascular stents and implants; and zirconium materials for biomedical applications and dental implants.

Area of Focus	Product	End-market drivers
<i>Life-support breathing apparatus</i>	<ul style="list-style-type: none"> • Composite cylinders used in self-contained breathing apparatus ("SCBA") 	<ul style="list-style-type: none"> • Increased awareness of importance of properly equipping firefighting services • Demand for lightweight products to upgrade from heavy all-metal cylinders • Periodic upgrade of new U.S. National Institute for Occupational Safety and Health (NIOSH) standards and natural replacement cycles • Asian and European fire services looking to adopt more modern SCBA equipment
<i>Countermeasures</i>	<ul style="list-style-type: none"> • Ultra-fine magnesium powders for flares used to protect aircraft from attack by heat-seeking missiles 	<ul style="list-style-type: none"> • Use in combat and training • Maintenance of countermeasures reserves (shelf-life restrictions)
<i>Military personnel and emergency relief agencies</i>	<ul style="list-style-type: none"> • Self-heating meals used by military personnel and emergency-relief agencies • Chemical detection and chemical decontamination kits 	<ul style="list-style-type: none"> • Ensuring protection and well-being for military personnel and victims of natural disasters • Use in combat and training and in response to terrorist activities
<i>Medical gases</i>	<ul style="list-style-type: none"> • Portable aluminum and composite cylinders 	<ul style="list-style-type: none"> • Shift to paramedics, who need portable, lightweight products • Growing trend to provide oxygen therapy in the home and to keep patients mobile • Increase in respiratory diseases
<i>Orthopedics</i>	<ul style="list-style-type: none"> • Magnesium sheets 	<ul style="list-style-type: none"> • Improved mobility through use of easy-to-wear, lightweight braces and trusses
<i>Sorbents</i>	<ul style="list-style-type: none"> • MELsorb® material being developed as active ingredient in dialysis equipment and enterosorbents • ISOLUX free-flowing powder, removes heavy metals and other contaminants from drinking water 	<ul style="list-style-type: none"> • Growth in kidney problems • New technologies to remove noxious elements from the body

General industrial (35% of 2020 sales): Our core technologies have enabled us to serve various markets and applications. Our products include zirconium-based compounds to purify drinking water and clean industrial exhausts; magnesium alloys shaped for use in various general engineering applications; and high-pressure gas cylinders used for high-purity specialty gases, beverage dispensing, scuba diving and performance racing. Metal foil-stamping and embossing dies are used primarily for luxury packaging, labels and greeting cards. Our high-quality magnesium, copper, brass and zinc plates are ideal for these and other graphic applications.

Area of Focus	Product	End-market drivers
<i>General engineering</i>	<ul style="list-style-type: none"> • Magnesium billets, sheets, coil, tooling plates • Zirconium ceramic compounds for hard working components 	<ul style="list-style-type: none"> • Need for components to operate in more extreme environments for longer periods, such as underground or in the ocean
<i>Hydraulic fracturing or "fracking"</i>	<ul style="list-style-type: none"> • Dissolvable SoluMag[®] magnesium alloy 	<ul style="list-style-type: none"> • Onshore shale gas exploration linked to increasing energy demand
<i>Paper</i>	<ul style="list-style-type: none"> • Bacote[™] and Zirmel[™], both formaldehyde-free insolubilizers that aid high-quality printing 	<ul style="list-style-type: none"> • Elimination of toxic chemicals
<i>Graphic arts</i>	<ul style="list-style-type: none"> • Photo-engraving plates 	<ul style="list-style-type: none"> • Luxury packaging as part of marketing high-end products

Our competitive advantages

Focus on innovation and product development for growing specialized end-markets. We continue to produce a steady stream of new products, including those developed in close collaboration with our customers.

Strong technical expertise and know-how. Using our expertise in metallurgy and material science, we specialize in advanced materials, developing products and materials with superior performance to satisfy the most demanding requirements in the most extreme environments. Further, we benefit from the fact that a growing number of our products are patented, including many of our alloys and compounds.

Diversified customer base with long-standing relationships. We put the customer at the heart of our strategy, and we have long-standing relationships with many of our customers, including global leaders in our key markets.

Our Business Excellence Standard Toolkit. The "Luxfer B.E.S.T. Model," consists of the following key themes:

- A common set of values that drives accountability, innovation, customer first, personal development, teamwork and integrity.
- Disciplined capital allocation with the aim of maximizing organic growth and the product portfolio value through value-enhancing acquisitions and divestitures.
- Balanced score-card used in an effort to continuously improve employee performance in an effort to help translate our vision into actionable individual goals and ensure that employee compensation is commensurate with individual performance.
- A published Customer Charter designed to enable us to retain and grow our customer base and capture additional market share.
- A lean enterprise philosophy that helps drive operational process excellence in all functions.

Seasonality

Historically, we have shutdown periods at most of our manufacturing sites during which we carry out maintenance work. Shutdowns typically last two weeks in the summer and one to two weeks around the year-end holidays, resulting in reduced levels of activity in the second half of the year compared to the first half. Third-quarter and fourth-quarter sales and operating profit can be affected by our own shutdowns and by shutdowns by various industrial customers. In particular, we have found that our fourth-quarter results are generally lower, since many customers reduce production activity from late November through December. However, due to shutdowns at both Luxfer and customer plants in the first half of 2020, we have not seen this similar trend, with results improving during the latter months as demand has increased after the initial lockdowns enforced as a result of the COVID-19 pandemic. We also operate in various geographic areas that are susceptible to bad weather during winter months, such as Calgary, Canada, and various U.S. eastern states. Bad weather can unexpectedly disrupt production and shipments from our manufacturing facilities, which can lead to reduced revenue and operating profits. We also manufacture products that are used in graphic arts and premium packaging, demand for which increases in the run up to the year-end holidays.

Research and Development

Luxfer recognizes the importance of research in materials science and the need to develop innovative new products to meet future needs of customers and to continue providing growth opportunities for the business. Each year, we invest in the development of new products and processes directed towards transportation, defense and emergency response, healthcare and general industrial end-markets. Our product development projects also include utilizing skills of our wider commercial technical sales staff, manufacturing engineers and general management, many of whom are highly qualified scientists and engineers. A large proportion of senior sales and management time is spent overseeing development of products and working with customers on integrating our products and solutions into their product designs.

To provide customers with improving products and services, we invest in new technology and research and employ some of the world's leading specialists in materials science and metallurgy. Our engineers and metallurgists collaborate closely with our customers to design, develop and manufacture our products. We also co-sponsor ongoing research programs at major universities in the U.S., Canada and Europe. Thanks to the ingenuity of our own research and development teams, Luxfer has developed a steady stream of new products, most recently including:

- soluble magnesium alloys, branded SoluMag[®], for down-well oil and gas applications;
- ultra-lightweight large composite cylinders, branded G-Stor[™], for containment of CNG, hydrogen, helium and other gases;
- enabling technologies for AF systems, including high-pressure valves, branded G-Flo[™], and pressure-release devices;
- zirconium catalysts for for automotive end-use including advances in gasoline particulate filtration used in hybrid vehicles;
- L7X[®] higher-strength aluminum alloy and carbon composite gas cylinders;
- Luxfer ECLIPSE, a new carbon composite cylinders for firefighter self-contained breathing apparatus (SCBA);
- bioresorbable magnesium alloys, branded SynerMag[®]; and
- zirconium sorbents, branded MELsorb[®], being developed for use as an active ingredient in kidney dialysis equipment.

We believe that our commitment to research and new product development, through dedicated resources and significant use of management's time, is the core of Luxfer's growth potential worldwide. This commitment reflects our strategy of focusing on high-performance, value-added product lines and markets and leveraging our collaboration with universities. We invest in developing products for end-markets that we believe have long-term growth potential.

Intellectual Property

Luxfer relies on a combination of patents, trade secrets, copyrights, trademarks, proprietary manufacturing processes and design rights, together with non-disclosure agreements and technical measures, to establish and protect proprietary rights in our products. Our Elektron Segment holds key patents related to protected applications, including numerous aerospace alloys and magnesium-gadolinium alloys, as well as patents related to environmental applications, including water-treatment products and our specialized G4 process used to manufacture zirconium-cerium oxides for emissions-control catalysts. The Segment also has patented technology for magnesium-based flameless heater pads used to heat meals and beverages. Key patents held by our Gas Cylinders Segment relate to composites and alloys for pressurized hollow bodies. No individual patent or such intellectual property is considered material to either the Elektron or Gas Cylinders segment.

In certain areas, we rely more heavily upon trade secrets and unpatented proprietary know-how than patent protection in order to establish and maintain our competitive advantage. We generally enter into non-disclosure and invention assignment agreements with our employees and subcontractors, as well as our customers and vendors.

Human Capital Management

As of December 31, 2020, the Company employed approximately 1,400 people worldwide, including approximately 200 individuals that relate to our discontinued operations. Of the roughly 1,200 employees related to our continuing operations, approximately 700 are employed in the United States and approximately 500 are employed outside the United States.

Luxfer's workforce is one of our greatest sources of sustainable value. Our ability to deliver on our objectives and build lasting relationships with our customers depends on the capabilities, attraction and retention of the talented individuals who come to work every day. One of Luxfer's core values is 'Personal Development' – because we understand that investing in our people makes good business sense. In addition, we have implemented a number of policies and practices that prohibit discrimination, promote workforce diversity, encourage employee education and development, promote community involvement and advance employee health and safety. Through these methods, Luxfer continues to develop a world-class team. We continuously strive to create an environment where differences are valued, supported, and encouraged.

- **Luxfer Values.** Luxfer is a value-driven company. Our values - customer first, integrity, innovation, accountability, personal development, and teamwork - are the fundamental principles that define our behavior and how we do business across all our operating units. They guide our interactions with each other, our customers, the environment, and our communities. We constantly strive to satisfy our customers and create value for our shareholders by doing business based on our mission and core values. Realizing that this type of dedication starts with our leadership, all Luxfer Directors and employees undergo Values training, and their performance is continuously evaluated in relation to these values.
- **Diversity.** Training is key to promoting equal opportunities and diversity. Our talent acquisition team and hiring managers undergo regular training to ensure that a diverse slate of candidates is considered for all job openings. We have developed recruitment practices to target diverse candidates, including minorities, veterans and women. We also monitor our current workforce for diversity, age, and gender demographics and use this information to develop employment and recruitment practices aimed at providing an inclusive work environment. All new and existing employees are required to undergo anti-harassment, non-discrimination, unconscious bias, and bullying and violence trainings regularly.
- **Training and Development.** Luxfer management works closely with employees to ensure that our workforce has the skills, knowledge, and experience necessary for Luxfer's growth and profitability. Our management and executive development program focuses on individual strengths and fosters technical skills and knowledge to create the next generations of well-rounded Luxfer leaders. With a multi-faceted curriculum, our training and development program provides critical problem-solving, business management, and leadership skills necessary for Luxfer's continued success. Additionally, through our online employee training platform, we provide employees with educational resources to further develop the skills and knowledge relevant to their individual role.

- **Community Involvement.** Through the investment and involvement of our businesses, sites and employees, we leverage our skills and experience to make a difference in the world through community activities, donations, and employee engagement initiatives that are consistently encouraged and sponsored by our Executive Leadership Team. Luxfer and its business units support a wide variety of charitable causes through both volunteer hours and monetary contributions. Among others, our business units have partnered with Air Ambulance Charity, American Red Cross, Boys and Girls Club of Cincinnati, Feed America, the Piedmont Rescue Mission, Pratham, United Way, and the Veterans Food Bank of Calgary. We also participate in annual blood drives, canned food drives, community clean up events, and holiday gift drives. Luxfer encourages all employees to participate in volunteer activities on an individual basis as well. Our Volunteer Time Off (VTO) program was rolled out to US employees and will soon be extended to all Luxfer employees. Full-time employees can volunteer one working day per calendar year toward a non-profit or charitable organization of their choice, and such day is considered paid time off. Further, Luxfer Gas Cylinders has teamed with United Way to implement an Employee Fair Share Program. Employees are encouraged to donate one hour of pay per month to United Way, and, in exchange, Luxfer provides the participant with one additional vacation day. Through the Fair Share Program, Luxfer Gas Cylinders' Riverside facility donated \$35,000 to United Way, which included both employee and company contributions. Moreover, our business units are committed to providing educational opportunities and work experience to students in our communities. We offer a number of internship and apprenticeship opportunities in various fields. We have developed a Science, Technology, Engineering and Math (STEM) apprenticeship program to encourage students to pursue careers in STEM fields.

- **Employee Safety.** The safety, health, and well-being of all Luxfer employees and our associates is fundamental to delivering sustainable and positive economic performance. We are committed to being an industry leader in safety, and we foster a culture that integrates safety into all activities. To achieve this, Luxfer has established well-defined health and safety policies and procedures, as well as ongoing employee training, which codify our standards for respecting and protecting our employees, the public, and our associates. We regularly conduct gap analyses and develop safety goals and objectives for all functional business units. We monitor, review, and discuss our performance in respect of these objectives and our policies as part of our enterprise-wide risk management system. Moreover, safety measurements are integrated into the performance evaluations of our Executives, proving our dedication to the health and safety of our employees. We emphasize safe behavior and encourage suggestions, ideas, and observations from our workforce. We have implemented a "safety moment" process, which increases employee awareness to workplace and day-to-day hazards while delivering key messages to reduce or minimize the risk of those hazards causing injury. We strive to begin each meeting with a safety moment, and some of our facilities have reserved time each week for a safety moment. Additional safety efforts include: monthly safety meetings with all employees, safety audits by management, safety audits by selected employees, and the inclusion of safety initiatives as part of select employees' incentive plans. Through these safety efforts, many of our facilities' safety records have improved year-over-year. The Company utilizes a mixture of leading and lagging indicators to assess the health and safety performance of its operations. Lagging indicators include the OSHA Total Recordable Incident Rate ("TRIR") and the Lost Time Accidents ("LTA"). Leading indicators include reporting and closure of all near miss events and safety concerns identified. Reported total workforce numbers include employees and supervised contractors. In fiscal year 2020, the Company had a TRIR of 1.85, an LTA of 8 and 0 work-related fatalities

- **Employee Health and Well-Being Section:** Promoting the health and well-being of our employees increases productivity, improves morale, creates a positive work environment, and reduces healthcare costs. Luxfer offers several health and wellness benefits that encourage employees to improve their personal health. For example, we implemented a smoking cessation program in the US, under which employees who successfully complete the 90-day program are rewarded with discounted insurance rates. We also implemented the Luxfer Employee Healthy Lifestyle program in the US, which will soon be available to all Luxfer employees worldwide. The purpose of the program is to encourage employees to take steps towards improving their health by offering some reimbursement for certain gym/fitness center memberships and for weight loss programs/group exercise classes. Furthermore, we provide access to wellness clinics and funded counseling sessions to improve our employees' physical and mental health. Health and wellness information is regularly provided to our employees through notices posted in readily accessible areas and in our company newsletters to ensure that every employee has an opportunity to take advantage of these benefits. We believe that by supporting our employees' individual health, we can build a healthier workforce.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q , Current Reports on Form 8-K and any exhibits or amendments to such are made available, free of charge, on our website at <http://www.luxfer.com> as soon as reasonably practicable after we electronically file such reports with, or furnish them to, the Securities and Exchange Commission ("SEC"). Information on our website is not incorporated by reference herein and is not made a part of this report.

Financial and other material information regarding the Company is routinely posted and accessible on our website at <http://www.luxfer.com/investors>.

Item 1A. Risk Factors

The risks described below are not the only risks facing us. Any of the following risks could materially and adversely affect our business, financial condition or results of operations. Additional risks and uncertainties not currently known to us or those we currently view to be immaterial may also materially and adversely affect our business, financial condition or results of operations. See also "Information Regarding Forward-Looking Statements" for certain warnings regarding forward-looking information contained in this document.

Economic and Industry risks

Our results of operations may continue to be negatively impacted by the coronavirus disease pandemic.

In December 2019, the 2019 novel coronavirus disease ("COVID-19") surfaced in Wuhan, China. In March 2020, the World Health Organization characterized COVID-19 a pandemic. The rapid spread of the pandemic and the continuously evolving responses to combat it have had an increasingly negative impact on the global economy, resulting in an economic downturn that could impact demand for our products and our ability to produce them. With many countries affected, there have been widespread disruptions from the temporary closure of third-party supplier and manufacturer facilities and interruptions in product supply. To date the outbreak has resulted in a decline in revenues and profitability as highlighted in ITEM 7, Management Discussion and Analysis of Financial Condition and Results of Operations. While there have been some positive indicators such as restrictive measures being reduced in many countries and the reopening of temporarily closed facilities, the future impact remains uncertain and cannot be predicted and there is no assurance that the outbreak will not have a material adverse impact on the future results of the Company. The extent of the impact will depend on future developments, including global and country-specific actions taken to contain the spread of COVID-19, such as the roll-out and efficacy of the vaccination program, as well as the ability of the global economy to recover from the adverse economic consequences.

We depend on certain end-markets, including automotive, alternative fuels, self-contained breathing apparatus, aerospace and defense, healthcare, oil and gas and printing and paper. An economic downturn, or regulatory changes, in any of those end-markets, could reduce sales and profit margins on those end-markets.

We have significant exposures to certain end-markets, including some end-markets that are cyclical in nature or subject to high levels of regulatory control, including automotive, self-contained breathing apparatus ("SCBA"), aerospace and defense. Dependence of either of our segments on certain end-markets is even more pronounced.

To the extent that any of these cyclical end-markets are in decline, at a low point in their economic cycle, or subject to regulatory change, sales and margins on those sales may be adversely affected. It is possible that all or most of these end-markets could be in decline at the same time, i.e. during an economic downturn such as that caused by the current COVID-19 pandemic. Any significant reduction in sales could have a material adverse impact on our results of operations, financial position and cash flows.

Our global operations expose us to economic conditions, potential tax costs, political risks and specific regulations or restrictions in the countries in which we operate, which could have a material adverse impact on our results of operations, financial position and cash flows.

We derive our sales and earnings from operations in many countries and are subject to risks associated with doing business internationally. We have wholly-owned operations in the U.S., the U.K., Canada and China; and a joint venture facility in Japan. Doing business in different countries has risks, including the potential for adverse changes in the local, social, political, financial or regulatory climate, difficulty in staffing and managing geographically diverse operations, and the costs of complying with a variety of laws and regulations.

Due to the fact we have operations in many countries, we are also liable to pay taxes in many fiscal jurisdictions. Our tax burden depends on the interpretation of local tax regulations, bilateral or multilateral international tax treaties and the administrative doctrines in each jurisdiction. Changes in these tax regulations may increase our tax burden, or otherwise affect our accounting for taxes. For example, as a result of the reduction in the statutory corporate income tax rate in the U.S. pursuant to the Tax Cut and Jobs Act (TCJA) enacted on December 22, 2017, we recorded a reduction in the value of our deferred tax assets in the U.S. of \$4.0 million in 2017. It is possible that the election of the new administration in the U.S. could result in the reversal of some or all of the changes introduced by TCJA.

The principal markets for our products are located in North America, Europe and Asia, and any financial difficulties experienced in these markets may have a material adverse impact on our businesses. For example, the maturity of some of our markets, such as the U.S. market for photoengraving plates could require us to increase sales in developing regions, which may involve greater economic and political risks. We cannot provide any assurances that we will be able to expand sales in these regions. Any of these factors could have a material adverse impact on our results of operations, financial position and cash flows.

Following the U.K.'s exit from the European Union (the "E.U.") on January 31, 2020 a free trade agreement was reached between the U.K. and E.U. member states in December 2020, with new arrangements taking effect from January 1, 2021. The agreement allows for zero tariffs on goods moving between the U.K. and E.U. However, the rules are complex and it is still possible that tariffs will apply depending on the origin of components ("rules of origin") of any goods produced either in the U.K. or the E.U. There is also increased regulatory complexity and potential for disruption to the movement of raw materials and finished goods at the border. The impact of these changes will take time to be fully understood and may adversely affect our operations and financial results.

Our operations rely on a number of large customers in certain areas of our business, and the loss of any of our major customers could negatively impact our results of operations.

If we fail to maintain our relationships with our major customers, or fail to replace lost customers, or if there is reduced demand from our customers or for products produced by our customers, such failures or reduced demand could materially reduce our sales. In addition, we could experience a reduction in sales if any of our customers fail to perform or default on any payment pursuant to our contracts with them. Long-term relationships with customers are especially important for suppliers of intermediate materials and components such as ourselves. We often work closely with customers to develop products that meet particular specifications as part of the design of a product intended for an end-user market. The bespoke nature of many of our products could make it difficult to replace lost customers. Our top 10 customers accounted for approximately 35% of our net sales in 2020. Any significant reduction in sales or customer payment default could have an adverse material impact on our results of operations, financial position and cash flows.

We depend upon our larger suppliers for a significant portion of our raw materials, and a loss of one of these suppliers, or a significant supply interruption could negatively impact our financial performance.

We rely, to varying degrees, on major suppliers for some of the principal raw materials of our engineered products, including aluminum, zirconium and carbon fiber. For example, in 2020, we obtained approximately 40% of our aluminum from Rio Tinto Alcan and its associated companies. Moreover, demand for carbon fiber is increasing, which has led to occasional periods of short supply in recent years with a number of expanding applications competing for the same supply of this specialized raw material. Our largest suppliers of carbon fiber are Toray and Grafil, a subsidiary of Mitsubishi Chemical. For additional details of some of our major suppliers (see ITEM 1 - Suppliers and raw materials).

We generally purchase raw materials from suppliers on a spot basis under standard terms and conditions. We also enter into supply contracts with Rio Tinto Alcan for a substantial portion of our aluminum requirements. In addition, we have supply contracts in place with U.S. Magnesium for raw material purchases of magnesium ingot for both military and commercial applications. The military contract covers magnesium purchases through December 31, 2023, whereas the commercial contract covers through December 31, 2021.

An interruption in the supply of essential raw materials used in our production processes or an increase in the costs of raw materials due to market shortages, supplier financial difficulties, government quotas or natural disturbances such as the recent outbreak of the COVID-19 coronavirus, could significantly affect our ability to provide competitively priced products to customers in a timely manner. In the event of a significant interruption in the supply of any materials used in our production processes, or a significant increase in their prices (as we have experienced, for example, at different times with aluminum, magnesium and rare earths), we may have to purchase these materials from alternative sources, build additional inventory of raw materials, increase our prices, reduce our margins or possibly fail to fill customer orders by deadlines required in contracts, which could result in, among other things, contractual penalties. We can provide no assurance that we would be able to obtain replacement materials quickly on similar terms or at all. Failure to maintain relationships with key suppliers or to develop relationships with alternative suppliers could have a material adverse effect on our results of operations, financial position and cash flows.

We are exposed to fluctuations in the costs of the raw materials that are used to manufacture our products, and such fluctuations could lead us to incur unexpected costs and could affect our margins and / or working capital requirements.

Fluctuations in the costs of raw materials could affect margins and working capital requirements in the businesses in which we use them, see ITEM 7A. We cannot always pass on cost increases or increase our prices to offset these cost increases immediately or at all, whether because of fixed-price agreements with customers, competitive pressures that restrict our ability to pass on cost increases or increase prices, or other factors. It can be particularly difficult to pass on cost increases or increase prices in product areas such as gas cylinders, where competitors offer similar products made from alternative materials, such as steel, if those materials are not subject to the same cost increases. Higher prices necessitated by large increases in raw material costs could make our current or future products unattractive compared to competing products made from alternative materials that have not been so affected by raw material cost increases, or compared to products produced by competitors who have not incurred such large increases in their raw material costs.

If, for example, the cost of aluminum or carbon fiber were to rise, we may not be able pass those cost increases on to our customers or manage the exposure effectively through hedging instruments. From time to time we use derivative financial instruments to hedge our exposures to fluctuations in aluminum costs. Although it is our treasury policy to enter into these transactions only for hedging and not for speculative purposes, we are exposed to market risk and credit risk with respect to the use of these derivative financial instruments, see ITEM 7A.

In the past several years we have made additional purchases of large stocks of magnesium alloys in an effort to delay the effect of potentially increased costs in the future. However, even though such purchases are not made for speculative purposes, there can be no assurance that costs will move as expected. Moreover, these strategic purchases increase our working capital needs, thus reducing our liquidity and cash flow. Accordingly, a substantial increase in raw material costs could have a material adverse effect on our results of operations, financial position and cash flows.

Changes in foreign exchange rates could reduce profit margins on our sales and reduce the reported sales of our non-U.S. operations and have a material adverse effect on our results of operations.

We conduct a large portion of our commercial transactions, purchases of raw materials and sales of goods in various countries and regions, including the U.S., the U.K., continental Europe, Australia and Asia. Our manufacturing operations based in the U.S., continental Europe and Asia usually purchase raw materials and sell goods denominated in their local currency, but our manufacturing operations in the U.K. often purchase raw materials and sell products in different currencies. Changes in the relative values of currencies can decrease the profits of our subsidiaries when they incur costs in currencies that are different from the currencies in which they generate all or part of their revenue. These transaction risks principally arise as a result of purchases of raw materials in U.S. dollars, coupled with sales of products to customers in euros. This impact is most pronounced in our exports to continental Europe from the U.K. In 2020, our U.K. operations sold approximately €50 million of goods into the Eurozone. Our policy is to hedge a portion of our net exposure to fluctuations in exchange rates with forward foreign currency exchange contracts. Therefore, we are exposed to market risk and credit risk through the use of derivative financial instruments. Moreover, any failure of hedging policies could negatively impact our profits, and thus damage our ability to fund our operations and to service our indebtedness. Exchange rate volatility has been experienced since the 'Brexit' referendum in the U.K. in 2016 with GBP sterling reaching a five-year low against the U.S. dollar in March 2020 and against the euro in August 2019, and while the terms of the U.K.'s relationship with the E.U. have now been agreed, against a background of the COVID-19 pandemic, continued volatility is to be expected.

In addition to subsidiaries and joint ventures in the U.S., we have operating subsidiaries located in the U.K., Canada, China and Australia, as well as a joint venture in Japan, each of whose revenue, costs, assets and liabilities are denominated in local currencies. As our consolidated financial statements are reported in U.S. dollars, we are exposed to fluctuations in those currencies when those amounts are translated to U.S. dollars for purposes of reporting our consolidated financial statements, which may cause declines in results of operations. The largest risk is from our operations in the U.K., which in 2020 generated an operating profit of \$12.4 million and net sales of \$153.5 million. Fluctuations in exchange rates, particularly between the U.S. dollar and GBP sterling (which has been subject to significant fluctuations, as described above), can have a material effect on our consolidated income statement and consolidated balance sheet. In 2020, movements in the average U.S. dollar exchange rate had a positive impact on net sales of \$0.3 million; in 2019 movements in the average U.S. dollar exchange rate had a negative impact on net sales of \$7.0 million. Changes in translation exchange rates increased net assets by \$4.2 million in 2020, compared to a increase of \$8.9 million in 2019.

These foreign exchange risks could have a material adverse effect on our results of operations, financial position and cash flows. For additional information on these risks, and the historical impact on our results, see ITEM 7A.

Our defined benefit pension plans have funding deficits and are exposed to market forces that could require us to make increased ongoing cash contributions in response to changes in market conditions, actuarial assumptions and investment decisions. These market forces could expose us to significant short-term liabilities if a wind-up trigger occurred in relation to such plans, each of which could have a material adverse impact on our results of operations and financial position.

We have defined benefit pension arrangements in the U.K. and in the U.S., see ITEM 8, Note 14. Our largest defined benefit plan, the Luxfer Group Pension Plan, which closed to new members in 1998, remained open for accrual of future benefits based on career-average salary until April 5, 2016. However, following a consultation, it was agreed with the trustees and plan members to close the Luxfer Group Pension Plan in the U.K. to future accrual of benefits, effective from April 5, 2016. Moreover, for the purpose of increasing pensions in payment, it was agreed to use the CPI as the reference index, in place of the RPI where applicable. The Luxfer Group Pension Plan is funded according to the regulations in effect in the U.K. and, as of December 31, 2020, and December 31, 2019, had an accounting deficit of \$45.1 million and \$30.5 million, respectively. Luxfer Group Limited is the principal employer under the Luxfer Group Pension Plan, and other U.K. subsidiaries also participate under the plan. Our other defined benefit plans are less significant than the Luxfer Group Pension Plan and, as of December 31, 2020, and December 31, 2019, had aggregate accounting deficits of \$5.7 million and \$4.7 million, respectively. The largest of these additional plans is the BA Holdings, Inc. Pension Plan in the U.S., which was closed to further benefit accruals in December 2005, and merged with the much smaller Luxfer Hourly Pension Plan, effective January 1, 2016. According to the actuarial valuation of the Luxfer Group Pension Plan as of April 5, 2018, being the date of the last triennial valuation, the Luxfer Group Pension Plan had a deficit of £26.5 million on a plan-specific basis. Should a wind-up trigger occur in relation to the Luxfer Group Pension Plan, the buy-out deficit of that plan will become due and payable by the employers. The aggregate deficit of the Luxfer Group Pension Plan on a buy-out basis was estimated at £145 million as of April 5, 2018. The trustees have the power to wind-up the Luxfer Group Pension Plan if they consider that in the best interests of members there is no reasonable purpose in continuing the Luxfer Group Pension Plan.

As a result of the actuarial valuation as of April 5, 2018, we are required to continue to make ongoing cash contributions, over and above normal contributions required to meet the cost of future accrual, to the Luxfer Group Pension Plan. These additional payments are intended to reduce the funding deficit. We have agreed with the trustees to a schedule of annual payments of £4.1 million (\$5.3 million at current exchange rates) to reduce the deficit. These contributions are to apply until the deficit is eliminated, but in practice the schedule will be reviewed and may be revised following the next triennial actuarial valuation in April 2021. Regulatory burdens have also proved to be a significant risk, such as the U.K.'s Pension Protection Fund Levy, which was £0.4 million in 2020.

We are exposed to various risks related to our defined benefit plans, including the risk of loss of market value of the plan assets, the risk of actual investment returns being less than assumed rates of return, the trustees of the Luxfer Group Pension Plan switching investment strategy (which does require consultation with the employer) and the risk of actual experience deviating from actuarial assumptions for such things as mortality of plan participants. In addition, fluctuations in interest rates cause changes in the annual cost and benefit obligations. Any of these risks could have a material adverse impact on our results of operations, financial position and cash flows.

Environmental and regulatory risks

The Pensions Regulator in the U.K. has the power in certain circumstances to issue contribution notices or financial support directions that, if issued, could result in significant liabilities arising for us.

The Pensions Regulator may issue a contribution notice to the employers that participate in the Luxfer Group Pension Plan, or any person who is connected with, or is an associate of, these employers where the Pensions Regulator is of the opinion that the relevant person has been a party to an act, or a deliberate failure to act, which had as its main purpose (or one of its main purposes) the avoidance of pension liabilities or where such act has a materially detrimental effect on the likelihood of payment of accrued benefits under the Luxfer Group Pension Plan being received. A person holding alone or together with his or her associates, directly or indirectly, one-third or more of our voting power, could be the subject of a contribution notice. The terms "associate" and "connected person," which are taken from the Insolvency Act 1986, are widely defined and could cover our significant shareholders and others deemed to be shadow directors. If the Pensions Regulator considers that a plan employer is "insufficiently resourced" or a "service company" (which terms have statutory definitions), it may impose a financial support direction requiring such plan's employer or any member of the Group, or any person associated or connected with an employer, to put in place financial support in relation to the Luxfer Group Pension Plan. Liabilities imposed under a contribution notice or financial support direction may be up to the difference between the value of the assets of the Luxfer Group Pension Plan and the cost of buying out the benefits of members and other beneficiaries of the Luxfer Group Pension Plan. In practice, the risk of a contribution notice being imposed may restrict our ability to restructure or undertake certain corporate activities. Additional security may also need to be provided to the trustees of the Luxfer Group Pension Plan before certain corporate activities can be undertaken (such as the payment of an unusual dividend), and any additional funding of the Luxfer Group Pension Plan may have a material adverse effect on our financial position and cash flows.

Our operations may prove harmful to the environment resulting in reputational damage and clean-up or other related costs.

We are exposed to substantial environmental costs and liabilities, including liabilities associated with divested assets and prior activities performed on sites before we acquired an interest in them. Our operations, including the production and delivery of our products, are subject to a broad range of continually changing environmental laws and regulations in each of the jurisdictions in which we operate. These laws and regulations increasingly impose more stringent environmental protection standards on us with respect to, among other things, air emissions, wastewater discharges, the use and handling of hazardous materials, noise levels, waste disposal practices, soil and groundwater contamination and environmental clean-up. Complying with these regulations involves significant and recurring costs.

We cannot predict our future environmental liabilities and cannot assure investors that our management is aware of every fact or circumstance regarding potential liabilities, or that the amounts provided and budgeted to address such liabilities will be adequate for all purposes. In addition, future developments, such as changes in regulations, laws or environmental conditions, may result in reputational damage or increase environmental costs and liabilities that could have a material adverse effect on our results of operations, financial position and cash flows.

The health and safety of our employees and the safe operation of our business is subject to various health and safety regulations in each of the jurisdictions in which we operate. These regulations impose various obligations on us, including the provision of safe working environments and employee training on health and safety matters. Complying with these regulations involves recurring costs.

Certain of our operations are highly regulated by different agencies that require products to comply with their rules and procedures and can subject our operations to penalties or adversely affect production.

Certain of our operations are in highly regulated industries that require us to maintain regulatory approvals and, from time to time, obtain new regulatory approvals from various countries. This can involve substantial time and expense. In turn, higher costs of compliance reduce our cash flows from operations. For example, manufacturers of gas cylinders throughout the world must comply with high local safety and health standards and obtain regulatory approvals in the markets in which they sell their products. Furthermore, military organizations require us to comply with applicable government regulations and specifications when providing products or services to them directly or as subcontractors. In addition, we are required to comply with U.S. and other export regulations with respect to certain products and materials. The E.U. has also passed legislation governing the registration, evaluation and authorization of chemicals, known as REACH, pursuant to which we are required to register chemicals and gain authorization for the use of certain substances. Following the U.K.'s withdrawal from the E.U. and the subsequent transition period, the E.U. REACH Regulation has been brought into U.K. law and REACH, and related legislation, have therefore been replicated in the U.K. In the U.S. there is similar legislation under the Toxic Substance Control Act 1976 ("TSCA") which was substantially amended in 2016. Although we make reasonable efforts to obtain all licenses and certifications that are required by countries in which we operate, there is always a risk that we may be found not to comply with certain required procedures. This risk grows with

increased complexity and variance in regulations across the globe. As regulatory schemes vary by country, we may also be subject to regulations of which we are not presently aware and could be subject to sanctions by a foreign government that could materially and adversely affect our operations in the relevant country.

Governments and their agencies have considerable discretion to determine whether regulations have been satisfied. They may also revoke or limit existing licenses and certifications or change the laws and regulations to which we are subject at any time. If our operations fail to obtain, experience delays in obtaining or lose a needed certification or approval, we may not be able to sell our products to our customers, expand into new geographic markets or expand into new product lines. In addition, new or more stringent regulations, if imposed, could result in us incurring significant costs in connection with compliance. Non-compliance with these regulations could result in administrative, civil, financial, criminal or other sanctions against us, which could have negative consequences on our business and financial position. Furthermore, if we begin to operate in new countries, we may need to obtain new licenses, certifications and approvals.

Our customers are also often subject to similar regulations and risks. We therefore face the risk that our customers may have the demand for their products reduced as a result of regulatory matters that fall outside our direct control. This would in turn reduce demand for our products and have a negative financial impact on our operating results.

Any of these factors could have a material adverse impact on our results of operations, financial position and cash flows.

We are subject to legislation and regulations to reduce carbon dioxide and other greenhouse gas emissions.

Although we are working to improve our energy efficiency, our manufacturing processes and the manufacturing processes of many of our suppliers and customers are still energy-intensive and use or generate, directly or indirectly, greenhouse gases ("GHGs"). In recent years, current regulatory programs impacting GHG emissions from large industrial plants and other sources include the E.U. Emissions Trading Scheme, the CRC Energy Efficiency Scheme in the U.K. and certain federal and state programs in the U.S., including GHG reporting and permitting rules issued by the U.S.E.P.A and the California Cap and Trade Program. Moreover, in December 2015, 195 countries participating in the United Nations Framework Convention on Climate Change, at its 21st Conference of the Parties meeting held in Paris, adopted a new global agreement on the reduction of climate change (the "Paris Agreement"). The Paris Agreement sets a goal of holding the increase in global average temperature to well below 2 degrees Celsius and pursuing efforts to limit the increase to 1.5 degrees Celsius, to be achieved by commitments by the participating countries to set emissions reduction targets, referred to as "nationally determined contributions." The Paris Agreement came into effect on November 4, 2016, after it was ratified the previous month, with implementation efforts beginning from 2018 with reassessment every five years. As it is implemented, the Paris Agreement is anticipated to result in more stringent requirements relating to greenhouse gas emissions. Due to the costs of compliance and the potential impact on our energy costs, these programs and additional future legislation and regulations aimed at reducing GHG emissions could have a material adverse effect on our results of operations, financial position and cash flows.

Due to the nature and use of the products that we manufacture, we may in the future face large liability claims.

We are subject to litigation in the ordinary course of our business, which could be costly to us and which may arise in the future. We are exposed to possible claims for personal injury, death or property damage, which could result from a failure of a product manufactured by us or of a product integrating one of our products. For example, improperly manufactured gas cylinders could explode at high pressure, which can cause substantial personal and property damage. This risk may be increased through the use of new technologies, materials and innovations. We also supply many components into aerospace applications in which the potential for significant liability exposures necessitates additional insurance costs.

Many factors beyond our control could lead to liability claims, including:

- the failure of a product manufactured by a third party that incorporated components manufactured by us;
- the reliability and skills of persons using our products or the products of our customers; and
- the use by customers of materials or products that we produced for applications for which the material or product was not designed.

If we cannot successfully defend ourselves against claims, we may incur substantial liabilities. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our products;
- reputational injury;
- initiation of investigation by regulators;
- costs to defend related litigation;
- diversion of management time and resources;
- compensatory damages and fines;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- exhaustion of any available insurance and our capital resources; and
- a decline in our stock price.

We could be required to pay a material amount if a claim is made against us that is not covered by insurance or otherwise subject to indemnification or that exceeds the insurance coverage that we maintain. Moreover, we do not currently carry insurance to cover the expense of product recalls, and litigation involving significant product recalls or product liability could have a material adverse effect on our results of operations, financial position and cash flows.

We are exposed to risks related to cybersecurity threats and general information security incidents which may also expose us to liability under data protection laws including the GDPR.

In the conduct of our business, we increasingly collect, use, transmit and store data on information technology systems. This data includes confidential information belonging to us, our customers and other business partners, as well as personally identifiable information of individuals, including our employees. Like other global companies, we have experienced, and expect to continue to be subject to, cybersecurity threats and incidents, ranging from employee error or misuse to individual attempts to gain unauthorized access to information technology systems, to sophisticated and targeted measures known as advanced persistent threats, none of which have been material to the Company to date.

Although we devote significant resources to network security, data encryption and other measures to protect our information technology systems and data from unauthorized access or misuse, including those measures necessary to meet certain information security standards that may be required by our customers, there can be no assurance that these measures will be successful in preventing a cybersecurity or general information security incident. We also rely in part on the reliability of certain tested third parties' cybersecurity measures, including firewalls, virus solutions and backup solutions, and our business may be affected if these third-party resources are compromised.

Cybersecurity incidents may result in business disruption, the misappropriation, corruption or loss of confidential information (including personally identifiable information) and critical data (ours or that of third parties), reputational damage, litigation with third parties, regulatory fines, diminution in the value of our investment in research and development and data privacy issues and increased information security protection and remediation costs. As these cybersecurity threats, and government and regulatory oversight of associated risks

continue to evolve, we may be required to expend additional resources to remediate, enhance or expand upon the cybersecurity protection and security measures we currently maintain. For example, we are subject to the European Union's General Data Protection Regulation ("GDPR"), which became enforceable from May 25, 2018 and, following the U.K.'s exit from the E.U on January 31, 2020, our U.K. based businesses are subject to UK-GDPR which enshrines equivalent requirements in U.K. law. The GDPR introduced a number of new obligations for subject companies resulting in the need to continue dedicating financial resources and management time to GDPR compliance. Among other things, the GDPR places subject companies under obligations relating to the security of the personally identifiable information they process; while we have taken steps to ensure compliance with the GDPR, there can be no assurance that the measures we have taken will be successful in preventing an incident, including a cybersecurity incident or other data breach, which results in a breach of the GDPR. Fines for non-compliance with the GDPR may be levied up to a maximum of €20,000,000 or 4% of the subject company's annual, group-wide turnover (whichever is higher). Individuals who have suffered damage as a result of a subject company's non-compliance with the GDPR also have the right to seek compensation from such a company.

Future cybersecurity breaches, general information security incidents, further increases in data protection costs or failure to comply with relevant legal obligations regarding protection of data could therefore have a material adverse effect on our results of operations, financial position and cash flows.

We could incur future liability claims arising from previous businesses now closed or sold.

We have sold or closed a number of businesses over the years, but the products or services provided when the businesses were open and under our ownership could still result in potential liabilities which could have a material adverse effect on our operations, financial position and cash flows.

Risks associated to new and existing products

Our ability to remain profitable depends on our ability to protect and enforce our intellectual property, and any failure to protect and enforce such intellectual property could have a material adverse impact on our results of operations and financial position.

We cannot ensure that we will always have the ability to protect proprietary information and our intellectual property rights. We protect our intellectual property rights (within the U.S., Europe and other countries) through various means, including patents and trade secrets. Due to the difference in foreign trademark, patent and other laws concerning proprietary rights, our intellectual property rights may not receive the same degree of protection in other countries as they would in the U.S. or the U.K. The patents we own could be challenged, invalidated or circumvented by others and may not be of sufficient scope or strength to provide us with any meaningful protection or commercial advantage. Further, competitors may infringe our patents and the costs of protecting our patents could be significant. We cannot assure you that we will have adequate resources to enforce our patents. Our patents will only be protected for the duration of the patent. Some of our older key patents have expired, and others will expire over the next few years. As a result, our competitors may introduce products using the technology previously protected, and these products may have lower prices than our products, which may negatively affect our market share. To compete, we may need to reduce our prices for those products. Additionally, the expiry of certain of those patents has reduced, or will reduce, barriers to entry to possible competitors for certain products and end-markets. With respect to our unpatented proprietary technology, it is possible that others will independently develop the same or similar technology or obtain access to our unpatented technology. To protect our trade secrets and other proprietary information, we require employees, consultants, advisors and collaborators to enter into confidentiality agreements. Nevertheless, we cannot assure you that these agreements will provide meaningful protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use, misappropriation or disclosure of such trade secrets, know-how or other proprietary information. We rely on our trademarks, trade names and brand names to distinguish our products from the products of our competitors, and we have registered or applied to register many of these trademarks. Third parties may also oppose our trademark applications, or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition and could require us to devote resources to advertising and marketing new brands. Further, we cannot assure you that competitors will not infringe our trademarks or that we will have adequate resources to enforce our trademarks.

Any failure to maintain, protect and enforce our intellectual property or the expiry of patent protection could have a material adverse impact on our results of operations, financial position and cash flows.

Expiration or termination of our right to use certain intellectual property granted by third parties, the right of those third parties to grant the right to use the same intellectual property to our competitors, and the right of certain third parties to use certain intellectual property used as part of our business, could have a material adverse impact on our results of operations, financial position and cash flows.

We have negotiated, and may from time to time in the future negotiate, licenses with third parties with respect to third party proprietary technologies used in certain of our manufacturing processes and products. If any of these licenses expire or terminate, we will no longer retain the rights to use the relevant third party proprietary technologies in our manufacturing processes and products, which could have a material adverse effect on our results of operations, financial position and cash flows. Further, the rights granted to us might be non-exclusive, which could result in our competitors gaining access to the same intellectual property.

Some of our patents may cover inventions that were conceived or first reduced to practice under, or in connection with, government contracts or other government funding agreements or grants. With respect to inventions conceived or first reduced to practice under such government funding agreements, a government may retain a non-exclusive, irrevocable, royalty-free license to practice, or have practiced for or on behalf of the relevant country, the invention throughout the world. In addition, if we fail to comply with our reporting obligations, or to adequately exploit the developed intellectual property under these government funding agreements, the relevant country may obtain additional rights to the developed intellectual property, including the right to take title to any patents related to government funded inventions or to license the same to our competitors. Furthermore, our ability to exclusively license or assign the intellectual property developed under these government funding agreements to third parties may be limited or subject to the relevant government's approval or oversight. These limitations could have a significant impact on the commercial value of the developed intellectual property.

We often enter into research and development agreements with academic institutions whereby they generally retain certain rights to the developed intellectual property. The academic institutions generally retain rights over the technology for use in non-commercial academic and research fields, including in some cases the right to license the technology to third parties for use in those fields. It is difficult to monitor and enforce such non-commercial academic and research uses, and we cannot predict whether the third party licensees would comply

with the use restrictions of these licenses. We could incur substantial expenses to enforce our rights against such licensees. In addition, even though the rights that academic institutions obtain are generally limited to the non-commercial academic and research fields, they may obtain rights to commercially exploit developed intellectual property in certain instances. Under research and development agreements with academic institutions, our rights to intellectual property developed thereunder are not always certain, but instead may be in the form of an option to obtain license rights to such intellectual property. If we fail to exercise our option rights in a timely way and / or we are unable to negotiate a license agreement, the academic institution may offer a license to the developed intellectual property to third parties for commercial purposes. Any such commercial exploitation could adversely affect our competitive position and have a material adverse effect on our business.

If third parties claim that intellectual property used by us infringes upon their intellectual property, our operating profits could be adversely affected.

We may, from time to time, be notified of claims that we are infringing upon patents, copyrights, or other intellectual property rights owned by third parties, and we cannot provide assurances that other companies will not in the future pursue such infringement claims against us or any third party proprietary technologies we have licensed. If we were found to infringe upon a patent or other intellectual property right, or if we failed to obtain or renew a license under a patent or other intellectual property right from a third party, or if a third party from whom we are licensing technologies was found to infringe upon a patent or other intellectual property rights of another third party, we may be required to pay damages, suspend the manufacture of certain products or re-engineer or rebrand our products, if feasible, or we may be unable to enter certain new product markets. Any such claims could also be expensive and time consuming to defend and could divert management's attention and resources. In addition, if we have omitted to enter into a valid non-disclosure or assignment agreement for any reason, we may not own the invention or our intellectual property and may not be adequately protected. Our competitive position could suffer as a result of any of these events and have a material adverse impact on our results of operations, financial position and cash flows.

Any failure of our research and development activity to improve our existing products and develop new products could cause us to lose market share.

Our products are highly technical in nature, and in order to maintain and improve our market position, we depend on successful research and development activity to continue to improve our existing products and develop new products. We cannot be certain that we will have sufficient research and development capability to respond to changes in the industries in which we operate. These changes could include changes in the technological environment in which we currently operate, increased demand for new products or the development of alternatives to our products. For example, the development of lighter weight steel alloys has made the use of steel in gas cylinders a more competitive alternative to aluminum than it had been previously. We may also experience delays in completing development of, enhancements to or new versions of our products and product innovations may not achieve the market penetration or price stability necessary for profitability. In addition to benefiting from our research collaboration with universities, we spent \$3.3 million, \$5.7 million and \$6.4 million in 2020, 2019 and 2018 respectively, on our own research and development activities. We expect to fund our future research and development expenditure requirements through operating cash flows and restricted levels of indebtedness, but if operating profit decreases, we may not be able to invest in research and development or continue to develop new products or enhancements.

Without the timely introduction of new products or enhancements to existing products, our products could become obsolete over time, in which case our results of operations, financial position and cash flows could be adversely affected.

Operational Risks

We may not be able to consummate, finance or successfully integrate future acquisitions into our business, which could hinder our strategy or result in unanticipated expenses, losses or charges.

As part of our strategy, we have supplemented and may continue to supplement organic growth by acquiring companies or operations engaged in similar or complementary businesses. If the consummation of future acquisitions, together with integration of acquired companies and businesses excessively diverts management's attention from the operations of our existing businesses, operating results could suffer. Any acquisition made could be subject to a number of risks, including:

- failing to discover liabilities of the acquired company or business for which we may be responsible as a successor owner or operator, including litigation or environmental costs and liabilities;
- difficulties associated with the assimilation of operations and personnel of the acquired company or business, creating uncertainty for employees, customers and suppliers;
- increased debt service requirements as a result of increased indebtedness to complete acquisitions;
- the loss of key personnel in the acquired company or business;
- a negative effect on our financial results resulting from an impairment of acquired intangible assets, the creation of provisions, or write downs; and / or
- potential adverse effects on our stock price and dividend amount due to the issuance of additional stock.

We cannot ensure that every acquisition will ultimately provide the benefits originally anticipated, which could ultimately have a material adverse impact on our results of operations, financial position and cash flows.

Our failure to perform under purchase or sale contracts could result in the payment of penalties to customers or suppliers, which could have a negative impact on our results of operations, financial position or cash flows.

A failure to perform under purchase or sale contracts could result in the payment of penalties to suppliers and / or customers, which could have a negative impact on our results of operations, financial position or cash flows. Certain contracts with suppliers could also obligate us to purchase a minimum product volume (clauses known as "take or pay") or contracts with customers may impose firm commitments for the delivery of certain quantities of products within certain time periods. The risk of incurring liability under a take or pay supply contract would increase during an economic crisis, which in turn would increase the likelihood of a sharp drop in demand for our products, which could have a material adverse effect on our results of operations, financial position and cash flows.

Our businesses could suffer if we lose certain employees or cannot attract and retain qualified employees.

We rely upon a number of key executives and employees, particularly members of the Executive Leadership Team. If these and certain other employees ceased to work for us, we would lose valuable expertise and industry experience and could become less profitable. We do not carry key person insurance covering the loss of any of our executives or employees.

In addition, future operating results depend in part upon our ability to attract and retain qualified engineering and technical personnel. As a result of intense competition for talent in the market, we cannot ensure that we will be able to continue to attract and retain such personnel. While our key employees are generally subject to non-competition agreements for a limited period of time following the end of their employment, if we were to lose the services of key executives or employees, it could adversely impact our ability to maintain our technological position, and / or have a material adverse effect on our results of operations, financial position and cash flows.

We could suffer a material interruption in our operations as a result of unforeseen events or operating hazards.

Our production facilities are located in a number of different locations around the world. Any of our facilities could suffer an interruption in production, either at separate times or at the same time, because of various and unavoidable occurrences, such as severe weather events (for example, hurricanes and floods), earthquakes, casualty events (for example, explosions, fires or material equipment breakdowns), acts of terrorism, pandemic disease, labor disruptions or other events (for example, required maintenance shutdowns). For example, our operations in California are subject to risks related to earthquakes. Further disruption occurred during 2015 at our Riverside, California, facility when an electrical arc caused damage to electrical equipment which triggered a power outage at the facility. In addition, some of our products are highly flammable, and there is a risk of fire inherent in their production process. Such hazards could cause personal injury or death, serious damage to, or destruction of, property and equipment, suspension of operations, substantial damage to the environment and / or reputational harm. The risk is particularly high in the production of ultra-fine magnesium powders, which are highly flammable and explosive in certain situations. Similar disruptions in the operations of our suppliers and / or customers could materially affect our business and operations. Although we carry certain levels of business interruption insurance, the coverage on certain catastrophic events or natural disasters, a failure of energy supplies and certain other events, is limited, and it is possible that the occurrence of such events may have a significant adverse impact on our results of operations, financial position and cash flows.

Employee strikes and other labor-related disruptions may adversely affect our operations.

Several of our production facilities depend on employees who are members of various trade union organizations. Strikes by, or labor disputes with, our employees may adversely affect our ability to conduct business.

We cannot assure you that there will not be any strike, lock-out or material labor dispute in the future. Work interruptions or stoppages could have a material adverse effect on our results of operations, financial position and cash flows.

As a holding company, Luxfer Holdings PLC's main source of cash is distributions from our operating subsidiaries.

Our ultimate parent company, Luxfer Holdings PLC, conducts all of its operations through the subsidiaries of Luxfer Group. Accordingly, its main cash source is dividends from these subsidiaries. The ability of each subsidiary to make distributions depends on the funds that a subsidiary receives from its operations in excess of the funds necessary for its operations, obligations or other business plans. Since Luxfer Group subsidiaries are wholly-owned, claims of Luxfer Holdings PLC will generally rank junior to all other obligations of the subsidiaries. If Luxfer Group operating subsidiaries are unable to make distributions, Luxfer Group's growth may slow, unless we are able to obtain additional debt or equity financing. In the event of a subsidiary's liquidation, there may not be assets sufficient for us to recoup our investment in the subsidiary.

We have a level of indebtedness which has reduced over time, but could adversely affect our cash flows and our ability to operate our business, remain in compliance with debt covenants, make payments on our indebtedness, pay dividends and respond to changes in our business or take certain actions.

As of December 31, 2020, we had \$50.0 million of indebtedness under our senior notes (the "Loan Notes") divided into two equal tranches of \$25.0 million due in 2023 and 2026, respectively. There was also a \$4.1 million balance on the revolving credit facility ("RCF") as of December 31, 2020.

Our indebtedness could have important consequences. For example, it could make it more difficult for us to satisfy obligations with respect to indebtedness, and any failure to comply with the obligations of any of our debt instruments, including financial and other restrictive covenants, could result in an event of default under agreements governing our indebtedness. Further, our indebtedness could require us to dedicate a substantial portion of available cash flows to pay principal and interest on our outstanding debt, which would reduce the funds available for working capital, capital expenditures, dividends, acquisitions and other general corporate purposes. Our indebtedness could also limit our ability to operate our business, including the ability to engage in strategic transactions or implement business strategies. Factors related to our indebtedness could materially and adversely affect our business and our results of operations. Furthermore, our interest expense could increase if interest rates rise, because certain portions of our debt facilities bear interest at floating rates. If we do not have sufficient cash flows to service our debt, we may be required to refinance all or part of our existing debt, sell assets, incur further indebtedness or sell securities, none of which we can guarantee we will be able to do.

In addition, the agreements that govern the terms of our indebtedness contain, and any future indebtedness would likely contain, a number of restrictive covenants imposing significant operating and financial restrictions on us, including restrictions that may limit our ability to engage in acts that may be in our long-term best interests, including:

- incurring or guaranteeing additional indebtedness;
- capital expenditures;
- paying dividends (including to fund cash interest payments at different entity levels) or making redemptions, repurchases or distributions with respect to ordinary shares or capital stock;
- creating or incurring certain security interests;
- making certain loans or investments;
- engaging in mergers, acquisitions, investment in joint ventures, amalgamations, asset sales and sale and leaseback transactions; and
- engaging in transactions with affiliates.

These restrictive covenants are subject to a number of qualifications and exceptions. The operating and financial restrictions and covenants in our existing debt agreements and any future financing agreements may adversely affect our ability to finance future operations or capital needs or to engage in other business activities.

We may be able to incur significant additional indebtedness in the future. Although the agreements governing our indebtedness contain restrictions on the incurrence of certain additional indebtedness, these restrictions are subject to a number of important qualifications and exceptions, and the indebtedness incurred in compliance with these restrictions could be substantial. If we incur new indebtedness, the related risks, including those described above, could intensify.

Any of these factors could have a material adverse impact on our results of operations, financial position and cash flows.

General risks

Our ability to pay regular dividends on our ordinary shares is subject to the discretion of our Board of Directors and will depend on many factors, including our results of operations, cash requirements, financial position, contractual restrictions, applicable laws and other factors, and may be limited by our structure and statutory restrictions and restrictions imposed by the Revolving Credit Facility and the Loan Notes, as well as any future debt facilities.

We may declare cash dividends on our ordinary shares as described in ITEM 8. However, the payment of future dividends will be at the discretion of our Board of Directors. Any recommendation by our Board to pay dividends will depend on many factors, including our results of operations, cash requirements, financial position, contractual restrictions, applicable laws and other factors, including availability of future debt facilities. Under English law, any payment of dividends would be subject to the Companies Act 2006 of England and Wales (the "Companies Act"), which requires, among other things, that we can only pay dividends on ordinary shares out of profits available for distribution determined in accordance with the Companies Act. Additionally, any change in the level of our dividends or the suspension of the payment thereof could adversely affect the market price of our ordinary shares.

If we fail to establish or maintain an effective system of internal controls, we may be unable to accurately report our financial results or prevent fraud, and investor confidence and the market price of our ordinary shares may, therefore, be adversely impacted.

We are subject to reporting obligations under U.S. securities laws. Our reporting obligations as a public company place a significant strain on our management, operational and financial resources and systems for the foreseeable future. Our management is required to report on the effectiveness of our internal control over financial reporting as required annually by Section 404(a), and quarterly by Section 302 of the Sarbanes-Oxley Act, for which we perform system and process evaluation and testing of our internal control over financial reporting.

Over time we may identify and correct deficiencies or weaknesses in our internal controls and, where and when appropriate, report on the identification and correction of these deficiencies or weaknesses. However, the internal control procedures can provide only reasonable, and not absolute, assurance that deficiencies or weaknesses are identified. Deficiencies or weaknesses that have not been identified by us could emerge, and the identification and correction of these deficiencies or weaknesses could have a material adverse impact on our results of operations. If our internal control over financial reporting are not considered adequate, this may adversely affect our ability to report our financial results on a timely and accurate basis, which may result in a loss of public confidence or have an adverse effect on the market price of our ordinary shares, which could adversely impact our ability to access equity markets and could have a material adverse impact on our results of operations, financial position and cash flows.

It may be difficult to effect service of U.S. process and enforce U.S. legal process against the directors of Luxfer.

Luxfer is a public limited company incorporated under the laws of England and Wales. A number of our directors and officers reside outside of the U.S., principally in the U.K. A substantial portion of our assets, and the assets of such persons, are located outside of the U.S. Therefore, it may not be possible to effect service of process within the U.S. upon Luxfer or these persons in order to enforce judgments of U.S. courts against Luxfer or these persons based on the civil liability provisions of the U.S. federal securities laws. There is doubt as to the enforceability in England and Wales, in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities solely based on the U.S. federal securities laws.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal office is located in owned premises in Manchester, United Kingdom, and our management office in the United States is located in leased premises in Milwaukee, Wisconsin. Our operations are conducted in facilities throughout the world. These facilities house manufacturing and distribution operations, as well as sales and distribution offices.

We carry out Elektron manufacturing operations at six plants in the United States and single plants in each of the United Kingdom and Canada.

We carry out Gas Cylinders manufacturing operations at three plants in the United States, three plants in the United Kingdom and single plants in each of Canada and China. Two of the plants in the United States and two in the United Kingdom are classified as discontinued operations. In addition, Gas Cylinders also has a sales and distribution office in both Australia and Italy.

Our manufacturing plants comprise both owned and leased properties. We believe that our production facilities are suitable for their purpose and are adequate to support our businesses.

Division	Property / Plant	Principal products manufactured	Ownership	Approximate area (square feet)
Elektron				
	Manchester, England	Magnesium alloys / zirconium chemicals	Split Lease / Own	561,264
	Madison, IL	Magnesium sheet	Lease	803,795
	Tamaqua, PA	Magnesium powders	Own	64,304
	Lakehurst, NJ	Magnesium powders	Own	78,926
	Flemington, NJ	Zirconium chemicals	Own	65,000
	Hamilton, Canada	Magnesium powders	Lease	16,335
	Cincinnati, OH	Magnesium heating pads	Lease	150,000
	Saxonburg, PA	Magnesium powders	Own	68,000
Gas Cylinders				
	Nottingham, England	Composite and aluminum cylinders	Lease	143,222
	Calgary, Canada	Composite cylinders	Lease	65,500
	Worcester, England*	Aluminum panels	Lease	97,315
	Kidderminster, England*	Aluminum panels	Lease	60,200
	Riverside, CA	Composite cylinders	Lease / Own	125,738
	Graham, NC*	Aluminum cylinders	Own	121,509
	Riverside, CA*	Aluminum panels	Lease	68,240
	Shanghai, China	Cylinders	Lease	15,383

*Properties relate to discontinued operations.

Item 3. Legal Proceedings

The Company is a defendant in various lawsuits and is subject to various claims that arise in the normal course of business, the most significant of which are summarized in Note 19 (commitments and contingencies) to the consolidated financial statements in ITEM 8. In the opinion of management, the likelihood that the ultimate disposition of these matters will have a material adverse impact is remote.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock is listed on the New York Stock Exchange and is traded under the symbol "LXFR." As of December 31, 2020, the Company had 17 shareholders of record.

Dividends

During the years ended December 31, 2020, 2019 and 2018 the Company paid quarterly dividends of \$0.125 per ordinary share which equated to \$13.6 million, \$13.6 million and \$13.4 million in 2020, 2019 and 2018 respectively. A further dividend of \$3.4 million was declared and paid in the first quarter of 2021. The declaration and payment of any future dividends will be at the discretion of our Board of Directors and will depend upon our results of operations, cash requirements, financial position, contractual restrictions, restrictions imposed by our indebtedness, any future debt agreements or applicable laws and other factors that our Board of Directors may deem relevant. As with all dividends declared to date, we expect future dividends to be paid out of our earnings.

Any payment of dividends is also subject to the provisions of the U.K. Companies Act, according to which dividends may only be paid out of profits available for distribution determined by reference to financial statements prepared in accordance with the Companies Act and the International Accounting Standards Board, which differ in some respects from U.S. GAAP. In the event that dividends are paid in the future, holders of the ordinary shares will be entitled to receive payments in U.S. dollars in respect of dividends on the underlying ordinary shares in accordance with the deposit agreement. Furthermore, because we are a holding company, any dividend payments would depend on cash flows from our subsidiaries.

United Kingdom tax consequences for holders of common stock

The United Kingdom tax consequences discussed below do not reflect a complete analysis or listing of all the possible United Kingdom tax consequences that may be relevant to holders of our common stock. Furthermore, the statements below only apply to holders of our common stock who are resident for tax purposes outside of the United Kingdom.

Investors should consult their own tax advisers in respect of the tax consequences related to receipt, ownership, purchase or sale or other disposition of our common stock.

United Kingdom withholding tax

Under current law, the Company is not required to make any deduction or withholding for or on account of United Kingdom tax from dividends distributed on our common stock, irrespective of the tax residence or individual circumstances of the recipient shareholder.

United Kingdom income tax on dividends

A non-United Kingdom tax resident holder of our common stock will not be subject to United Kingdom income taxes on dividend income and similar distributions in respect of our shares, unless the shares are attributable to a permanent establishment or a fixed place of business maintained in the United Kingdom by such non-U.K. holder.

Stamp duty and stamp duty reserve tax ("SDRT")

While the ordinary shares are held within a depositary trust company ("DTC"), provided that DTC satisfies various conditions specified in U.K. legislation, electronic book-entry transfers of such shares should not be subject to U.K. stamp duty and agreements to transfer such shares should not be subject to U.K. stamp duty reserve tax ("SDRT"). The parties have obtained confirmation of this position by way of formal clearance by HMRC. Likewise, transfers of, or agreements to transfer, the ordinary shares from the DTC clearance service into another clearance service or into a depositary receipt system should not, provided that the other clearance service or depositary receipt system satisfies various conditions specified in U.K. legislation, be subject to U.K. stamp duty or SDRT.

In the event that the ordinary shares have left the DTC clearance service otherwise than into another clearance service or depositary receipt system, any subsequent transfer of, or agreement to transfer, such ordinary shares may, subject to any available exemption or relief, be subject to U.K. stamp duty or SDRT at a rate of 0.5% of the consideration for such transfer or agreement. Any such U.K. stamp duty or SDRT will generally be payable by the transferee and must be paid (and any relevant transfer document stamped by HMRC) before the transfer can be registered in the books of Luxfer Holdings PLC.

In the event that ordinary shares which have left the DTC clearance service otherwise than into another clearance service or depositary receipt system are subsequently transferred back into a clearance service or depositary receipt system, such transfer, or agreement to transfer, may, subject to any available exemption or relief, be subject to U.K. stamp duty or SDRT at a rate of 1.5% of the consideration for such transfer (or, where there is no such consideration, 1.5% of the value of such ordinary shares). In practice this liability for stamp duty or SDRT is in general borne by the person depositing the relevant shares in the clearance service or depositary receipt system.

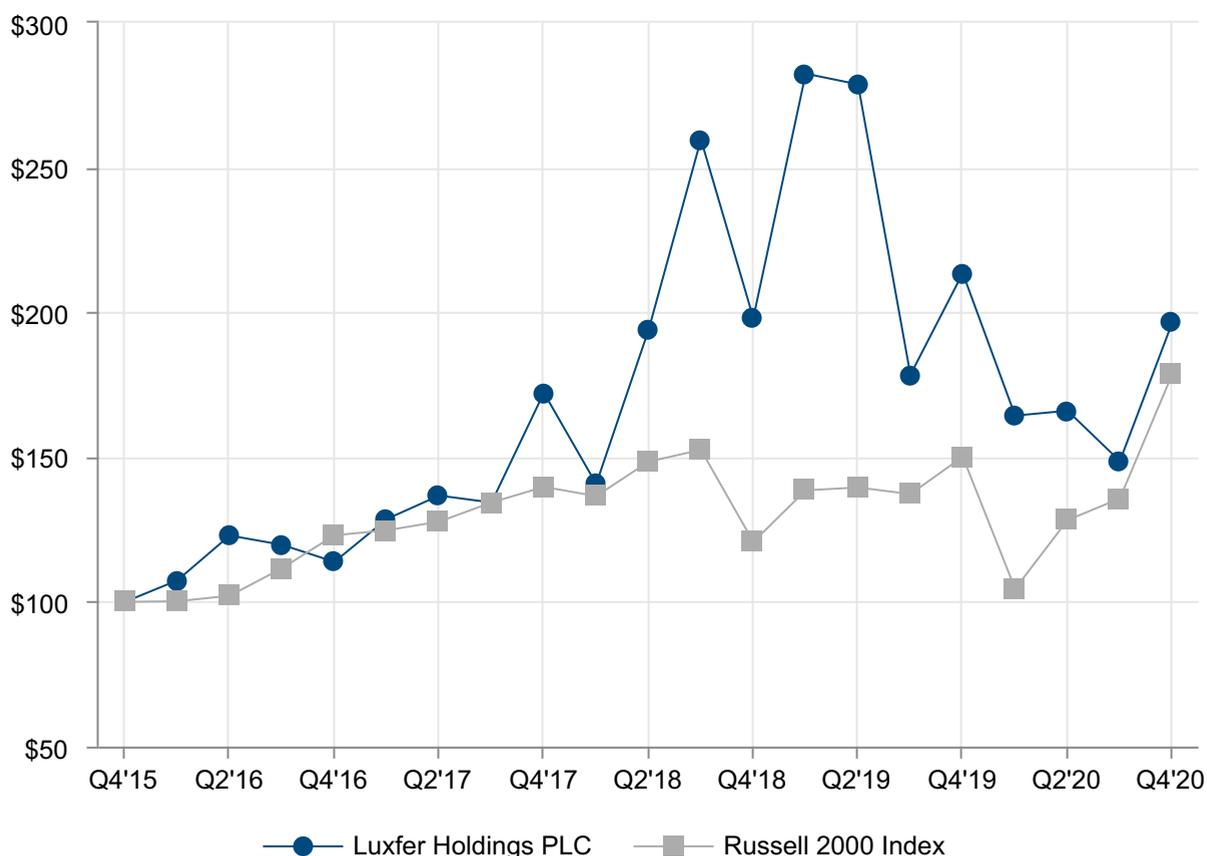
Share performance graph

The following information under the caption "Share Performance Graph" in this ITEM 5 of this Annual Report on Form 10-K is not deemed to be "soliciting material" or to be "filed" with the SEC or subject to Regulation 14A or 14C under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or to the liabilities of Section 18 of the Exchange Act and will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent we specifically incorporate it by reference into such a filing.

The following graph sets forth the cumulative total shareholder return on our ordinary shares for the last five years, assuming the investment of \$100 on December 31, 2015, and the reinvestment of all dividends since that date to December 31, 2020. The graph also contains for comparison purposes the Russell 2000 Index, assuming the same investment level and reinvestment of dividends.

By virtue of our market capitalization and characteristics, we believe the Russell 2000 Index is an appropriate published industry index for comparison purposes.

Comparison of Cumulative Five-Year Total Return



Purchase of Equity Securities

During the fourth quarter and entire fiscal year of 2020, we made no purchases of our ordinary shares.

Item 6. Selected Financial Data

The below selected financial data is derived from our audited consolidated financial statements and reflects financial information related to continuing activities and should be read in conjunction with the audited financial statements for the year ended December 31, 2020, included within ITEM 8 this document.

The results of operations for any period are not necessarily indicative of the results to be expected for any future period. The consolidated financial statements, from which the historical financial information for the periods set forth below have been derived, were prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). The selected historical consolidated financial data set forth below should be read in conjunction with, and are qualified by reference to "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our audited consolidated financial statements and related notes thereto appearing elsewhere in this annual report on Form 10-K for the years ended December 31, 2020 and 2019.

Prior year figures have been restated to reflect discontinued operations in the current year.

<i>In millions except share and per-share data</i>	Years ended December 31,				
	2020	2019	2018	2017	2016
Consolidated statements of operations and comprehensive income from continuing activities data					
Net sales	\$ 324.8	\$ 373.4	\$ 401.9	\$ 348.0	\$ 324.2
Operating income	28.5	18.7	33.6	21.8	34.1
Net income	20.8	8.7	27.7	17.3	15.2
Per-share data					
Earnings / (loss) per ordinary share					
Basic	0.75	0.32	1.04	0.65	0.57
Diluted	0.74	0.31	1.00	0.65	0.57
Weighted average ordinary shares outstanding					
Basic	27,557,219	27,289,042	26,708,469	26,460,947	26,443,662
Diluted	27,971,382	27,882,864	27,692,262	26,723,981	26,654,638
Cash dividends declared and paid ¹	\$ 13.6	\$ 13.6	\$ 13.4	\$ 13.3	\$ 13.3
Cash dividends declared and paid after December 31 ¹	3.4	3.4	3.4	3.4	3.3
Consolidated balance sheets data					
Total assets ²	\$ 346.4	\$ 390.3	\$ 408.8	\$ 415.8	\$ 399.8
Total long-term obligations ²	113.9	138.4	133.3	157.3	196.2
Total shareholders' equity	167.1	174.4	184.3	174.5	150.4

¹In 2020, 2019, 2018, 2017 and 2016 the Company paid quarterly dividends of \$0.125 per ordinary share.

²Includes assets and liabilities held-for-sale.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Information regarding forward-looking statements

This Annual Report on Form 10-K contains certain statements, statistics and projections that are, or may be, forward-looking. These forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that could cause our actual results of operations, financial condition, liquidity, performance, prospects, opportunities, achievements or industry results, as well as those of the markets we serve or intend to serve, to differ materially from those expressed in, or suggested by, these forward-looking statements. The accuracy and completeness of all such statements, including, without limitation, statements regarding our future financial position, strategy, plans and objectives for the management of future operations, is not warranted or guaranteed. These statements typically contain words such as "believes," "intends," "expects," "anticipates," "estimates," "may," "will," "should" and words of similar import. By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. Although we believe that the expectations reflected in such statements are reasonable, no assurance can be given that such expectations will prove to be correct. There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied by such forward-looking statements. These factors include, but are not limited to, factors identified in "Business," "Risk factors," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," or elsewhere in this Annual Report, as well as:

- general economic conditions, or conditions affecting demand for the services offered by us in the markets in which we operate, both domestically and internationally, being less favorable than expected;
- worldwide economic and business conditions and conditions in the industries in which we operate;
- ongoing impact of COVID-19 and future pandemics;
- fluctuations in the cost of raw materials and utilities;
- currency fluctuations and other financial risks;
- our ability to protect our intellectual property;
- the significant amount of indebtedness we have incurred and may incur, and the obligations to service such indebtedness and to comply with the covenants contained therein;
- relationships with our customers and suppliers;
- increased competition from other companies in the industries in which we operate;
- changing technology;
- our ability to execute and integrate new acquisitions;
- claims for personal injury, death or property damage arising from the use of products produced by us;
- the occurrence of accidents or other interruptions to our production processes;
- changes in our business strategy or development plans, and our expected level of capital expenditure;
- our ability to attract and retain qualified personnel;
- restrictions on the ability of Luxfer Holdings PLC to receive dividends or loans from certain of its subsidiaries;
- regulatory, environmental, legislative and judicial developments; and
- our intention to pay dividends.

Please read the sections "Business," "Risk factors," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," of this Annual Report on Form 10-K for a more complete discussion of the factors that could affect our performance and the industries in which we operate, as well as those discussed in other documents we file or furnish with the SEC.

About Luxfer

Luxfer Holdings PLC ("Luxfer," "the Company," "we") is a global producer of highly-engineered industrial materials focused on sustained value creation using its broad array of technical knowhow and proprietary materials technologies. The Company specializes in the design and manufacture of high-performance products for transportation, defense and emergency response, healthcare, and general industrial purposes. Luxfer customers include both end-users of its products and manufacturers that incorporate Luxfer products into finished goods.

Key trends and uncertainties regarding our existing business

Impact of COVID-19 on operations

Luxfer's top priority during this global pandemic is the health and well-being of our employees, customers, shareholders, and the communities in which we operate. The Company continues to monitor the COVID-19 situation closely, while simultaneously executing business continuity plans. These business continuity plans include, but are not limited to, (i) retooling operations to maintain social distance and maximize employee safety; (ii) increasing resources and efforts to satisfy demand from the most impactful parts of our business; (iii) expanding flexible work arrangements and policies, where practical, to maximize employee safety; (iv) increased monitoring of short-term cash flow, including measures to reduce costs and generate cash; and (v) providing regular updates to our shareholders, employees, customers, and suppliers in a transparent and timely manner.

At this time, Luxfer continues to operate all of its facilities, following temporary closures at a small number of locations earlier in 2020. However, due to weaker demand resulting from uncertain economic conditions, potential supply constraints, and the continued impact of COVID-19, Luxfer has implemented additional cost saving programs, including headcount reductions.

Luxfer's results continue to reflect the global macro environment resulting from the COVID-19 pandemic, including broad-based market weakness, which has been especially evident in our general industrial and transportation end-markets in 2020 with full year decline of 18.0% and 14.7% respectively. However, while general industrial has continued to decline in the fourth quarter by 12.5% relative to prior year, transportation has experienced a recovery with growth of 20.1%, largely on the back of the return to growth of sales of alternative fuel products. Despite the adverse macro trends, the Company has a strong balance sheet and access to an existing \$150 million credit facility, of which only \$4.1 million was drawn down at the end of the year following continued strong cash generation which allowed the early repayment in the fourth quarter of \$25 million of Loan Notes due 2021. Furthermore, as our net debt to EBITDA ratio has fallen to 1.0x at the end of 2020 (from 1.2x at the end of 2019), we have identified no issues in relation to financial covenants nor availability of funding for continued operations.

Operating objectives and trends

In 2021, we expect the following operating objectives and trends to impact our business:

- Continuing proactive response to COVID-19 pandemic, including the health and well-being actions highlighted above, in addition to initiatives to stimulate demand for products, ensure continuity of supply and action, focused cost saving programs;
- Divestiture of non-strategic aluminum businesses (identified as discontinued operations) in the Gas Cylinders segment.
- Refocus on productivity acceleration and growth recovery post COVID-19 as we capitalize on lean manufacturing initiatives and pursue faster product innovation;
- Continued focus on developing global talent and implementing a high-performance culture; and
- Continued focus on improved operating cash generation with lower restructuring activity and maintaining strong working capital performance.

CONSOLIDATED RESULTS OF OPERATIONS

The consolidated results of operations from, continuing operations of Luxfer were as follows:

<i>In millions</i>	Years ended December 31,			% / point change	
	2020	2019	2018	2020 v 2019	2019 v 2018
Net sales	\$ 324.8	\$ 373.4	\$ 401.9	(13.0)%	(7.1)%
Cost of goods sold	(243.9)	(269.7)	(284.0)	(9.6)%	(5.0)%
Gross profit	80.9	103.7	117.9	(22.0)%	(12.0)%
<i>% of net sales</i>	24.9 %	27.8 %	29.3 %	(2.9)	(1.5)
Selling, general and administrative expenses	(39.8)	(49.7)	(54.6)	(19.9)%	(9.0)%
<i>% of net sales</i>	12.3 %	13.3 %	13.6 %	(1.0)	(0.3)
Research and development	(3.3)	(5.7)	(6.3)	(42.1)%	(9.5)%
<i>% of net sales</i>	1.0 %	1.5 %	1.6 %	(0.5)	(0.1)
Restructuring charges	(8.9)	(25.9)	(13.2)	(65.6)%	96.2 %
<i>% of net sales</i>	2.7 %	6.9 %	3.3 %	(4.2)	3.6
Impairment charges / (credits)	—	0.2	(5.9)	(100.0)%	(30.6)%
<i>% of net sales</i>	— %	(0.1)%	1.5 %	0.1	(1.6)
Acquisition related costs	—	(1.4)	(4.3)	(100.0)%	(67.4)%
<i>% of net sales</i>	— %	0.4 %	(1.1)%	(0.4)	(0.6)
Other charges	(0.4)	(2.5)	—	(84.0)%	n/a
<i>% of net sales</i>	0.1 %	0.7 %	— %	(0.6)	n/a
Operating income	28.5	18.7	33.6	52.4 %	(44.3)%
<i>% of net sales</i>	8.8 %	5.0 %	8.4 %	3.8	(3.4)
Net interest expense	(5.0)	(4.4)	(4.5)	13.6 %	(2.2)%
<i>% of net sales</i>	1.5 %	1.2 %	1.1 %	0.3	0.1
Defined benefit pension credit	4.3	1.3	4.7	230.8 %	(72.3)%
<i>% of net sales</i>	1.3 %	0.3 %	1.2 %	1.0	(0.9)
Income before income taxes and equity in net income of affiliates	27.8	15.6	33.8	78.2 %	(53.8)%
<i>% of net sales</i>	8.6 %	4.2 %	8.4 %	4.4	(4.2)
Provision for income taxes	(6.9)	(7.6)	(6.5)	(9.2)%	16.9 %
<i>Effective tax rate</i>	24.8 %	48.7 %	19.2 %	(23.9)	29.5
Income before equity in net income of affiliates	20.9	8.0	27.3	161.3 %	(70.7)%
<i>% of net sales</i>	6.4 %	2.1 %	6.8 %	4.3	(4.7)
Equity in income of unconsolidated affiliates (net of tax)	(0.1)	0.7	0.4	(114.3)%	75.0 %
<i>% of net sales</i>	— %	0.2 %	0.1 %	(0.2)	0.1
Net income	\$ 20.8	\$ 8.7	\$ 27.7	139.1 %	(68.6)%
<i>% of net sales</i>	6.4 %	2.3 %	6.9 %	4.1	(4.6)

Net sales

The 13.0% decrease in consolidated net sales in 2020 from 2019 was heavily influenced by the global economic downturn resulting from the COVID-19 pandemic across all end markets with the adverse impact most pronounced across the industrial and transportation end markets, including:

- Lower sales of photoengraving plates;
- Lower sales of zirconium-based chemical products used in industrial catalysis;
- Lower sales of SCBA cylinders used by first responders; and
- \$7.6 million revenue decline as a result of the divestiture of Elektron's magnesium Czech recycling business in 2019.
- These decreases were partially offset by:
 - Continued growth of alternative fuel (AF) systems despite COVID-19 headwinds affecting transportation end markets; and
 - Increased revenues from Luxfer Magtech chemical kit products.

The 7.1% decrease in consolidated net sales in 2019 from 2018 was primarily the result of:

- \$8.3 million revenue decline as a result of the divestiture of Elektron's magnesium Czech recycling business at the end of the second quarter. Excluding this divestiture, underlying business declined 5.1%;
- Significantly lower sales of our proprietary SoluMag[®] alloy as a result of continuing destocking amid budgetary pressures affecting North American shale producers;
- Adverse foreign currency effects of \$8.4 million.
- These decreases were partially offset by:
 - Continued recovery in sales of alternative fuel (AF) systems;
 - Increased revenues from zirconium-based automotive and industrial catalysis materials.

Gross profit

The 2.9 percentage point decrease in gross profit as a percentage of sales in 2020 from 2019 was primarily the result of adverse sales mix and inefficiency from the impact of COVID-19.

These adverse factors were partially offset by the impact of productivity improvements in Luxfer Gas Cylinders Europe, following closure of the French operation in 2019 and transfer of production to the U.K. and U.S.A.

The 1.5 percentage point decrease in gross profit as a percentage of sales in 2019 from 2018 was primarily the result of:

- Adverse sales mix;
- Unfavorable foreign exchange variances; and
- Impact of short-term process inefficiency following plant consolidation exercises.

These decreases were partially offset by cost savings resulting from our continued effort to reduce production-based costs, partially derived from our transformation plan.

Selling, general and administrative expenses ("SG&A")

SG&A costs as a percentage of sales have decreased by 1.0 percentage points in 2020 from 2019. The \$9.9 million or 19.9% decline in costs was primarily the result of continued cost savings derived from our transformation plan, as well as specific cost reduction actions taken in response to the COVID-19 pandemic.

SG&A costs as a percentage of sales was flat in 2019 and 2018. The \$4.9 million or 9.0% decline in costs was primarily the result of continued cost savings derived from our transformation plan, as well as lower management incentive awards in 2019. This was partially offset by \$1.5 million of non-recurring litigation expense incurred in 2019.

Research and development costs

Research and development costs as a percentage of sales reduced by 0.5% in 2020 from 2019, largely as a result of COVID-19 led project delays.

Research and development costs as a percentage of sales was virtually flat at 1.5% in 2019 versus 1.6% in 2018.

Restructuring charges

The \$8.9 million restructuring charges in 2020 includes:

- A further \$7.5 million in relation to the closure of Luxfer Gas Cylinders France;
- \$1.4 million in one-time severance costs as a result of actions taken in response to the COVID-19 pandemic.

The \$25.9 million restructuring charges in 2019 was the result of:

- \$20.1 million in relation to the closure of Luxfer Gas Cylinders France;
- \$4.6 million related to asset write-downs and one-time employee benefits following the decision to scale down production at one of our Luxfer Magtech sites; and
- \$1.2 million of other simplification costs.

Impairment charges / (credits)

Impairment credits of \$0.2 million in 2019 relates to a \$0.2 million true-up of the 2018 impairment of the assets of the Czech magnesium recycling business prior to its eventual divestiture in Q2, 2019.

Acquisition-related costs

Acquisition-related costs which were net \$nil in 2020 related to \$0.4 million costs incurred in relation to merger and acquisition ("M&A") exploration activities offset by deferred consideration adjustments and profit on previously written-down inventory. In July 2020 we sold our 51% investment in Luxfer Uttam India Private Limited to the joint venture ("JV") partner. Allowing for legal costs, we generated a profit on disposal of less than \$0.1 million.

Acquisition-related costs of \$1.4 million in 2019 related to :

- \$3.5 million reimbursement payment and \$0.9 million of professional and legal fees incurred in connection with the terminated acquisition of Neo Performance Materials; offset by
- \$2.9 million gain on disposal of Elektron's magnesium recycling business in the Czech Republic; and
- \$0.1 million credit in relation to the revaluation of deferred contingent consideration, arising from the acquisition of the legacy businesses of Luxfer Magtech Inc. which was acquired in 2014.

Other charges

The \$0.4 million other charges incurred in 2020, is the result of further costs incurred in relation to the remediation of the legacy environmental issue outlined below.

The \$2.5 million other charges incurred in 2019, is the result of the Company's decision to commence a project to remove low-level naturally occurring radioactive material (NORM) from a redundant building at Elektron's Manchester, UK site. The work represents remediation of a legacy environmental issue and is expected to complete in the first quarter of 2021.

Net interest expense

Net interest expense of \$5.0 million in 2020 increased from \$4.4 million in 2019 largely as a result of an additional finance charge following the \$25 million voluntary early repayment of 3.67% Loan notes due 2021, at the end of the fourth quarter.

Net interest expense of \$4.6 million in 2019 was flat compared to 2018.

Defined benefit pension credit

The defined benefit pension credit of \$4.3 million has increased by \$3.0 million in 2020 from 2019. This was primarily due to the combined effect on the U.K. plan of a reduction in the discount rate and lower inflation, partially offset by lower projected asset returns.

The \$3.4 million decrease in defined benefit pension credit in 2019 from 2018 was primarily due to:

- Lower projected asset returns; and
- Loss of \$0.8 million resulting from a settlement affecting the U.S. plan in the final quarter of 2019.

Provision for income taxes

The 23.9 percentage point decrease in the effective tax rate in 2020 from 2019 was primarily due to significantly lower non-deductible expenses of a non-recurring nature in the current year.

The 29.5 percentage point increase in the effective tax rate in 2019 from 2018 was primarily due to significant non-deductible expenses incurred in relation to the closure of Luxfer Gas Cylinders France and the terminated acquisition of Neo Performance Materials.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES TO GAAP MEASURES

The following table of non-GAAP summary financial data presents a reconciliation of net income from continuing operations to adjusted net income for the periods presented, being the most comparable GAAP measure. Management believes that adjusted net income, adjusted earnings per share, adjusted EBITA and adjusted EBITDA are key performance indicators (KPIs) used by the investment community and that such presentation will enhance an investor's understanding of the Company's operational results. In addition, Luxfer's CEO and other senior management use these KPIs, among others, to evaluate business performance. However, investors should not consider adjusted net income and adjusted earnings per share in isolation as an alternative to net income and earnings per share when evaluating Luxfer's operating performance or measuring Luxfer's profitability.

<i>In millions except per share data</i>	Years ended December 31,		
	2020	2019	2018
Net income from continuing operations	20.8	8.7	27.7
Accounting charges / (credits) relating to acquisitions and disposals of businesses:			
Unwind of discount on deferred consideration	—	0.2	0.2
Amortization on acquired intangibles	0.7	1.2	1.2
Acquisitions and disposals cost	—	1.4	4.3
Defined benefit pension credit	(4.3)	(1.3)	(4.7)
Restructuring charges	8.9	25.9	13.2
Impairment charges	—	(0.2)	5.9
Other charges	0.4	2.5	—
Share-based compensation charges	2.8	4.5	4.8
Other non-recurring tax items	—	—	(2.9)
Income tax on adjusted items	(0.4)	(2.0)	(1.7)
Adjusted net income from continuing operations	28.9	40.9	48.0
Adjusted earnings per ordinary share from continuing operations			
Diluted earnings per ordinary share	0.74	0.31	1.00
Impact of adjusted items	0.29	1.16	0.73
Adjusted diluted earnings per ordinary share ⁽¹⁾	1.03	1.47	1.73

⁽¹⁾ For the purpose of calculating diluted earnings per share, the weighted average number of ordinary shares outstanding during the financial year has been adjusted for the dilutive effects of all potential ordinary shares and share options granted to employees.

<i>In millions except per share data</i>	Years ended December 31,		
	2020	2019	2018
Adjusted net income from continuing operations	28.9	40.9	48.0
Add back / (deduct):			
Other non-recurring tax items	—	—	2.9
Income tax on adjusted items	0.4	2.0	1.7
Income tax expense	6.9	7.6	6.5
Net finance costs	5.0	4.4	4.5
Adjusted EBITA from continuing operations	41.2	54.9	63.6
Loss on disposal of PPE	0.1	0.2	0.3
Depreciation	12.6	12.0	15.7
Adjusted EBITDA from continuing operations	53.9	67.1	79.6

The following table presents a reconciliation for the adjusted effective tax rate, which management believes is a KPI used by the investment community and that such presentation will enhance an investor's understanding of the Company's operational results.

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Adjusted net income from continuing activities	\$ 28.9	\$ 40.9	\$ 48.0
Add back:			
Income tax on adjusted items	0.4	2.0	1.7
Provision for income taxes	6.9	7.6	6.5
Adjusted income from continuing activities before income taxes	\$ 36.2	\$ 50.5	\$ 56.2
Adjusted provision for income taxes	7.3	9.6	8.2
Adjusted effective tax rate from continuing activities	20.2 %	19.0 %	14.6 %

SEGMENT RESULTS OF OPERATIONS

The summary that follows provides a discussion of the results of operations of each of our two reportable segments (Gas Cylinders and Elektron). Both segments comprise various product offerings that serve multiple end markets.

Adjusted EBITDA represents operating income adjusted for restructuring charges; impairment charges; other charges; acquisition and disposals cost; loss on disposal of property, plant and equipment; depreciation and amortization; share based compensation charges; and unwind of discount on deferred consideration. A reconciliation to net income and taxes can be found in ITEM 8, Note 17.

GAS CYLINDERS

The results of operations from the Gas Cylinders segment are for continuing activities only, therefore numbers and commentary has been adjusted for the previous years.

The net sales and adjusted EBITDA for Gas Cylinders were as follows:

<i>In millions</i>	Years ended December 31,			% / point change	
	2020	2019	2018	2020 v 2019	2019 v 2018
Net sales	\$ 141.9	\$ 153.5	\$ 152.1	(7.6)%	0.9 %
Adjusted EBITDA	21.3	22.3	23.4	(4.5)%	(4.7)%
<i>% of net sales</i>	15.0 %	14.5 %	15.4 %	0.5	(0.9)

Net sales

The 7.6% decrease in Gas Cylinders sales in 2020 from 2019 was primarily the result of COVID-19 related disruption marked by temporary customer shutdowns, especially reduced sales of SCBA composite cylinders used by first responders. This was partially offset by continued growth in alternative fuel cylinder sales.

The 0.9% increase in Gas Cylinders sales in 2019 from 2018 was primarily the result of the continued strength in alternative fuel cylinder sales, partially offset by adverse foreign currency effects of \$3.9 million.

Adjusted EBITDA

The 0.5 percentage point increase in adjusted EBITDA for Gas Cylinders as a percentage of net sales in 2020 from 2019 was primarily the result of productivity improvements and cost savings following the integration of the Luxfer Gas Cylinders France operation into other sites. This was partially offset by adverse sales mix.

The 0.9 percentage point decrease in adjusted EBITDA for Gas Cylinders as a percentage of net sales in 2019 from 2018 was primarily the result of adverse foreign currency effects partially offset by the impact of favorable cost reduction initiatives.

ELEKTRON

The net sales and adjusted EBITDA for Elektron were as follows:

<i>In millions</i>	Years ended December 31,			% / point change	
	2020	2019	2018	2020 v 2019	2019 v 2018
Net sales	\$ 182.9	\$ 219.9	\$ 249.8	(16.8)%	(12.0)%
Adjusted EBITDA	32.6	44.8	56.2	(27.2)%	(20.3)%
<i>% of net sales</i>	17.8 %	20.4 %	22.5 %	(2.6)	(2.1)

Net sales

The 16.8% decrease in Elektron sales in 2020 from 2019 was primarily the result of COVID-19 related disruption especially to the industrial and transportation end markets, including:

- Decreased sales of zirconium-based industrial catalysts;
- Lower sales of photo-engraving plates and magnesium countermeasure flares;
- Lower sales of magnesium aerospace alloys;
- \$7.6 million revenue decline as a result of the divestiture of Elektron's magnesium Czech recycling business in 2019.

This was partially offset by increased revenues from Luxfer Magtech chemical detection kits.

The 12.0% decrease in Elektron sales in 2019 from 2018 was primarily the result of:

- \$8.3 million revenue decline as a result of the divestiture of Elektron's magnesium Czech recycling business at the end of Q2, with underlying business excluding the divestiture declining 8.9%;
- Significantly lower sales of our proprietary SoluMag[®] alloy;
- Lower sales of other industrial products; and
- Adverse foreign currency effects of \$4.5 million.

This was partially offset by increased revenues from zirconium-based automotive and industrial catalysis materials.

Adjusted EBITDA

The 2.6 percentage point decrease in adjusted EBITDA for Elektron as a percentage of net sales in 2020 from 2019 was primarily the result of the impact of COVID-19 related reduction in volumes more than offsetting associated cost saving measures. This was further impacted by adverse product sales mix.

The 2.1 percentage point decrease in adjusted EBITDA for Elektron as a percentage of net sales in 2019 from 2018 was primarily the result of:

- Adverse mix, predominantly the impact of lower SoluMag[®] sales;
- Impact of short term inefficiency following plant consolidation and a flood affecting Graphic Arts;

These decreases were partially offset by the favorable impact of cost saving initiatives.

LIQUIDITY AND CAPITAL RESOURCES

Our liquidity requirements arise primarily from obligations under our indebtedness, capital expenditures, acquisitions, the funding of working capital and the funding of hedging facilities to manage foreign exchange and commodity purchase price risks. We meet these requirements primarily through cash flows from operating activities, cash deposits and borrowings under the Revolving Credit Facility and accompanying ancillary hedging facilities and the Loan Notes due 2023 and 2026. Our principal liquidity needs are:

- funding acquisitions,
- capital expenditure requirements;
- payment of shareholder dividends;
- servicing interest on the Loan Notes, which is payable at each quarter end, in addition to interest and / or commitment fees on the Senior Facilities Agreement;
- working capital requirements, particularly in the short term as we aim to achieve organic sales growth; and
- hedging facilities used to manage our foreign exchange and aluminum purchase price risks.

We believe that, in the long term, cash generated from our operations will be adequate to meet our anticipated requirements for working capital, capital expenditures and interest payments on our indebtedness. In the short term, we believe we have sufficient credit facilities to cover any variation in our cash flow generation. However, any major repayments of indebtedness will be dependent on our ability to raise alternative financing or to realize substantial returns from operational sales. Also, our ability to expand operations through sales development and capital expenditures could be constrained by the availability of liquidity, which, in turn, could impact the profitability of our operations.

We have been in compliance with the covenants under the Loan Notes and the Senior Facilities Agreement throughout all of the quarterly measurement dates from and including September 30, 2011, to December 31, 2020.

Luxfer conducts all of its operations through its subsidiaries, joint ventures and affiliates. Accordingly, Luxfer's main cash source is dividends from its subsidiaries. The ability of each subsidiary to make distributions depends on the funds that a subsidiary receives from its operations in excess of the funds necessary for its operations, obligations or other business plans. We have not historically experienced any material impediment to these distributions, and we do not expect any local legal or regulatory regimes to have any impact on our ability to meet our liquidity requirements in the future. In addition, since our subsidiaries are wholly-owned, our claims will generally rank junior to all other obligations of the subsidiaries. If our operating subsidiaries are unable to make distributions, our growth may slow, unless we are able to obtain additional debt or equity financing. In the event of a subsidiary's liquidation, there may not be assets sufficient for us to recoup our investment in the subsidiary.

Our ability to maintain or increase the generation of cash from our operations in the future will depend significantly on the competitiveness of and demand for our products, including our success in launching new products. Achieving such success is a key objective of our business strategy. Due to commercial, competitive and external economic factors, however, we cannot guarantee that we will generate sufficient cash flows from operations or that future working capital will be available in an amount sufficient to enable us to service our indebtedness or make necessary capital expenditures.

Cash Flows from Continuing Operations

Operating activities

Cash provided by operating activities was \$49.3 million in 2020 which includes approximately \$7 million of cash spent on restructuring activities. It was primarily related to net income from operating activities, net of the following non-cash items: depreciation and amortization; asset impairment charges, pension adjustments and net changes to assets and liabilities.

Cash provided by operating activities was \$5.0 million in 2019 which includes approximately \$20 million of cash spent on restructuring activities. It was primarily related to net income from operating activities, net of the following non-cash items: depreciation and amortization; asset impairment charges, pension adjustments and net changes to assets and liabilities.

Investing activities

Net cash used for investing activities was \$6.5 million in 2020, compared to net cash used for investing activities of \$7.5 million in 2019. The following investing activities impacted our cash flow:

Capital expenditures

Capital expenditures in 2020 was \$8.0 million compared to \$13.1 million in 2019 as we delayed some projects in response to COVID-19. We anticipate capital expenditures for 2021 to be around \$15 million.

Proceeds from sale of business

In July 2020, the Company sold its 51% investment in Luxfer Uttam India Private Limited for net cash proceeds of \$1.5 million.

In June 2019, the Company sold its Czech recycling business, for net cash proceeds of \$4.4 million.

Financing activities

In 2020, net cash used for financing activities was \$52.5 million (2019: \$1.0 million). We made net repayments on our borrowing facilities of \$38.2 million (2019: net drawdowns of \$14.0 million) and dividend payments of \$13.6 million (2019: \$13.6 million), equating to \$0.50 per ordinary share.

Loan Notes 2023 and 2026

The Note Purchase Agreement contains customary covenants and events of default, in each case with customary and appropriate grace periods and thresholds. In addition, the Note Purchase Agreement requires us to maintain compliance with a minimum interest coverage ratio and a leverage ratio. The interest coverage ratio measures our EBITDA (as defined in the Note Purchase Agreement) to Net Finance Charges (as defined in the Note Purchase Agreement). We are required to maintain an interest coverage ratio of 4.0:1. The leverage ratio measures our Total Net Debt (as defined in the Note Purchase Agreement) to Adjusted Acquisition EBITDA (as defined in the Note Purchase Agreement). We are required to maintain a leverage ratio of no more than 3.0:1. We have been in compliance with the covenants under the Note Purchase Agreement throughout all of the quarterly measurement dates from and including September 30, 2011, to December 31, 2020.

The Loan Notes due 2023 and 2026 and the Note Purchase Agreement are governed by the law of the State of New York.

The Loan Notes due 2023 and 2026 are denominated in U.S. dollars, which creates a natural partial offset between the dollar-denominated net assets and earnings of our U.S. operations and the dollar-denominated debt and related interest expense of the notes. We have included the Note Purchase Agreement and a form of the Loan Notes due 2023 and 2026 as exhibits to this Annual Report and refer you to the exhibits for more information on the Note Purchase Agreement and the Loan Notes due 2023 and 2026.

Loan Notes due 2021 and Shelf Facility

The Loan Notes due 2021 were due to mature on September 15, 2021, however we voluntarily chose to repay the notes early, on December 31, 2020 largely using surplus cash generated from operations, plus a small drawing on the Senior Facilities Agreement. In addition to the repayment of the \$25 million principal, we incurred an early repayment charge of \$0.5 million.

The Note Purchase and Private Shelf Agreement contains the same customary covenants and events of default as for the Note Purchase Agreement. The Note Purchase and Private Shelf Agreement also requires us to maintain compliance with the same, interest and leverage ratios as for the Note Purchase Agreement.

We have been in compliance with the covenants under the Note Purchase and Private Shelf Agreement throughout all of the quarterly measurement dates from and including September 30, 2014, to the eventual repayment on December 31, 2020.

The Loan Notes due 2021 and Shelf Facility and the Note Purchase and Private Shelf Agreement are governed by the law of the State of New York.

Senior Facilities Agreement

Structure. The current Senior Facilities Agreement provides \$150 million of committed debt facilities, in the form of a multi-currency (GBP sterling, U.S. dollars or euros) Revolving Credit Facility and an additional \$50 million of uncommitted facilities through an accordion clause. The facilities mature on July 31, 2022 and we are about to embark on negotiating a new facility which we expect to conclude in the first half of 2021. As of December 31, 2020, we had drawn down \$4.1 million under the Revolving Credit Facility (December 31, 2019: \$17.5 million).

Availability. The facility is used for loans and overdrafts. Amounts unutilized under the Revolving Credit Facility (or, if the case, under the revolving portion of the Accordion) are allocated to ancillary facilities available under the Senior Facilities Agreement in connection with overdraft facilities, bilateral loan facilities and letter of credit facilities. As of December 31, 2020, we had drawn down \$nil under the ancillary facilities (December 31, 2019: \$nil). We may use amounts drawn under the Revolving Credit Facility for our general corporate purposes and certain capital expenditures, as well as for the financing of permitted acquisitions and reorganizations. As of December 31, 2020, \$145.9 million (net of \$4.1 million drawn down) was available under the Revolving Credit Facility. The last day we may draw funds from the Revolving Credit Facility is June 30, 2022.

The Company also has two separate (uncommitted) bonding facilities for bank guarantees; one denominated in GBP sterling of £4.5 million (2020: \$6.1 million, 2019: \$5.9 million), and one denominated in USD of \$1.5 million (2019: \$0.4 million). Of that dominated in GBP, £1.0 million (\$1.4 million) was utilized at December 31, 2020 (2019: £1.6 million / \$2.3 million). Of that denominated in USD, \$0.8 million was utilized in December 31, 2020 (2019: fully utilized).

Interest rates and fees. Borrowings under the facility bear an interest rate equal to an applicable margin plus either EURIBOR, in the case of amounts drawn in euros, or LIBOR, in the case of amounts drawn in GBP sterling or U.S. dollars. Note that GBP sterling drawings will be subject to interest rates based on SONIA (Sterling Overnight Index Average) once LIBOR is phased out, before the end of 2021. We do not expect this change to have a significant effect on our interest expense.

The tables below sets out the range of ratios and the related margin percentage currently in effect.

Leverage	Margin (% per annum)
Greater than 3.0:1	2.90
Less than or equal to 3.0:1, but greater than 2.5:1	2.50
Less than or equal to 2.5:1, but greater than 2.0:1	2.25
Less than or equal to 2.0:1, but greater than 1.5:1	2.00
Less than or equal to 1.5:1, but greater than 1.0:1	1.75
Less than or equal to 1.0:1	1.50

As of December 31, 2020, we had drawn down \$4.1 million under the Revolving Credit Facility (December 31, 2019: \$17.5 million). A commitment fee is levied each quarter against any unutilized element of the Revolving Credit Facility, excluding overdraft or ancillary facilities

In the event of a sale of all or substantially all of our business and / or assets or if any person or group of persons acting in concert gains direct or indirect control (as defined in the Senior Facilities Agreement) of Luxfer Holdings PLC, we will be required to immediately repay all outstanding amounts under the Revolving Credit Facility (and, if the case, the Accordion) and the ancillary facilities under the Senior Facilities Agreement.

In addition, the Senior Facilities Agreement requires us to maintain compliance with an interest coverage ratio and a leverage ratio. The interest coverage ratio measures our EBITDA (as defined in the Senior Facilities Agreement) to Net Finance Charges (as defined in the Senior Facilities Agreement). We are required to maintain a minimum interest coverage ratio of 4.0:1. The leverage ratio measures our Total Net Debt (as defined in the Senior Facilities Agreement) to the Relevant Period Adjusted Acquisition EBITDA (as defined in the Senior Facilities Agreement). We are required to maintain a leverage ratio of no more than 3.0:1.

We have been in compliance with the covenants under the Senior Facilities Agreement throughout all of the quarterly measurement dates from and including September 30, 2011, to December 31, 2020.

The Senior Facilities Agreement is governed by English law.

For more information see ITEM 8, Note 11.

Dividends

We paid dividends in 2020 of \$13.6 million (2019: \$13.6 million), or \$0.50 per ordinary share.

Any payment of dividends is also subject to the provisions of the U.K. Companies Act, according to which dividends may only be paid out of profits available for distribution determined by reference to financial statements prepared in accordance with the Companies Act and the International Accounting Standards Board, which differ in some respects from U.S. GAAP. In the event that dividends are paid in the future, holders of the ordinary shares will be entitled to receive payments in U.S. dollars in respect of dividends on the underlying ordinary shares in accordance with the deposit agreement. Furthermore, because we are a holding company, any dividend payments would depend on cash flows from our subsidiaries.

Authorized shares

Our authorized share capital consists of 40.0 million ordinary shares with a par value of £0.50 per share.

Contractual obligations

The following summarizes our significant contractual obligations that impact our liquidity:

<i>In millions</i>	Payments Due by Period				
	Total	Less than 1 year	1 – 3 years	3 – 5 years	After 5 years
Contractual cash obligations					
Loan Notes due 2023	25.0	—	25.0	—	—
Loan Notes due 2026	25.0	—	—	—	25.0
Revolving Credit Facility	4.1	—	4.1	—	—
Obligations under operating leases	15.9	2.4	3.2	1.8	8.5
Capital commitments	1.1	1.1	—	—	—
Interest payments	16.2	2.9	4.8	2.9	5.6
Total contractual cash obligations	\$ 87.3	\$ 6.4	\$ 37.1	\$ 4.7	\$ 39.1

Off-balance sheet measures

At December 31, 2020, we had no off-balance sheet arrangements.

COMMITMENTS AND CONTINGENCIES

Capital commitments

At December 31, 2020, the Company had capital expenditure commitments of \$1.1 million (2019: \$1.0 million and 2018: \$2.5 million) for the purchase of new plant and equipment.

Committed banking facilities

At December 31, 2020, the Company had committed banking facilities of \$150.0 million. The facilities were for providing loans, with a separate facility for letters of credit which at December 31, 2020, was £1.0 million (\$1.3 million). Of the committed facilities, \$4.1 million was drawn, no loans were drawn and no letters of credit were utilized. The Company also had two separate bonding facilities for bank guarantees, one denominated in GBP sterling of £4.5 million (\$6.1 million), of which £1.2 million (\$1.6 million) was utilized at December 31, 2020 and one denominated in USD of \$1.5 million of which \$0.8 million was utilized at December 31, 2020.

At December 31, 2019, the Company had committed banking facilities of \$150.0 million. The facilities were for providing loans, with a separate facility for letters of credit which at December 31, 2019, was £1.0 million (\$1.3 million). Of the committed facilities, \$17.5 million was drawn, no loans were drawn and no letters of credit were utilized. The Company also had two separate bonding facilities for bank guarantees, one denominated in GBP sterling of £4.5 million (\$5.9 million), of which £1.5 million (\$2.3 million) was utilized at December 31, 2019 and one denominated in USD of \$0.4 million which was fully utilized at December 31, 2019.

Contingencies

In February 2014, a cylinder was sold to a long-term customer and ruptured at one of their gas facilities. As a result of this rupture, three people were noted to have minor injuries such as loss of hearing. There was no major damage to assets of the customer. A claim has been launched by the three people who were injured in the incident. We reviewed our quality control checks from around the time which the cylinder was produced and no instances of failures have been noted. It has also been noted by the investigator that the customer has poor quality and safety checks. As a result we do not believe that we are liable for the incident, and therefore, do not currently expect this case to have a material impact on the Company's financial position or results of operations.

In November 2018, an alleged explosion occurred at a third-party waste disposal and treatment site in Boise, Idaho, reportedly causing property damage, personal injury, and one fatality. We had contracted with a service company for removal and disposal of certain waste resulting from the magnesium powder manufacturing operations at the Reade facility in Manchester, New Jersey. We believe this service company, in turn, apparently contracted with the third-party disposal company, at whose facility the explosion occurred, for treatment and disposal of the waste. In November 2020, we were named as a defendant in three lawsuits in relation to the incident – one by the third-party disposal company, one by the estate of the decedent, and one by an injured employee of the third-party disposal company. At present, we have received insufficient information on the cause of the explosion. We do not believe that we are liable for the incident, have asserted such, and, therefore, do not currently expect this matter to have a material impact on the Company's financial position or results of operations.

NEW ACCOUNTING STANDARDS

See ITEM 8, Note 1 of the notes to the Consolidated Financial Statements, included in this Form 10-K, for information pertaining to recently adopted accounting standards or accounting standards to be adopted in the future.

CRITICAL ACCOUNTING ESTIMATES

We have adopted various accounting policies to prepare the consolidated financial statements in accordance with GAAP. Our significant accounting policies are more fully described in ITEM 8, **Note 1** of the Notes to Consolidated Financial Statements. Certain of our accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. These judgments are based on our historical experience, terms of existing contracts, our observance of trends in the industry and information available from other outside sources, as appropriate. We consider an accounting estimate to be critical if:

- it requires us to make assumptions about matters that were uncertain at the time we were making the estimate; and
- changes in the estimate or different estimates that we could have selected would have had a material impact on our financial condition or results of operations.

Our critical accounting estimates include the following:

Impairment of goodwill

Goodwill

Goodwill represents the excess of the cost of acquired businesses over the net of the fair value of identifiable tangible net assets and identifiable intangible assets purchased and liabilities assumed.

Goodwill is tested at least annually for impairment and is tested for impairment more frequently if events or changes in circumstances indicate that the asset might be impaired. In 2020, the Company has adopted ASU 2017-04. Goodwill is tested for impairment by either performing a qualitative evaluation or a quantitative test. The qualitative evaluation is an assessment of factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. We may elect not to perform the qualitative assessment for some or all reporting units and perform a quantitative impairment test. In 2020, management have chosen to bypass the qualitative evaluation.

For the quantitative impairment test, the fair value of each reporting unit is determined using a discounted cash flow analysis. Projecting discounted future cash flows requires us to make significant estimates regarding future revenue growth rates including the perpetual growth rate; anticipated operating margins; and the discount rates applied to the estimated future cash flows. Actual results may differ from those used in our valuations. This non-recurring fair value measurement is a "Level 3" measurement under the fair value hierarchy described in ITEM 8 - Note 12.

In developing our discounted cash flow analysis, assumptions about future revenue growth rates and anticipated operating margins are based on our annual operating plan and long-term business plan for each of our reporting units. These plans take into consideration numerous factors including historical experience, anticipated future

economic conditions, changes in raw material prices and growth expectations for the industries and end markets we participate in. These assumptions are determined over a three year long-term planning period. The three year growth rates for revenues and operating profits vary for each reporting unit being evaluated. Revenues and operating profit beyond 2022 are projected to grow at a perpetual growth rate of 1.8%.

Discount rate assumptions for each reporting unit take into consideration our assessment of risks inherent in the future cash flows of the respective reporting unit and our weighted-average cost of capital. We utilized discount rates ranging from 8.0% to 9.0% in determining the discounted cash flows in our fair value analysis.

We completed our quantitative goodwill impairment evaluation as of the last day of the third quarter of 2020, 2019 and 2018 with each of our reporting units' fair value being substantially in excess of its carrying value apart from our Superform business unit within the Gas Cylinders segment. This resulted in an impairment in full of \$1.3 million, previously disclosed within impairment costs on the income statement in 2018, now reclassified to discontinued operations.

Identifiable intangible assets

Our primary identifiable intangible assets include: customer relationships and technology and traded related assets. Identifiable intangibles with finite lives are amortized and those identifiable intangibles with indefinite lives are not amortized. Identifiable intangible assets that are subject to amortization are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Identifiable intangible assets not subject to amortization are tested for impairment annually or more frequently if events warrant. We complete our annual impairment test during the fourth quarter each year for those identifiable assets not subject to amortization.

Pension and other post-retirement plans

We sponsor U.S. and non-U.S. defined-benefit pension and other post-retirement plans. The amounts recognized in our consolidated financial statements related to our defined-benefit pension and other post-retirement plans are determined from actuarial valuations. Inherent in these valuations are assumptions, including: expected return on plan assets, discount rates, rate of increase in future compensation levels and health care cost trend rates. These assumptions are updated annually and are disclosed in ITEM 8, Note 14 to the Notes to Consolidated Financial Statements. Differences in actual experience or changes in assumptions may affect our pension and other post-retirement obligations and future expense.

We recognize changes in the fair value of plan assets and net actuarial gains or losses for pension and other post-retirement benefits annually in the fourth quarter each year ("mark-to-market adjustment") and, if applicable, in any quarter in which an interim remeasurement is triggered. Net actuarial gains and losses occur when the actual experience differs from any of the various assumptions used to value our pension and other post-retirement plans or when assumptions change as they may each year. The primary factors contributing to actuarial gains and losses each year are (1) changes in the discount rate used to value pension and other post-retirement benefit obligations as of the measurement date and (2) differences between the expected and the actual return on plan assets. This accounting method also results in the potential for volatile and difficult to forecast mark-to-market adjustments. The remaining components of pension expense, including service and interest costs and the expected return on plan assets, are recorded on a quarterly basis as ongoing pension expense.

Discount rate

The discount rate used represents the annualized yield based on a cash flow matched methodology with reference to an AA corporate bond spot curve and having regard to the duration of the Plan's liabilities. This yield produced a weighted-average discount rate for our U.K. plans of 1.40% for 2020, 2.10% in 2019 and 2.90% in 2018. The discount rate on our U.S. plans was 2.30% in 2020, 3.10% in 2019 and 4.20% in 2018. There are no known or anticipated changes in our discount rate assumption that will impact our pension expense in 2020.

Expected rate of return

Our expected rate of return on plan assets for our U.K. plans was 3.00% for 2020, 4.10% in 2019 and 4.90% in 2018. The expected rate of return on our U.S. plans was 5.00% in 2020, 6.20% in 2019 and 6.20% in 2018. The expected rate of return is designed to be a long-term assumption that may be subject to considerable year-to-year variance from actual returns. In developing the expected long-term rate of return, we considered our historical returns, with consideration given to forecast economic conditions, our asset allocations, input from external consultants and broader longer-term market indices.

See ITEM 8, Note 14 of the Notes to Consolidated Financial Statements for further information regarding pension and other post-retirement plans.

Loss contingencies

Accruals are recorded for various contingencies including legal proceedings, self-insurance and other claims that arise in the normal course of business. The accruals are based on judgment, the probability of losses and, where applicable, the consideration of opinions of internal and/or external legal counsel and actuarially determined estimates. Additionally, we record receivables from third party insurers when recovery has been determined to be probable.

Income taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. When the Company does not believe that, on the basis of available information, it is more likely than not that deferred tax assets will be fully recovered, it recognizes a valuation allowance against its deferred tax assets to reduce the deferred tax assets to the amount more likely than not to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactments date.

Furthermore, a tax benefit from a tax position may be recognized in the financial statements only if it is more-likely-than-not that the position is sustainable, based solely on its technical merits and consideration of the relevant tax authority's widely understood administrative practices and precedents. The tax benefit recognized, when the likelihood of realization is more likely-than-not (i.e. greater than 50 percent), is measured at the largest amount that is greater than 50 percent likely of being realized upon settlement.

Item 7A. Quantitative and qualitative disclosures about market risk

Market risk is the potential economic loss arising from adverse changes in market rates and market prices such as interest rates, foreign currency exchange rates, commodity prices and changes in the market value of equity instruments. We are exposed to market risk, primarily related to foreign exchange, commodity prices and interest rates. Counterparties to all derivative contracts are major financial institutions. All instruments are entered into for other than trading purposes. The major accounting policies and utilization of these instruments is described more fully in ITEM 8, Note 1 of the Notes to Consolidated Financial Statements.

Foreign currency risk

We conduct business in various locations throughout the world and are subject to market risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. Periodically, we use derivative financial instruments to manage these risks. The functional currencies of our foreign operating locations are generally the local currency in the country of domicile. We manage these operating activities at the local level and revenues, costs, assets and liabilities are generally denominated in local currencies, thereby mitigating the risk associated with changes in foreign exchange. However, our results of operations and assets and liabilities are reported in U.S. dollars and thus will fluctuate with changes in exchange rates between such local currencies and the U.S. dollar.

To hedge foreign currency risks, we enter into short duration currency contracts. The below table details the foreign currency contracts which we have in place over sales and purchases. Changes in the fair value of all derivatives are recognized immediately in income unless the derivative qualifies as a hedge of future cash flows. Gains and losses related to a hedge are deferred and recorded in the Consolidated Balance Sheets as a component of Accumulated Other Comprehensive Income ("AOCI") and subsequently recognized in the Consolidated Statements of Income and Comprehensive Statements of Income when the hedged item affects earnings.

December 31, 2020					
Sales hedges	U.S. dollars	Euros	Japanese Yen	Canadian dollars	
Contract totals/£m	3.0	11.1	0.1		
Maturity dates	01/21 to 03/21	01/21 to 04/21	01/21		
Exchange rates	\$1.3045 to \$1.3667	€1.0917 to €1.1181	JPY 136.891	\$	1.7409
December 31, 2019					
Purchase hedges	U.S. dollars	Euros	Canadian dollars	Australian dollars	Chinese yuan
Contract totals/£m	4.8	1.7	9.4	0.9	0.9
Maturity dates	01/21 to 04/21	01/21 to 02/21	01/21	01/21	03/21
Exchange rates	\$1.3046 to \$1.3667	€1.1065 to €1.0944	\$1.7409 to \$1.7201	\$ 1.7729	¥8.9184
December 31, 2019					
Sales hedges	U.S. dollars	Euros	Japanese Yen		
Contract totals/£m		0.1	7.6		
Maturity dates		01/20	01/20 to 03/20		
Exchange rates		1.2914	€1.1551 to €1.1750		
Purchase hedges	U.S. dollars	Euros	Canadian dollars		
Contract totals/£m		1.3	0.8		
Maturity dates		03/20	03/20		
Exchange rates		1.3228	1.1663	\$1.7137 to \$1.7664	

Commodity price risk

We are exposed to commodity price risks in relation to the purchases of our raw materials. Primary aluminum is a global commodity, with its principal trading market on the LME. In the normal course of business, we are exposed to aluminum price volatility to the extent that the costs of aluminum purchases are more closely related to the LME price than the sales prices of certain of our products. Our Gas Cylinders Segment will buy various aluminum alloys, in log, sheet, or tube form, and the contractual price will usually include an LME-linked base price plus a premium for a particular type of alloy and the cost of casting, rolling or extruding. The price of high-grade aluminum, which is actively traded on the LME, has fluctuated significantly in recent years.

There is no similar financial market to hedge magnesium, zirconium raw materials or carbon fiber, and prices for these raw materials have been volatile in recent years with some increasing substantially. To help mitigate these risks, we have a number of fixed-price supply contracts for these raw materials, which limit our exposure to price volatility over a calendar year. However, we remain exposed over time to rising prices in these markets, and therefore rely on the ability to pass on any major price increases to our customers in order to maintain our levels of profitability for zirconium, and magnesium-based products. We have also in the last few years, when we felt it was appropriate, made additional physical purchases of magnesium and some rare earth chemicals to delay the impact of higher prices, but this has had a cash flow impact on occasion thereby leading to greater utilization of our revolving credit bank facilities.

Interest rate risk

As of December 31, 2020, we had both fixed rate and variable rate debt outstanding on our consolidated balance sheet. As a result of this exposure, we have in the past hedged interest payable under our floating rate indebtedness based on a combination of forward rate agreements, interest rate caps and swaps. There were no fixed or variable rate interest hedge agreements in place as of December 31, 2020, and December 31, 2019.

The Group has exposure to variable interest rates when it draws down on the revolving credit facilities. As a result of this exposure, the Group may decide to hedge interest payable based on a combination of forward rate agreements, interest rate caps and swaps. It has also used fixed rate debt within its financing structure to mitigate volatility in interest rate movements as disclosed in Notes 11 and 12 in the Notes to the Consolidated Financial Statements.

Item 8. Financial Statements and Supplementary Data

Luxfer Holdings PLC
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Luxfer Holdings PLC

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Luxfer Holdings PLC and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2020, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Annual Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill Impairment Assessment

As described in Notes 1 and 8 to the consolidated financial statements, the Company's goodwill balance was \$70.2 million as of December 31, 2020. Goodwill is tested at least annually for impairment, or more frequently if events or circumstances indicate that the asset might be impaired. The Company performs its annual goodwill impairment test by comparing the fair value of a reporting unit to its carrying value. A goodwill impairment charge will be recognized for the amount by which the reporting unit's carrying amount exceeds its fair value. The fair value of each reporting unit is determined by the Company using a discounted cash flow analysis. Projecting discounted future cash flows requires the Company to make significant estimates regarding future revenue growth rates including: (i) future revenue growth rates including the perpetual growth rate; (ii) anticipated operating margins; and (iii) the discount rates applied to the estimated future cash flows.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment is a critical audit matter are the significant judgments and assumptions made by management when developing the fair value of the reporting units. This in turn resulted in a high degree of auditor judgment, subjectivity and effort in performing procedures to evaluate management's discounted future cash flow analysis and significant assumptions for future revenue growth rates including the perpetual growth rate; anticipated operating margins; and the discount rates applied to the estimated future cash flows. The audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the fair value of the reporting units. These procedures also included, among others, (i) testing management's process for estimating fair value; (ii) evaluating the appropriateness of the discounted cash flow models; (iii) testing the completeness, accuracy and relevance of underlying data used in the models; (iv) evaluating the significant assumptions used by management related to estimates of future revenue growth rates including the perpetual growth rate, anticipated operating margins and the discount rates applied to the estimated future cash flows. Evaluating management's assumptions related to the future revenue growth rates including the perpetual growth rate, and anticipated operating margins involved evaluating (i) current and past performance of the reporting units; (ii) consistency of expectations with external market and industry data; (iii) management's historical forecasting accuracy; and (iv) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in performing procedures relating to the perpetual growth rate and the discount rates applied to future cash flows.

PricewaterhouseCoopers LLP (signed)
Manchester, United Kingdom
March 2, 2021

We have served as the Company's auditor since 2015.

LUXFER HOLDINGS PLC
CONSOLIDATED STATEMENTS OF INCOME

<i>In millions, except share and per-share data</i>	Years Ended December 31,		
	2020	2019	2018
Net sales	\$ 324.8	\$ 373.4	\$ 401.9
Cost of sales	(243.9)	(269.7)	(284.0)
Gross profit	80.9	103.7	117.9
Selling, general and administrative expenses	(39.8)	(49.7)	(54.6)
Research and development	(3.3)	(5.7)	(6.3)
Restructuring charges	(8.9)	(25.9)	(13.2)
Impairment credit / (charges)	—	0.2	(5.9)
Acquisition related costs	—	(1.4)	(4.3)
Other charges	(0.4)	(2.5)	—
Operating income	28.5	18.7	33.6
Interest expense	(5.0)	(4.5)	(4.9)
Interest income	—	0.1	0.4
Defined benefit pension credit	4.3	1.3	4.7
Income before income taxes and equity in net (loss) / income of affiliates	27.8	15.6	33.8
Provision for income taxes	(6.9)	(7.6)	(6.5)
Income before equity in net (loss) / income of affiliates	20.9	8.0	27.3
Equity in (loss) / income of affiliates (net of tax)	(0.1)	0.7	0.4
Net income from continuing operations	20.8	8.7	27.7
Net loss from discontinued operations	(0.8)	(5.6)	(2.7)
Net income	\$ 20.0	\$ 3.1	\$ 25.0
Earnings / (loss) per share⁽¹⁾			
Basic from continuing operations	0.75	0.32	1.04
Basic from discontinued operations	(0.03)	(0.21)	(0.10)
Basic	\$ 0.73	\$ 0.11	\$ 0.94
Diluted from continuing operations	0.74	0.31	1.00
Diluted from discontinued operations	(0.03)	(0.21)	(0.10)
Diluted	\$ 0.72	\$ 0.11	\$ 0.90
Weighted average ordinary shares outstanding			
Basic	27,557,219	27,289,042	26,708,469
Diluted	27,971,382	27,882,864	27,692,262

⁽¹⁾ The calculation of earnings per share is performed separately for continuing and discontinued operations. As a result, the sum of the two in any particular year may not equal the earnings-per-share amount in total.

See accompanying notes to consolidated financial statements

LUXFER HOLDINGS PLC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<i>In millions</i>	Years Ended December 31,		
	2020	2019	2018
Net income	\$ 20.0	\$ 3.1	\$ 25.0
Other comprehensive loss			
Net change in foreign currency translation adjustment	3.8	0.6	(6.4)
Pension and post-retirement actuarial (losses) / gains, net of \$4.8, \$0.9 and \$0.3 tax, respectively	(20.0)	(3.9)	1.1
Cash flow hedges, net of \$0.0, \$0.1 and \$0.0 of tax, respectively	—	0.3	(0.6)
Other comprehensive loss net of tax	(16.2)	(3.0)	(5.9)
Total comprehensive income	\$ 3.8	\$ 0.1	\$ 19.1

See accompanying notes to consolidated financial statements

LUXFER HOLDINGS PLC
CONSOLIDATED BALANCE SHEETS

<i>In millions, except share and per-share data</i>	December 31,	
	2020	2019
Current assets		
Cash and cash equivalents	\$ 1.5	\$ 10.2
Restricted cash	—	0.1
Accounts and other receivables, net of allowances of \$0.5 and \$1.3 respectively	43.1	52.8
Inventories	68.8	77.6
Current assets held-for-sale	36.0	46.8
Other current assets	1.5	1.1
Total current assets	150.9	188.6
Non-current assets		
Property, plant and equipment, net	86.0	90.2
Right-of-use assets from operating leases	9.5	11.0
Goodwill	70.2	68.8
Intangibles, net	12.8	13.6
Deferred tax assets	16.5	15.8
Investments and loans to joint ventures and other affiliates	0.5	2.3
Total assets	\$ 346.4	\$ 390.3
Current liabilities		
Accounts payable	\$ 18.6	\$ 30.2
Accrued liabilities	21.5	23.7
Taxes on income	0.4	—
Current liabilities held-for-sale	11.4	12.9
Other current liabilities	13.5	10.7
Total current liabilities	65.4	77.5
Non-current liabilities		
Long-term debt	53.4	91.4
Pensions and other retirement benefits	50.8	35.2
Deferred tax liabilities	2.0	1.9
Other non-current liabilities	7.7	9.9
Total liabilities	\$ 179.3	\$ 215.9
Shareholders' equity		
Ordinary shares of £0.50 par value; authorized 40,000,000 shares for 2020 and 2019; issued and outstanding 29,000,000 shares for 2020 and 2019	\$ 26.6	\$ 26.6
Deferred shares of £0.0001 par value; authorized, issued and outstanding 761,835,338,444 shares for 2020 and 2019	149.9	149.9
Additional paid-in capital	70.6	68.4
Treasury shares	(4.0)	(4.0)
Own shares held by ESOP	(1.4)	(1.7)
Retained earnings	91.2	84.8
Accumulated other comprehensive loss	(165.8)	(149.6)
Total shareholders' equity	\$ 167.1	\$ 174.4
Total liabilities and shareholders' equity	\$ 346.4	\$ 390.3

See accompanying notes to consolidated financial statements

LUXFER HOLDINGS PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>In millions</i>	Years Ended December 31,		
	2020	2019	2018
Operating activities			
Net income	\$ 20.0	\$ 3.1	\$ 25.0
Net loss from discontinued operations	0.8	5.6	2.7
Net income from continuing operations	20.8	8.7	27.7
<i>Adjustments to reconcile net income from continuing operations to net cash provided by operating activities</i>			
Equity in loss / (income) of affiliates	0.1	(0.7)	(0.4)
Depreciation	12.6	12.0	15.8
Amortization of purchased intangible assets	0.7	1.2	1.2
Amortization of debt issuance costs	0.4	0.3	0.3
Share-based compensation charge	2.8	4.5	4.8
Deferred income taxes	4.8	4.0	(0.3)
Loss on disposal of property, plant and equipment	0.1	0.2	0.3
Gain on disposal of business	—	(2.9)	—
Asset impairment charges	—	4.8	12.6
Defined benefit pension credit	(3.9)	(2.8)	(4.0)
Defined benefit pension contributions	(5.8)	(7.9)	(7.9)
<i>Changes in assets and liabilities, net of effects of business acquisitions</i>			
Accounts and notes receivable	10.7	(7.6)	5.7
Inventories	9.5	3.5	(14.5)
Other current assets	9.6	(2.3)	0.1
Accounts payable	(12.9)	(0.7)	7.3
Accrued liabilities	(1.9)	(9.5)	3.7
Other current liabilities	2.5	3.1	10.8
Other non-current assets and liabilities	(0.8)	(2.9)	(0.7)
Net cash provided by operating activities - continuing	49.3	5.0	62.5
Net cash provided by operating activities - discontinued	0.3	0.8	0.7
Net cash provided by operating activities	\$ 49.6	\$ 5.8	\$ 63.2
Investing activities			
Capital expenditures	\$ (8.0)	\$ (13.1)	\$ (13.2)
Proceeds from sale of property, plant and equipment	—	1.2	0.1
Proceeds from sale of businesses	1.5	4.4	—
Investments in unconsolidated affiliates	—	—	1.1
Acquisitions, net of cash acquired	—	—	2.7
Net cash used for investing activities - continuing	(6.5)	(7.5)	(9.3)
Net cash used for investing activities - discontinued	(0.3)	(0.8)	(0.7)
Net cash used for investing activities	\$ (6.8)	\$ (8.3)	\$ (10.0)
Financing activities			
Net repayments of short term borrowings	\$ —	\$ (3.5)	\$ (15.7)
Net (repayments) / drawdowns of long-term borrowings	(38.2)	17.5	(21.3)
Deferred consideration paid	(0.4)	(0.5)	(0.8)
Proceeds from sale of shares	1.1	3.5	6.6
Dividends paid	(13.6)	(13.6)	(13.4)
Share based compensation cash paid	(1.4)	(4.4)	(7.3)
Net cash used for financing activities	\$ (52.5)	\$ (1.0)	\$ (51.9)
Effect of exchange rate changes on cash and cash equivalents	0.9	(0.3)	(0.5)
Net (decrease) / increase	\$ (8.8)	\$ (3.8)	\$ 0.8
Cash, cash equivalents and restricted cash; beginning of year	10.3	14.1	13.3
Cash, cash equivalents and restricted cash; end of year	1.5	10.3	14.1
Supplemental cash flow information:			
Interest payments	\$ 5.1	\$ 4.6	\$ 4.6
Income tax payments	2.1	6.1	2.9

See accompanying notes to consolidated financial statements

LUXFER HOLDINGS PLC
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

<i>In millions,</i>	Ordinary shares	Deferred shares	Additional paid-in capital	Treasury shares Number	Treasury shares Amount	Own shares held by ESOP Number	Own shares held by ESOP Amount	Retained earnings	Accumulated other comprehensive loss	Total shareholders' equity
At January 1, 2018	\$ 25.3	\$ 150.9	\$ 62.1	(0.5)	\$ (5.8)	(0.1)	\$ (1.0)	\$ 83.7	\$ (140.7)	\$ 174.5
Net income	—	—	—	—	—	—	—	25.0	—	25.0
Issue of new shares	1.3	—	—	—	—	(1.9)	(1.3)	—	—	—
Cancellation of deferred shares	—	(1.0)	1.0	—	—	—	—	—	—	—
Shares sold from ESOP	—	—	6.2	—	—	0.5	0.4	—	—	6.6
Other comprehensive loss, net of tax	—	—	—	—	—	—	—	—	(5.9)	(5.9)
Dividends declared and paid	—	—	—	—	—	—	—	(13.4)	—	(13.4)
Share based compensation	—	—	(2.5)	—	—	—	—	—	—	(2.5)
Purchase of shares into ESOP	—	—	—	0.1	1.4	(0.1)	(1.4)	—	—	—
Utilization of treasury shares to satisfy share based compensation	—	—	(0.1)	—	0.1	—	—	—	—	—
Utilization of shares from ESOP to satisfy share based compensation	—	—	(1.1)	—	—	—	1.1	—	—	—
At December 31, 2018	\$ 26.6	\$ 149.9	\$ 65.6	(0.4)	\$ (4.3)	(1.6)	\$ (2.2)	\$ 95.3	\$ (146.6)	\$ 184.3
Net income	—	—	—	—	—	—	—	3.1	—	3.1
Shares sold from ESOP	—	—	3.3	—	—	0.2	0.2	—	—	3.5
Other comprehensive loss, net of tax	—	—	—	—	—	—	—	—	(3.0)	(3.0)
Dividends declared and paid	—	—	—	—	—	—	—	(13.6)	—	(13.6)
Share based compensation	—	—	4.1	—	—	—	—	—	—	4.1
Utilization of treasury shares to satisfy share based compensation	—	—	(0.1)	—	0.3	—	—	—	—	0.2
Utilization of shares from ESOP to satisfy share based compensation	—	—	(4.5)	—	—	0.2	0.3	—	—	(4.2)
At December 31, 2019	\$ 26.6	\$ 149.9	\$ 68.4	(0.4)	\$ (4.0)	(1.2)	\$ (1.7)	\$ 84.8	\$ (149.6)	\$ 174.4
Net income	—	—	—	—	—	—	—	20.0	—	20.0
Shares sold from ESOP	—	—	0.8	—	—	0.1	0.3	—	—	1.1
Other comprehensive loss, net of tax	—	—	—	—	—	—	—	—	(16.2)	(16.2)
Dividends declared and paid	—	—	—	—	—	—	—	(13.6)	—	(13.6)
Share based compensation	—	—	2.8	—	—	—	—	—	—	2.8
Utilization of treasury shares to satisfy share based compensation	—	—	(0.1)	—	—	—	—	—	—	(0.1)
Utilization of shares from ESOP to satisfy share based compensation	—	—	(1.3)	—	—	0.1	—	—	—	(1.3)
At December 31, 2020	\$ 26.6	\$ 149.9	\$ 70.6	(0.4)	\$ (4.0)	(1.0)	\$ (1.4)	\$ 91.2	\$ (165.8)	\$ 167.1

See accompanying notes to consolidated financial statements

LUXFER HOLDINGS PLC

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Business description

Luxfer Holdings PLC is a global manufacturer of highly-engineered materials, which focuses on using its broad array of technical know-how and proprietary technologies. Luxfer's high-performance materials, components and high-pressure gas containment devices are used in defense and emergency response, healthcare, transportation and general industrial applications. It comprises two reportable segments being Gas Cylinders and Elektron.

Principles of consolidation

The consolidated financial statements comprise the financial statements of Luxfer Holdings PLC and its subsidiaries (collectively "we," "our," "Luxfer" or "the Company") that we control. Investments in unconsolidated affiliates, where we have the ability to exercise significant influence over the operating and financial policies, are accounted for using the equity method. All inter-company balances and transactions, including unrealized profits arising from intra-company transactions, have been eliminated in full.

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and are presented in U.S. dollars ("USD"). The books of the Company's non-U.S. entities are converted to USD at each reporting period date in accordance with the accounting policy below. The functional currency of the holding company Luxfer Holdings PLC and its U.K. subsidiaries is pounds sterling (GBP), being the most appropriate currency for those particular operations.

Discontinued operations

Certain amounts in prior-year financial statements were reclassified to conform to the current-year presentation primarily due to the classification of certain businesses as discontinued operations.

Fiscal year

Our fiscal year ends on December 31. We report our interim quarterly periods on a 13-week basis ending on a Sunday.

Impact of COVID-19 on the Financial Statements

In March 2020, the World Health Organization characterized the coronavirus ("COVID-19") a pandemic. The rapid spread of the pandemic and the continuously evolving responses to combat it have had an increasingly negative impact on the global economy. At this time, Luxfer is operating all of its facilities, following earlier temporary closures and / or output restrictions at a small number of locations. However, due to weaker demand resulting from uncertain economic conditions, potential supply constraints, and the continued impact of COVID-19, Luxfer has implemented additional cost saving programs, including headcount reductions. As the situation evolves and if warranted, the Company may again suspend or reduce operations at certain facilities. In view of the rapidly changing business environment, unprecedented market volatility and heightened degree of uncertainty resulting from COVID-19, we are currently unable to fully determine its future impact on our business. However, we are monitoring the progression of the pandemic and its potential effect on our financial position, results of operations and cash flows.

The Company recognized that the COVID-19 pandemic constituted a triggering event in accordance with ASC 350 Intangibles - Goodwill and Other, during the first quarter of 2020 and therefore performed an impairment assessment of its goodwill and other intangible assets. Based on the forecast at that time, we did not identify any impairments, nor marginal outcomes. During the year, quarterly re-forecasts were performed to assess the impact COVID-19 was having on our results and liquidity, and in the fourth quarter we carried out our annual goodwill and other intangibles impairment test using cash flows from the annual and strategic plan budgeting exercise. Neither the in-year re-forecasts nor outcomes of the 2021 budget, changed our assessment of fair value, with no impairments nor marginal outcomes identified. Assumptions and judgments are required in calculating the fair value of the reporting units. In developing our discounted cash flow analysis, assumptions about future revenues and expenses, capital expenditures and changes in working capital are based on our annual operating plan and long-term business plan for each of our reporting units. These plans take into consideration numerous factors including historical experience, anticipated future economic conditions, changes in raw material prices and growth expectations for the industries and end markets we participate in. These assumptions and judgments may change as we learn more about the impact of the COVID-19 pandemic.

In relation to liquidity, the Company has access to a revolving credit facility (see Note 11) and has performed stress testing on financial covenants using current forecast information and has not identified any liquidity concerns.

Use of estimates

The preparation of our consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the amounts reported in these consolidated financial statements and accompanying notes, disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates include our accounting for valuation of goodwill, estimated losses on accounts receivable, estimated realizable value on excess and obsolete inventory, assets acquired and liabilities assumed in acquisitions, estimated selling proceeds from assets held for sale, contingent liabilities, measurement of contingent consideration, income taxes and pension benefits. Actual results could differ from our estimates.

Goodwill and other identifiable intangible assets

Business combinations are accounted for using the purchase method. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value, and the amount of any non-controlling interest in the acquiree. The measurement of non-controlling interest is at fair value and is determined on a transaction by transaction basis. Acquisition costs are expensed as incurred.

Goodwill represents the excess of the cost of acquired businesses over the net of the fair value of identifiable tangible net assets and identifiable intangible assets purchased and liabilities assumed.

Goodwill is tested at least annually for impairment or more frequently if events or changes in circumstances indicate that the asset might be impaired. In 2020, the Company has adopted Accounting Standard Update ("ASU") 2017-04 - intangibles - goodwill and other (Topic 350): Simplifying the test for goodwill impairment.. Goodwill is tested for impairment by either performing a qualitative evaluation or a quantitative test. The qualitative evaluation is an assessment of factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. We may elect not to perform the qualitative assessment for some or all reporting units and perform a quantitative impairment test. In 2020, management have chosen to bypass the qualitative evaluation.

For the quantitative impairment test, the fair value of each reporting unit is determined using a discounted cash flow analysis. Projecting discounted future cash flows requires us to make significant estimates regarding future revenue growth rates including the perpetual growth rate; anticipated operating margins; and the discount rates applied to the estimated future cash flows. Actual results may differ from those used in our valuations. This non-recurring fair value measurement is a "Level 3" measurement under the fair value hierarchy described in Note 12.

1. Summary of Significant Accounting Policies (continued)

Goodwill and other identifiable intangible assets (continued)

In developing our discounted cash flow analysis, assumptions about future revenue growth rates and anticipated operating margins are based on our annual operating plan and long-term business plan for each of our reporting units. These plans take into consideration numerous factors including historical experience, anticipated future economic conditions, changes in raw material prices and growth expectations for the industries and end markets we participate in. These assumptions are determined over a three year long-term planning period. The three year growth rates for revenues and operating profits vary for each reporting unit being evaluated. Revenues and operating profit beyond 2022 are projected to grow at a perpetual growth rate of 1.8%.

Discount rate assumptions for each reporting unit take into consideration our assessment of risks inherent in the future cash flows of the respective reporting unit and our weighted-average cost of capital. We utilized discount rates ranging from 8.0% to 9.0% in determining the discounted cash flows in our fair value analysis.

We completed our quantitative goodwill impairment evaluation as of the last day of the third quarter of 2020, 2019 and 2018 with each of our reporting units' fair value being substantially in excess of its carrying value apart from our Superform business unit within the Gas Cylinders segment. This resulted in an impairment in full of \$1.3 million, previously disclosed within impairment costs on the income statement in 2018, now reclassified to discontinued operations.

Other intangible assets are measured initially at cost, or where acquired in a business combination at fair value, and are amortized on a straight-line basis over their estimated useful lives as shown in the table below.

Customer relationships	10 - 15 years
Technology and trading related	5 - 25 years

The carrying values are reviewed for impairment when events or changes in circumstances indicate that the carrying value may not be recoverable. Reviews are made annually of the estimated remaining lives and residual values of the patents and trademarks.

Variable interest entities

We have had interests in certain joint venture entities that were variable interest entities ("VIEs"). Determining whether to consolidate a VIE may require judgment in assessing (i) whether an entity is a VIE and (ii) if we are the entity's primary beneficiary and thus required to consolidate the entity. To determine if we are the primary beneficiary of a VIE, we evaluate whether we have (i) the power to direct the activities that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. Our evaluation includes identification of significant activities and an assessment of our ability to direct those activities based on governance provisions and arrangements to provide or receive product and process technology, product supply, operations services, equity funding and financing and other applicable agreements and circumstances. Our assessment of whether we are a primary beneficiary of a VIE requires the application of significant assumptions and judgment.

1. Summary of Significant Accounting Policies (continued)

Investments in affiliates

The company owns interest in the following affiliate:

Name of company	Country of incorporation	Holding	Proportion of voting rights and shares held	Classification	Consolidation method
Nikkei-MEL Co. Limited	Japan	Ordinary shares	50%	Joint venture	Equity method

Sub161 Pty Limited, our Australian associate (VIE) in which we held a 26% interest, was liquidated and deregistered as a legal entity in November 2020. We were not the primary beneficiary of the VIE and so did not consolidate it and used the equity method to account for its results. We had previously fully impaired our investment and there was no gain or loss resulting from the liquidation.

Property, plant and equipment, net

Property, plant and equipment is stated at cost less accumulated depreciation and any impairment in value. Depreciation is calculated on a straight-line basis over the estimated useful life of the particular asset. The depreciation expense during 2020, 2019 and 2018 was \$12.6 million, \$12.0 million and \$15.8 million, respectively. The estimated useful lives is summarized as follows:

Freehold buildings	10 - 33 years
Leasehold land and buildings	The lesser of life of lease or freehold rate
Machinery and equipment	3 - 25 years
Including:	
Heavy production equipment (including casting, rolling, extrusion and press equipment)	20 - 25 years
Chemical production plant and robotics	7 - 10 years
Other production machinery	5 - 10 years
Furniture, fittings, storage and equipment	3 - 10 years
Computer software	4 - 7 years

Freehold land is not depreciated.

Reviews are made annually of the estimated remaining lives and residual values of individual productive assets, taking account of commercial and technological obsolescence as well as normal wear and tear.

We review the carrying value for any individual asset for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. If any such indication exists and where the carrying value exceeds the estimated recoverable amount, the asset is written-down to its estimated recoverable amount. The assessment of possible impairment is based on our ability to recover the carrying value of the asset or asset group from the expected future pre-tax cash flows (undiscounted and without interest charges) of the related operations. If these cash flows are less than the carrying value of such asset or asset group, an impairment loss is recognized for the difference between estimated fair value and carrying value. Impairment losses on long-lived assets held for sale are determined in a similar manner, except that fair values are reduced for the cost to dispose of the assets. The measurement of impairment requires us to estimate future cash flows and the fair value of long-lived assets. During 2020 we did not record any impairment (2019: \$4.6 million) in relation to restructuring activities. There was also a \$5.2 million impairment charge in 2019, recorded within *impairment charges*, relating to plant and equipment held in our Superform business, following the downturn in the European luxury automotive market. This amount has been reclassified into discontinued operations. In 2018, the \$3.4 million charge arose from the fair value adjustment in relation to the sale of the Czech business, recorded in *impairment charges*.

1. Summary of Significant Accounting Policies (continued)

Impairments

The Company will recognize impairments in relation to property, plant and equipment, investments and goodwill, other identifiable intangible assets and other long-lived assets in accordance with the above policies. Impairments relating to restructuring activities, incurred to exit an activity or location, will be recorded within the restructuring line on the Statement of Income. Other impairments will be recorded within impairment charges line on the Statement of Income.

Impairment in 2019 relates to: a \$5.2 million charge relating to plant and equipment held in our Superform business (now included in discontinued operations); partially offset by a true-up upon the final sale of the Czech business, \$0.2 million credit, (2018: \$3.4 million charge). In 2018 there was also a \$2.4 million write-off in relation to the acquisition of Luxfer Holdings NA LLC and \$1.3 million of goodwill impairment within the Superform business unit (now included in discontinued operations).

Revenue Recognition

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer. The majority of the Company's contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. There is no variable consideration or obligations for returns, refunds, and no other related obligations in the Company's contracts.

Payment terms and conditions vary by contract type and may include a requirement of payment in advance. In instances where the timing of revenue recognition differs from the timing of invoicing, the Company has determined its contracts do not include a significant financing component.

The Company's revenue is primarily derived from the following sources and are recognized when or as the Company satisfies a performance obligation by transferring a good or service to a customer.

Product revenues

We recognize revenue when it is realized or realizable and has been earned. Revenue is recognized when persuasive evidence of an arrangement exists, shipment or delivery has occurred (depending on the terms of the sale), which is when the transfer of product or control occurs, our price to the buyer is fixed or determinable, and the ability to collect is reasonably assured.

Royalties

Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreements, provided that it is probable that the economic benefits will flow to the Company and the amount of revenue can be measured reliably.

Tooling revenue

Revenue from certain long-term tooling contracts is recognized over the contractual period under the cost-to-cost measure of progress as this is when the benefit is received by the customer. Incremental direct costs associated with the contract include, direct labor hours, direct raw material costs and other associated costs. Under this method, sales and gross profit are recognized as work is performed either based on the relationship between the actual costs incurred and the total estimated costs at completion ("the cost-to-cost method") or based on efforts for measuring progress towards completion in situations in which this approach is more representative of the progress on the contract than the cost-to-cost method. We record costs and earnings in excess of billings on uncompleted contracts within *Other current assets* and billings in excess of costs and earnings on uncompleted contracts within *Other current liabilities* in the Consolidated Balance Sheets. Where customer acceptance is on final completion and handover of the tool, revenue is recognized at the point the customer accepts ownership of the tool. All tooling revenue relates to discontinued operations resulting in all related activity included in discontinued operations and associated balances included in assets and liabilities held-for-sale.

Practical Expedients

The Company applies the practical expedient and does not disclose information about remaining performance obligations for contracts that have original expected durations of one year or less.

1. Summary of Significant Accounting Policies (continued)

Cash, Cash Equivalents and Restricted Cash

We consider all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Restricted cash is recognized separately in the Consolidated Balance Sheets. Restricted cash balances were less than \$0.1 million at December 31, 2020 and \$0.1 million at December 31, 2019. The amounts were held in escrow to disburse environmental liabilities recognized as a result of the acquisition of the Specialty Metals division of ESM Inc in 2017.

Inventories

Inventories are stated at the lower of cost or net realizable value. Raw materials are valued on a first-in, first-out basis. Strategic purchases of inventories in order to secure supply and reduce the impact of price volatility on the cost of inventories are valued on a weighted-average cost basis. Work in progress and finished goods costs comprise direct materials and, where applicable, direct labor costs, an apportionment of production overheads and any other costs that have been incurred in bringing the inventories to their present location and condition. Inventories are reviewed on a regular basis, and we will make allowance for excess or obsolete inventories and write-down to net realizable value based primarily on committed sales prices and our estimates of expected and future product demand and related pricing.

Research and Development

Included within research and development costs are directly attributable salaries, materials and consumables, as well as third-party contractor fees and research costs. These costs are expensed as incurred.

Foreign currencies

Transactions in currencies other than an operation's functional currency are initially recorded in the functional currency at the rate of exchange prevailing on the dates of transactions. At each balance sheet date, the foreign currency monetary assets and liabilities of each operation are translated into the functional currency of that operation at the rates prevailing on the balance sheet date.

All differences are taken to the consolidated statement of income / (loss), with the exception of differences on foreign currency borrowings that provide a hedge against a net investment in a foreign entity. These differences on foreign currency borrowings are taken directly to equity until the disposal of the net investment, at which time they are recognized in the consolidated statement of income / (loss). Tax charges and credits attributable to exchange differences on those borrowings are also included in equity.

On consolidation, the assets and liabilities of the Company's foreign operations are translated at exchange rates prevailing on the balance sheet date. Income and expense items are translated at the average exchange rates for the period. Exchange differences that arise, if any, are included in Accumulated other comprehensive income / (loss) ("AOCI"), a separate component of equity. Such translation differences are recognized in the consolidated statements of income / (loss) in the period in which the Company loses control of the operation or liquidation.

During 2020, the average USD/GBP sterling exchange rate was £0.7805 compared to the 2019 average of £0.7820. This change resulted in a positive impact of \$0.3 million on revenue and a negative impact of \$0.2 million on operating income. Based on the 2020 level of revenue and income, a weakening in GBP sterling leading to a £0.05 increase in the USD/GBP sterling exchange rate would result in a decrease of \$8.5 million in revenue and \$0.7 million in operating net income.

During 2020, the average USD/Euro exchange rate was €0.8888, compared to the 2019 average of €0.8943. This change resulted in a negative impact of \$0.1 million on revenue and \$0.3 million on operating profit. Based on the 2020 level of revenue and income, a weakening in the Euro leading to a €0.05 increase in the Euro to U.S. dollar exchange rate would result in a decrease of less than \$0.1 million in revenue and \$0.3 million decrease to operating profit.

1. Summary of Significant Accounting Policies (continued)

Income taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry-forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. When the Company does not believe that, on the basis of available information, it is more likely than not that deferred tax assets will be fully recovered, it recognizes a valuation allowance against its deferred tax assets to reduce the deferred tax assets to the amount more likely than not to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactments date.

Furthermore, a tax benefit from a tax position may be recognized in the financial statements only if it is more-likely-than-not that the position is sustainable, based solely on its technical merits and consideration of the relevant tax authority's widely understood administrative practices and precedents. The tax benefit recognized, when the likelihood of realization is more likely-than-not (i.e. greater than 50 percent), is measured at the largest amount that is greater than 50 percent likely of being realized upon settlement.

Employee benefit plans

The Company operates funded defined benefit pension plans in the U.K., the U.S. and France. The levels of funding are determined by periodic actuarial valuations that take into account changes in actuarial assumptions, including discount rates and expected returns on plan assets. The assets of the plans are generally held in separate trustee-administered funds. The Company also operates defined contribution plans in the U.K., the U.S., Australia and Canada.

Actuarial assumptions are updated annually and are disclosed in Note 14. We recognize changes in the fair value of plan assets and net actuarial gains or losses for pension and other post-retirement benefits annually in the fourth quarter each year ("mark-to-market adjustment") and, if applicable, in any quarter in which an interim remeasurement is triggered. Net actuarial gains and losses occur when the actual experience differs from any of the various assumptions used to value our pension and other post-retirement plans or when assumptions change, as they may each year. The remaining components of pension expense, including service and interest costs and estimated return on plan assets, are recorded on a quarterly basis.

Payments to defined contribution plans are charged as an expense as they fall due.

Commitments and contingencies

Loss contingencies are recognized when the Company has a present obligation as a result of a past event, it is probable that a transfer of resources will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

Share-based compensation

We account for share-based compensation awards on a fair value basis. The estimated grant date fair value of each option award is recognized in income on an accelerated basis over the requisite service period (generally the vesting period). The estimated fair value of each option award is calculated using either the Black-Scholes option-pricing model, or using a Monte-Carlo simulation, both of which are subjective and involves the application of significant estimates and assumptions, including the expected term of the award, implied volatility, expected dividend yield and the risk-free interest rate. Restricted share awards and units are recorded as compensation cost on an accelerated basis over the requisite service periods based on the market value on the date of the grant.

Performance share units ("PSU") are stock awards where the ultimate number of shares issued will be contingent on the Company's performance against certain financial performance targets. The fair value of each PSU is based on the market value on the date of grant. We recognize expense based upon the fair value of the awards on the grant date and the estimated vesting of the PSUs granted. The estimated vesting of the performance share units is based on the probability of achieving certain financial performance thresholds over the specified performance period.

1. Summary of Significant Accounting Policies (continued)

Trade receivables and concentration of credit risk

The Company is exposed to credit losses primarily through sales of products. The Company's expected loss allowance methodology for accounts receivable is developed using historical collection experience, current and future economic and market conditions and a review of the current status of customers' trade accounts receivables. Due to the short-term nature of such receivables, the estimate of accounts receivable amounts that may not be collected is based on aging of the accounts receivable balances and the financial condition of customers. Additionally, specific allowance amounts are established to record the appropriate provision for customers that have a higher probability of default. The Company considered the current and expected future economic and market conditions surrounding the COVID-19 pandemic and determined that the estimate of credit losses was not significantly impacted.

Estimates are used to determine the allowance. It is based on assessment of anticipated receipts and all other historical, current and future information that is reasonably available.

We are exposed to credit risk in the event of nonpayment by customers. However we mitigate our exposure to credit risk by performing ongoing credit evaluations and, when deemed necessary, utilizing credit insurance, prepayments or guarantees. No individual customer represented more than 10% of our revenue or accounts receivable. The concentration of credit risks from financial instruments related to the markets we serve is not expected to have a material adverse effect on our consolidated financial position, cash flows or future results of operations.

Derivative financial instruments

We recognize all derivatives as either assets or liabilities (within accounts and other receivables or accounts payable) at fair value in our Consolidated Balance Sheets. If the derivative is designated and is effective as a cash-flow hedge, changes in the fair value of the derivative are recorded in AOCI as a separate component of equity in the Consolidated Statements of Changes in Equity and are recognized in cost of goods sold in the Consolidated Statements of Income when the hedged item affects earnings. If the underlying hedged transaction ceases to exist or if the hedge becomes ineffective, all changes in fair value of the related derivatives that have not been settled are recognized in current earnings in cost of goods sold. For a derivative that is not designated as or does not qualify as a hedge, changes in fair value are reported in income immediately, again in cost of goods sold. We use derivative instruments for the purpose of hedging commodity price risk and currency exposures, which exist as part of ongoing business operations.

New accounting standards

On January 1, 2020, the Company adopted ASU 2016-13, financial instruments - Credit Losses (Topic 326): Measurement of credit losses on Financial Instruments prospectively. The ASU replaces the incurred loss impairment model with an expected credit loss impairment model for financial instruments, including trade receivables.

- Under the CECL model, the Company is required to consider whether expected credit losses should be recognized for trade receivables that are considered "current" (i.e., not past due).
- When using historical loss rates in a provision matrix, the Company is required to consider whether and, if so, how the historical loss rates differ from what is currently expected over the life of the trade receivables (on the basis of current conditions and reasonable and supportable forecasts about the future).

Upon adoption, there was no adjustment needed to opening retained earnings as at January 1, 2020.

As a result of implementing ASU 2016-13, the Company did not recognize any material additional allowance within Accounts and Other Receivables as at January 1, 2020. Accounts and Other Receivables are shown net of a \$0.5 million allowance at December 31, 2020.

1. Summary of Significant Accounting Policies (continued)

New accounting standards (continued)

The following table provides a roll-forward of the allowance for credit losses that is deducted from the amortized cost basis of accounts receivable to present the net amount expected to be collected.

<i>In millions</i>	2020
Balance at January 1,	\$ 1.3
Adoption of ASU 2016-13, cumulative-effect for changes for adoption of credit loss guidance	—
Recoveries for expected credit losses	(0.7)
Other, including foreign currency translation	(0.1)
Balance at December 31,	\$ 0.5

On January 1, 2020, the Company adopted ASU 2017-04 which simplifies the goodwill impairment test. The update removes the requirement to determine the fair value of individual assets and liabilities in order to calculate a reporting unit's "implied" goodwill under current GAAP. Specifically, the amendments in ASU 2017-04 eliminate Step 2 of the goodwill impairment test. As such, the Company will perform its annual goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. A goodwill impairment charge will be recognized for the amount by which the reporting unit's carrying amount exceeds its fair value. If fair value exceeds the carrying amount, no impairment should be recorded. Any loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. Impairment losses on goodwill cannot be reversed once recognized.

Accounting standards which have been early adopted

None

Accounting standards issued but not yet effective

In December 2019, FASB issued an amendment to simplify the accounting for income taxes. The new standard is effective for fiscal years beginning after December 15, 2020.

2. Revenue

Disaggregated revenue from continuing operations for the fiscal years ended December 31, 2020, 2019, and 2018, are included below and in Note 17, Segmental Information.

<i>In millions</i>	Years ended December 31,								
	2020			2019			2018		
	Gas Cylinders	Elektron	Total	Gas Cylinders	Elektron	Total	Gas Cylinders	Elektron	Total
General industrial	\$ 24.2	\$ 87.7	\$ 111.9	\$ 24.7	\$ 111.7	\$ 136.4	\$ 28.0	\$ 123.9	\$ 151.9
Transportation	49.8	42.3	92.1	48.5	59.5	108.0	33.1	72.8	105.9
Defense, First Response & Healthcare	67.9	52.9	120.8	80.3	48.7	129.0	91.0	53.1	144.1
	\$ 141.9	\$ 182.9	\$ 324.8	\$ 153.5	\$ 219.9	\$ 373.4	\$ 152.1	\$ 249.8	\$ 401.9

The Company's performance obligations are satisfied at a point in time. With the reclassification of our Superform business as discontinued operations, none of the Company's revenue is satisfied over time. As a result, the Company's contract receivables, contract assets and contract liabilities at December 31, 2020 and 2019 are disclosed with current assets and liabilities held-for-sale.

3. Acquisitions and disposals

In 2020, the Company sold its 51% investment in Luxfer Uttam India Private Limited to our joint venture partner for INR 137.4 million (\$1.8 million) cash. Allowing for legal costs, we generated a profit on disposal of less than \$0.1 million. During the year we also incurred \$0.4 million costs in relation to M&A exploration activities offset by deferred consideration adjustments and profit on previously written-down inventory.

In 2019, acquisition and disposal related costs of \$1.4 million were incurred. The amount includes a \$3.5 million charge in relation to the reimbursement of costs and \$0.9 million of professional and legal fees incurred in connection with the terminated Neo acquisition, partially offset by a \$2.9 million gain from the sale of Magnesium Elektron CZ s.r.o in the second quarter of 2019 and a \$0.1 million credit on the remeasurement of the deferred contingent consideration.

The net gain on disposal of the Czech business is outlined below:

<i>In millions</i>	2019
Cash proceeds	5.9
Less:	
Cash held in business	(1.3)
Purchase price adjustment	(0.2)
Net proceeds	4.4
Net assets less cash	(3.6)
Gain on disposal	0.8
Disposal costs	(0.4)
Realized translation gain on disposal	2.5
Net gain on disposal	2.9

On December 28, 2018, Luxfer Holdings NA LLC (a 49% owned VIE joint venture) disposed of the assets and selected liabilities of Gas Transport Leasing LLC (its wholly-owned subsidiary) with the remaining 51% of Luxfer Holdings NA LLC simultaneously acquired by the Company. The disposal of the assets and selected liabilities to the JV partner was for consideration of \$2.2 million. The Company acquired the residual 51% of Luxfer Holdings NA LLC, in return for the forgiveness of the JV partner's share on a loan from Luxfer Holdings PLC, being \$2.1 million. The fair value of the net assets of Luxfer Holdings NA LLC at the acquisition date was assessed as \$4.0 million, valuing the residual 51% stake at \$2.1 million, resulting in no goodwill being recognized on the step acquisition.

3. Acquisitions and disposals (continued)

The principal assets acquired included cash of \$2.7 million (including \$2.2 million from the sale of the leasing business), inventory (\$1.1 million), accounts and other receivables (\$0.8 million), property, plant and equipment (\$0.2 million), with accounts payable of \$0.8 million. There were no identified intangibles. As a consequence of the transaction we fully impaired our equity investment (from a pre-acquisition fair value of \$1.6 million) and partially impaired the loan to the equity investment; the combined effect resulting in a net charge of \$2.4 million being recognized in the consolidated statement of income, within impairment charges. At December 31, 2018, Luxfer Holdings NA LLC is 100% owned by the Company, was no longer considered a VIE and is a fully consolidated subsidiary. As the acquisition occurred very close to the year end date, no revenue or earnings are recorded in the consolidated statement of income for the reporting period.

Deferred contingent consideration

The deferred contingent consideration was in relation to the acquisition of Truetech and Innotech (Luxfer Magtech) in 2015 and was linked to the future profitability of the entity. Where appropriate, this was payable annually from 2015 to 2020. The deferred contingent consideration totaled nil at December 31, 2020 (2019: \$0.5 million), following the final payment in 2020.

<i>In millions</i>	Years ended December 31,	
	2020	2019
Net cash flows on purchase of business:		
<i>Included in net cash flows from financing activities:</i>		
Deferred consideration paid	\$ (0.4)	\$ (0.5)
Net cash flows on purchase of business	\$ (0.4)	\$ (0.5)

4. Restructuring

During 2020, 2019 and 2018, we initiated and continued execution of certain business restructuring initiatives aimed at reducing our fixed cost structure and realigning our business.

In 2020, there was a further \$7.5 million of costs in relation to the closure of Luxfer Gas Cylinders' French site. It is expected that there will be further costs incurred in 2021. In response to uncertain global economic conditions, we undertook actions to reduce the Company's cost structure and improve operating efficiency. These actions included a workforce reduction program resulting in \$1.4 million of severance-related charges, of which \$0.4 million and \$0.9 million was incurred in the Gas Cylinders and Elektron segment respectively, and \$0.1 million Other.

In 2019, there was \$20.1 million of costs in relation to the closure of Luxfer Gas Cylinders' French site. Within the Elektron segment, there was \$4.6 million of asset write-downs and one-time employee benefits, following the decision to scale down production at one of our Luxfer Magtech sites. There were other simplification costs incurred of \$1.2 million across both segments.

In 2018, the restructuring charge included an other-than-temporary impairment and employee severance charges in the Gas Cylinders segment in relation to the Company's announcement that it was under consultation to close its French site. Within the Elektron segment, there have been asset write-downs in connection to the closure of our Luxfer Graphic Arts site in Findlay, OH, with consolidation of operations in Madison, IL; and the previously announced closure of our Luxfer Magtech site in Riverhead, NY.

Restructuring related costs included in Restructuring charges in the Consolidated statement of income / (loss) are as follows:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Severance and related costs	\$ (8.9)	\$ (20.9)	\$ (6.5)
Asset impairment	—	(5.0)	(6.8)
Other	—	—	0.1
Total restructuring charges	\$ (8.9)	\$ (25.9)	\$ (13.2)

Other restructuring costs primarily consist of various contract termination and revision costs as well as legal costs.

4. Restructuring (continued)

Restructuring costs by reportable segment were as follows:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Gas Cylinders segment	\$ (7.9)	\$ (20.7)	\$ (9.8)
Elektron segment	(0.9)	(5.2)	(3.4)
Other	\$ (0.1)	\$ —	\$ —
Total restructuring charges	\$ (8.9)	\$ (25.9)	\$ (13.2)

Activity related to restructuring, recorded in *other current liabilities* in the consolidated balance sheets is summarized as follows:

<i>In millions</i>	2020	2019
Balance at January 1,	\$ 6.5	\$ 5.2
Costs incurred	8.9	20.9
Cash payments and other	(6.4)	(19.6)
Balance at December 31,	\$ 9.0	\$ 6.5

5. Other charges

In 2019, the Company decided to commence a project to remove low-level naturally occurring radioactive material (NORM) from a redundant building at Elektron's Manchester, UK site. The work represents remediation of a legacy environmental issue and is expected to complete in the first quarter of 2021. In 2020 and 2019, the Company recognized \$0.4 million and \$2.5 million respectively, in other charges on the Statements of Income related to this remediation.

6. Earnings per share

Basic earnings per share are computed by dividing net income for the period by the weighted-average number of ordinary shares outstanding, net of Treasury shares and shares held in ESOP. Diluted earnings per share are computed by dividing net income for the period by the weighted average number of ordinary shares outstanding and the dilutive ordinary shares equivalents.

Basic and diluted earnings per share were calculated as follows:

<i>In millions except share and per-share data</i>	Years ended December 31,		
	2020	2019	2018
Basic earnings:			
Net income from continuing operations	\$ 20.8	\$ 8.7	\$ 27.7
Net loss from discontinued operations	(0.8)	(5.6)	(2.7)
Net income	\$ 20.0	\$ 3.1	\$ 25.0
Weighted average number of £0.50 ordinary shares:			
For basic earnings per share	27,557,219	27,289,042	26,708,469
Dilutive effect of potential common stock	414,163	593,822	983,793
For diluted earnings per share	27,971,382	27,882,864	27,692,262
Earnings per share using weighted average number of ordinary shares outstanding:⁽¹⁾			
Basic earnings per ordinary share for continuing operations	\$ 0.75	\$ 0.32	\$ 1.04
Basic loss per ordinary share for discontinued operations	\$ (0.03)	\$ (0.21)	\$ (0.10)
Basic earnings per ordinary share	\$ 0.73	\$ 0.11	\$ 0.94
Diluted earnings per ordinary share for continuing activities	\$ 0.74	\$ 0.31	\$ 1.00
Diluted loss per ordinary share for discontinued operations	\$ (0.03)	\$ (0.21)	\$ (0.10)
Diluted earnings per ordinary share	\$ 0.72	\$ 0.11	\$ 0.90

⁽¹⁾ The calculation of earnings per share is performed separately for continuing and discontinued operations. as a result, the sum of the two in any particular year may not equal the earnings-per-share amount in total.

7. Discontinued operations

Our Superform aluminum superplastic forming business operating from sites in the U.S. and the U.K, and our U.S. aluminum gas cylinder business were historically included in the Gas Cylinders segment. As a result of our decision to exit non-strategic aluminum product lines, we have reflected the results of operations of these businesses as discontinued operations in the Consolidated Statements of Income for all periods presented. We expect the sale of these businesses to occur in 2021.

The assets and liabilities of the above businesses have been presented within *Current assets held-for-sale* and *Current liabilities held-for-sale* in the consolidated balance sheets. As the businesses met the criteria for held-for-sale and discontinued operations, the balance sheet at December 31, 2019 has also been adjusted to reflect the the assets and liabilities as held-for-sale. The Company has determined that the carrying value of the held-for-sale assets is recoverable and as a result no loss allowances have been recognized.

Results of discontinued operations were as follows:

<i>In millions</i>	2020	2019	2018
Net sales	\$ 53.2	\$ 70.1	\$ 86.0
Cost of goods sold	(51.5)	(65.8)	(81.8)
Gross profit	\$ 1.7	\$ 4.3	\$ 4.2
Selling, general and administrative expenses	(5.8)	(5.3)	(6.3)
Restructuring charges	(0.1)	(0.1)	(0.2)
Impairment charges	—	(5.2)	(1.3)
Other income	3.4	—	—
Operating loss	\$ (0.8)	\$ (6.3)	\$ (3.6)
Net interest expense	\$ —	\$ (0.2)	\$ (0.1)
Net loss before income taxes	\$ (0.8)	\$ (6.5)	\$ (3.7)
Provision for income taxes	\$ —	\$ 0.9	\$ 1.0
Net loss	\$ (0.8)	\$ (5.6)	\$ (2.7)

The assets and liabilities classified as held-for-sale were as follows:

<i>In millions</i>	December 31, 2020	December 31, 2019
Accounts and other receivables	\$ 8.7	\$ 13.5
Inventories	12.6	16.9
Current assets	21.3	30.4
Property, plant and equipment	7.9	8.7
Right-of-use assets	3.1	3.8
Other non-current assets		
Total assets	\$ 32.3	\$ 42.9
Accounts payable	\$ 4.3	\$ 6.2
Accrued liabilities	1.5	1.6
Other current liabilities	1.5	0.6
Current liabilities	\$ 7.3	\$ 8.4
Other non-current liabilities	\$ 4.1	\$ 4.5
Total liabilities	\$ 11.4	\$ 12.9

Also included within assets held-for-sale in 2020 and 2019 is one building valued at \$3.7 million, within our Elektron Segment. In 2019 there was also inventory valued at \$0.2 million in relation to one of our operations within our Gas Cylinders Segment, see Note 9.

7. Discontinued operations (continued)

The depreciation and amortization, capital expenditures and significant operating noncash items were as follows:

<i>In millions</i>	2020		2019		2018
Cash flows from discontinued operating activities:					
Depreciation	\$	1.1	\$	1.1	\$ 1.1
Impairment charges		—		5.2	1.3
Cash flows from discontinued investing activities:					
Capital expenditures	\$	0.3	\$	0.8	\$ 0.7

Cash balances are swept into the treasury entities at the end of each day, these sweeps are recorded within operating cash flows in the statements of cash flows.

8. Goodwill and other identifiable intangible assets

Changes in goodwill during the years ended December 31, 2020 and 2019 were as follows:

<i>In millions</i>	Gas Cylinders		Elektron		Total
At January 1, 2019	\$	26.3	\$	41.3	\$ 67.6
Exchange difference		0.7		0.5	1.2
At December 31, 2019	\$	27.0	\$	41.8	\$ 68.8
Exchange difference		0.9		0.5	1.4
Net balance at December 31, 2020	\$	27.9	\$	42.3	\$ 70.2

Accumulated goodwill impairment losses in relation to continuing activities were \$8.0 million as of December 31, 2020 and 2019.

Identifiable intangible assets consisted of the following:

<i>In millions</i>	December 31, 2020			December 31, 2019		
	Gross	Accumulated amortization	Net	Gross	Accumulated amortization	Net
Customer relationships	\$ 13.4	\$ (5.2)	\$ 8.2	\$ 13.4	\$ (4.6)	\$ 8.8
Technology and trading related	8.3	(3.7)	4.6	8.1	(3.3)	4.8
	<u>\$ 21.7</u>	<u>\$ (8.9)</u>	<u>\$ 12.8</u>	<u>\$ 21.5</u>	<u>\$ (7.9)</u>	<u>\$ 13.6</u>

Identifiable intangible asset amortization expense in 2020, 2019 and 2018 was \$0.7 million, \$1.2 million and \$1.2 million, respectively.

In 2018, we recorded, within impairment charges, an impairment charge of \$1.3 million in the Gas Cylinders segment, associated with our Superform business unit which is now reflected in discontinued operations and no further charge to be made as amount is fully written down.

Intangible asset amortization expense over the next five years is expected to be approximately \$0.7 million in each of the next five years.

The weighted-average amortization period for the customer relationships is 10 years and for the technology and trading related assets is 11 years.

9. Supplementary balance sheet information

<i>In millions</i>	2020	2019
Accounts and other receivables		
Trade receivables, net	\$ 33.6	\$ 40.8
Related parties	0.2	2.7
Prepayments and accrued income	5.5	4.8
Derivative financial instruments	0.2	0.3
Deferred consideration	0.2	—
Other receivables	3.4	4.2
Total accounts and other receivables	\$ 43.1	\$ 52.8
Inventories		
Raw materials and supplies	\$ 26.2	\$ 27.9
Work-in-process	19.7	24.2
Finished goods	22.9	25.5
Total inventories	\$ 68.8	\$ 77.6
Other current assets		
Income tax receivable	1.5	1.1
Total other current assets	\$ 1.5	\$ 1.1
Property, plant and equipment, net		
Land, buildings and leasehold improvements	\$ 65.2	\$ 61.4
Machinery and equipment	255.3	245.7
Construction in progress	7.8	8.9
Total property plant and equipment	328.3	316.0
Accumulated depreciation and impairment	(242.3)	(225.8)
Total property, plant and equipment, net	\$ 86.0	\$ 90.2
Other current liabilities		
Contingent liabilities	\$ 10.1	\$ 6.6
Derivative financial instruments	0.4	—
Operating lease liability	2.9	2.3
Other current liabilities	0.1	1.8
Total other current liabilities	\$ 13.5	\$ 10.7
Other non-current liabilities		
Contingent liabilities	\$ 1.0	\$ 0.9
Operating lease liability	6.7	8.9
Other non-current liabilities	—	0.1
Total other non-current liabilities	\$ 7.7	\$ 9.9

9. Supplementary balance sheet information (continued)

Impairment of property, plant and equipment

Property, plant and equipment, net, includes an impairment of \$4.6 million recognized within restructuring charges and \$5.2 million recognized within impairment charges in 2019, now recognized within discontinued operations. There were no impairments of property, plant and equipment recognized in 2020.

The \$4.6 million recognized within restructuring charges in 2019 relates to the write-down of land and buildings within the Elektron segment as a result of announced exits.

The \$5.2 million recognized as an impairment charge in 2019 relates to the downturn in the European luxury automotive market which has adversely impacted our Superform business within the Gas Cylinders segment. The impairment charge and the property, plant and equipment, net, were reclassified as discontinued operations in 2020 for all periods presented. See Note 7.

Held-for-sale assets and liabilities

In 2020, the Company classified its Superform aluminum superplastic forming business operating from sites in the U.S. and the U.K, and our U.S. aluminum gas cylinder business as assets and liabilities held-for-sale in accordance with *ASC 205-20 Discontinued Operations*. These assets and liabilities were reclassified in 2019 to conform to the current year presentation. See Note 7 for breakdown of this disposal group.

There was also one building valued at \$3.7 million, within our Elektron Segment classified as held-for-sale assets, previously included within other current assets. The building was classified as held-for-sale in 2019, as the expectation was that the building would be sold in 2020. There are conditions attached to the sale which the Company now expects to be met in 2021 and as such the building continues to be classified as held-for-sale.

In 2019 there was also \$0.2 million of inventory which has been reclassified as held-for-sale assets in relation to one of our operations within our Gas Cylinders Segment.

The respective assets and liabilities of the above disposal groups have been reclassified as held-for-sale per the table below.

	December 31, 2020	December 31, 2019
Reclassified to held-for-sale assets		
<i>In millions</i>		
Property, plant and equipment	\$ 11.6	\$ 12.4
Right-of-use-asset	3.1	3.8
Inventory	12.6	17.1
Accounts and other receivables	8.7	13.5
Held-for-sale assets	\$ 36.0	\$ 46.8
Reclassified to held-for-sale liabilities		
Accounts payables	\$ 4.3	\$ 6.2
Accrued liabilities	1.5	1.6
Other current liabilities	5.6	5.1
Held-for-sale liabilities	\$ 11.4	\$ 12.9

There has been no reclassification of items from other comprehensive income to the income statement as a result of items reclassified to held-for-sale,

10. Accumulated Other Comprehensive Loss

Components of Accumulated Other Comprehensive Loss consist of the following:

<i>In millions</i>	December 31, 2020	December 31, 2019
Cumulative translation adjustments	\$ (51.7)	\$ (55.5)
Pension plans actuarial loss, net of tax	(114.1)	(94.1)
Accumulated other comprehensive loss	\$ (165.8)	\$ (149.6)

Reclassifications out of accumulated other comprehensive loss

During 2019, a \$2.5 million translation gain was reclassified out of accumulated other comprehensive loss and into the income statement, within *acquisition related costs / credits*. This amount was realized on the disposal of Elektron's magnesium recycling business in the Czech Republic.

11. Debt

Debt outstanding was as follows:

<i>In millions</i>	December 31, 2020	December 31, 2019
3.67% Loan Notes due 2021	\$ —	\$ 25.0
4.88% Loan Notes due 2023	25.0	25.0
4.94% Loan Notes due 2026	25.0	25.0
Revolving credit facility	4.1	17.5
Unamortized debt issuance costs	(0.7)	(1.1)
Total debt	\$ 53.4	\$ 91.4
Non-current debt	\$ 53.4	\$ 91.4

On July 31, 2017, an extension to the Senior Facilities Agreement was agreed which provides \$150 million in committed debt facilities, in the form of a multi-currency revolving credit facility, with an additional \$50 million of uncommitted facilities through an accordion provision. The Senior Facilities Agreement was due to mature in April 2019, but was extended until the end of July 2022. Finance costs of \$1.0 million were capitalized following this extension. The loan amendment has been treated, in part, as an extinguishment and new loan, as some of the lenders left the consortium, with the other portion deemed to be a modification of the existing facility. The Senior Facility Agreement bears interest equal to a margin based upon the Company's leverage plus either EURIBOR or LIBOR, depending on the currency drawn down. Note that GBP sterling drawings will be subject to interest rates based on SONIA (Sterling Overnight Index Average) once LIBOR is phased out by the end of 2021. We do not expect this change to have a material effect on our interest expense.

The weighted-average interest rate on the revolving credit facility was 2.19% and 2.47% in 2020 and 2019, respectively.

The maturity profile of the Company's debt, excluding unamortized issuance costs and discounts is as follows:

<i>In millions</i>	2021	2022	2023	2024	2025	Thereafter	Total
Loan Notes due 2023	\$ —	\$ —	\$ 25.0	\$ —	\$ —	\$ —	\$ 25.0
Loan Notes due 2026	—	—	—	—	—	25.0	25.0
Revolving credit facility	—	4.1	—	—	—	—	4.1
Total debt	\$ —	\$ 4.1	\$ 25.0	\$ —	\$ —	\$ 25.0	\$ 54.1

11. Debt (continued)

Loan notes due and shelf facility

The Loan Notes due 2021 were due to mature on September 15, 2021, however we voluntarily chose to repay the notes early, on December 31, 2020, largely using surplus cash generated from operations, plus a small drawing on the Senior Facilities Agreement.

We have been in compliance with the covenants under the Note Purchase and Private Shelf Agreement throughout all of the quarterly measurement dates in 2020 with an expectation of compliance in 2021.

Senior Facilities Agreement

The Senior Facilities Agreement contains a number of additional undertakings and covenants that, among other things, restrict, subject to certain exceptions, our and our subsidiaries' ability to:

- engage in mergers, divestitures, consolidations or divisions;
- change the nature of our business;
- make certain acquisitions;
- participate in certain joint ventures;
- grant liens or other security interests on our assets;
- sell, lease, transfer or otherwise dispose of assets, including receivables;
- enter into certain non-arm's-length transactions;
- grant guarantees;
- pay off certain existing indebtedness;
- make investments, loans or grant credit;
- repurchase our shares;
- issue shares or other securities; and
- redeem, repurchase, decrease, retire or repay any of our share capital.

We are permitted to dispose of assets up to \$25 million in aggregate until July 2022, without restriction as to the use of the proceeds under the Senior Facilities Agreement. Above this level, we would need to seek agreement from the majority of the lenders under the Senior Facilities Agreement. In addition, we may pay dividends, subject to certain limitations.

In addition, the Senior Facilities Agreement requires us to maintain compliance with an interest coverage ratio and a leverage ratio. The interest coverage ratio measures our EBITDA (as defined in the Senior Facilities Agreement) to Net Finance Charges (as defined in the Senior Facilities Agreement). We are required to maintain a minimum interest coverage ratio of 4.0:1. The leverage ratio measures our Total Net Debt (as defined in the Senior Facilities Agreement) to the Relevant Period Adjusted Acquisition EBITDA (as defined in the Senior Facilities Agreement). We are required to maintain a leverage ratio of no more than 3.0:1.

Any breach of a covenant in the Senior Facilities Agreement could result in a default under the Senior Facilities Agreement, in which case lenders could elect to declare all borrowed amounts immediately due and payable if the default is not remedied or waived within any applicable grace periods. Additionally, our and our subsidiaries' ability to make investments, incur liens and make certain restricted payments is also tied to ratios based on EBITDA.

We have been in compliance with the covenants under the Senior Facilities Agreement throughout all of the quarterly measurement dates throughout 2020 with an expectation of compliance in 2021.

12. Derivatives and Financial Instruments

The Company's financial instruments comprise bank and other loans, senior loan notes, derivatives, trade payables, deferred consideration and deferred contingent consideration. Other than derivatives, the main purpose of these financial instruments is to raise finance for the Company's operations. The Company also has various financial assets such as trade receivables and cash and cash equivalents, which arise directly from its operations.

Derivative financial instruments

We are exposed to market risk during the normal course of business from changes in currency exchange rates, interest rates and commodity prices such as aluminum prices. We manage exposures through a combination of normal operating and financing activities and through the use of derivative financial instruments such as foreign currency forward purchase contracts and aluminum forward purchase contracts. We do not use market risk-sensitive instruments for trading or speculative purposes. In 2020, the Company had \$0.2 million (2019: \$0.3 million) derivative financial instruments recorded within accounts and other receivables. The value of derivative financial instruments recorded in liabilities in 2020 was \$0.4 million and in 2019 was less than \$0.1 million.

At December 31, 2020, the fair value of forward foreign currency exchange contracts deferred in equity was nil (2019: nil and 2018: liability of \$0.4 million). During 2020, nil (2019: gain of \$0.1 million and 2018: loss of \$0.1 million) has been transferred to the consolidated income statement in respect of contracts that have matured in the year.

Aluminum forward purchase contracts

Aluminum is traded on the London Metal Exchange ("LME") and therefore the Group is able to use LME derivative contracts to hedge a portion of its price exposure. In 2020 the Group purchased approximately 7,000 (2019: 8,000) metric tons of primary aluminum for use in continuing operations. The processed waste can be sold as scrap aluminum at prices linked to the LME price. Based on the 2020 level of aluminum purchases for continuing operations, a \$100 increase in the LME price of aluminum would increase our Gas Cylinders segment's costs by approximately \$0.7 million.

Forward foreign currency exchange contracts

The Company incurs currency transaction risk whenever one of the Company's operating subsidiaries enters into either a purchase or sales transaction in a currency other than its functional currency. Currency transaction risk is reduced by matching sales and expenses in the same currency. The Company's U.S. operations have little currency exposure as most purchases, costs and sales are conducted in U.S. dollars. The Company's U.K. operations are exposed to exchange transaction risks, mainly because these operations sell goods priced in euros and U.S. dollars, and purchase raw materials priced in U.S. dollars. The Company also incurs currency transaction risk if it lends currency other than its functional currency to one of its joint venture partners.

At December 31, 2020 and 2019, the Company held various forward foreign currency exchange contracts designated as hedges in respect of forward sales for U.S. dollars, euros, Canadian dollars and Japanese yen for the receipt of GBP sterling or euros. The Company also held forward foreign currency exchange contracts designated as hedges in respect of forward purchases for U.S. dollars, euros, Canadian dollars, Australian dollars and Chinese Yuan by the sale of GBP sterling. The contract totals in GBP sterling and euros, range of maturity dates and range of exchange rates are disclosed below, with the value denominated in GBP sterling given that is the currency the majority of the contracts are held in.

12. Derivatives and Financial Instruments (continued)

December 31, 2020					
Sales hedges	U.S. dollars	Euros	Japanese Yen	Canadian dollars	
Contract totals/£m	3.0	11.1	0.1	0.1	
Maturity dates	01/21 to 03/21	01/21 to 04/21	01/21	01/21	
Exchange rates	\$1.3045 to \$1.3667	€1.0917 to €1.1181	JPY136.89	\$1.7409	
Purchase hedges	U.S. dollars	Euros	Canadian dollars	Australian dollars	Chinese yuan
Contract totals/£m	4.8	1.7	9.4	0.9	0.9
Maturity dates	01/21 to 04/21	01/21 to 02/21	01/21	01/21	03/21
Exchange rates	\$1.3046 to \$1.3667	€1.1065 to €1.0944	\$1.7409 to \$1.7201	\$1.7729	¥8.9184
December 31, 2019					
Sales hedges	U.S. dollars	Euros	Japanese Yen		
Contract totals/£m	0.1	7.6	0.1		
Maturity dates	01/20	01/20 to 03/20	01/20		
Exchange rates	\$1.2914	€1.1551 to €1.1750	JPY142.86		
Purchase hedges	U.S. dollars	Euros	Canadian dollars		
Contract totals/£m	1.3	0.8	7.0		
Maturity dates	03/20	03/20	01/20		
Exchange rates	\$1.3228	€1.1663	\$1.7137 to \$1.7664		

The above contracts are held in GBP sterling, therefore the analysis in the table has been given in GBP sterling to avoid any movements as a result of translation.

Fair value of financial instruments

The following methods were used to estimate the fair values of each class of financial instrument:

Cash at bank and in hand

The carrying value approximates the fair value as a result of the short-term maturity of the instruments. Cash at bank and in hand are subject to a right to offset in the U.S.

Bank loans

At December 31, 2020, bank and other loans of \$54.1 million (2019: \$92.5 million) were outstanding. At December 31, 2020, bank and other loans are shown net of issue costs of \$0.7 million (2019: \$1.1 million), and these issue costs are to be amortized to the expected maturity of the facilities. This carrying value is equal to its fair value. At December 31, 2020, \$4.1 million (2019: \$17.5 million) of the total \$54.1 million (2019: \$92.5 million) bank and other loans was variable interest rate debt and subject to floating interest rate risk, with the remainder being fixed rate debt.

Forward foreign currency exchange rate contracts

The fair value of these contracts was calculated by determining what the Company would be expected to receive or pay on termination of each individual contract by comparison to present market prices.

London metal exchange ("LME") derivative contracts

The fair value of these contracts has been calculated by valuing the contracts against the equivalent forward rates quoted on the LME.

12. Derivatives and Financial Instruments (continued)

Fair value of financial instruments (continued)

The Company uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

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

Level 2: other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly.

Level 3: techniques which use inputs which have a significant effect on the recorded fair value that are not based on observable market data.

The fair values of the financial instruments of the Company at December 31, 2020, were analyzed using the hierarchy as follows:

<i>In millions</i>	Total	Level 1	Level 2	Level 3
Derivative financial assets:				
Foreign currency contract assets	\$ 0.2	\$ —	\$ 0.2	\$ —
Derivative financial liabilities:				
Foreign currency contract liabilities	0.4	—	0.4	—
Interest bearing loans and borrowings:				
Loan Notes due 2023	25.0	—	25.0	—
Loan Notes due 2026	25.0	—	25.0	—
Revolving credit facility	4.1	—	4.1	—

The following table presents the changes in Level 3 instruments for the year ended December 31, 2020.

<i>In millions</i>	2020
Balance at January 1	\$ 0.5
Payments made during year	(0.4)
Remeasurement of deferred consideration (recognized in acquisition-related costs)	(0.1)
Balance at December 31	\$ —
Total gains for the period included in profit and loss	0.1

The deferred contingent consideration above related to estimates of amounts payable in the future regarding acquisitions made in prior years. This deferred contingent consideration was based upon an estimate of the future profitability of the businesses versus targets agreed upon as part of the acquisitions.

13. Income Taxes

Income before income taxes consisted of the following:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
U.K.	\$ 21.0	\$ 13.4	\$ 26.5
International ⁽¹⁾	6.7	2.9	7.7
Income before income taxes	\$ 27.7	\$ 16.3	\$ 34.2

⁽¹⁾ "International" reflects non-U.K. income before income taxes.

The provision for income taxes consisted of the following:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Currently payable			
U.K.	\$ (0.2)	\$ 0.7	\$ 0.4
International ⁽¹⁾	2.3	2.9	6.4
Total current taxes	\$ 2.1	\$ 3.6	\$ 6.8
Deferred			
U.K.	\$ 2.1	\$ 4.5	\$ 2.9
International ⁽¹⁾	2.7	(0.5)	(3.2)
Total deferred taxes	\$ 4.8	\$ 4.0	\$ (0.3)
Total provision for income taxes	\$ 6.9	\$ 7.6	\$ 6.5

⁽¹⁾ "International" reflects non-U.K. income taxes.

Differences between the financial reporting and the corresponding tax basis of assets and liabilities and the different income tax rates and laws applicable to the Company, among other factors, give rise to permanent differences between the statutory tax rate applicable in the U.K. and the effective tax rate presented in the consolidated income statement, which in 2020, 2019 and 2018 were as follows:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Income before income taxes	\$ 27.7	\$ 16.3	\$ 34.2
Provision for income taxes at the U.K. statutory tax rate (2019: 19%, 2018:19%, 2017: 19.25%)	5.3	3.1	6.6
Effect of:			
Non-deductible expenses	1.7	2.7	0.1
Movement in valuation allowances	0.8	1.2	—
Differences in income tax rates in countries where the Company operates ⁽¹⁾	(0.1)	1.1	0.5
Effect of changes in tax rates ⁽²⁾	0.1	(0.1)	0.2
Movement in uncertain tax positions	(0.4)	0.4	0.1
Other	(0.5)	(0.8)	(1.0)
Total provision for income taxes	\$ 6.9	\$ 7.6	\$ 6.5

⁽¹⁾ Refers mainly to the effects of the differences between the statutory income tax rate in the U.K. against the applicable income tax rates of each country where the Company operates.

⁽²⁾ A reduction in the U.K. corporation tax rate was expected to 17% from April 1, 2020 however this decision was reversed in 2020.

13. Income Taxes (continued)

Reconciliations of the beginning and ending gross unrecognized tax benefits were as follows:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Beginning balance	\$ 3.2	\$ 3.2	\$ 2.8
Gross increases based on tax positions related to the current year	0.6	0.6	1.4
Reductions due to expiry of statute of limitations	(1.4)	(0.6)	(1.0)
Ending balance	\$ 2.4	\$ 3.2	\$ 3.2
Non-current	\$ 2.4	\$ 3.2	\$ 3.2

The Company's unrecognized tax benefits relate to the pricing of its various inter-company transactions. Because the transfer pricing calculation is often multifaceted, taking into account economics, finance, industry practice, and functional analysis, a company's transfer pricing position often sits at a particular point along a wide continuum of possible pricing outcomes. The inherent subjectivity in pricing inter-company balances gives rise to measurement uncertainty. Management has considered the valuation uncertainty in determining the measurement of the uncertain tax position. There are no current tax audit examinations. Management estimates that it is reasonably possible that approximately \$1.2 million of our gross unrecognized tax benefits (\$0.2 million of our net unrecognized tax benefits) may be recognized by the end of 2021 as a result of a lapse of the statute of limitations.

At December 31, 2020, 2019 and 2018, there were \$0.5 million, \$0.7 million, and \$0.7 million of unrecognized tax benefits respectively, that if recognized would affect the annual effective tax rate.

The Company recognizes interest accrued and penalties relating to unrecognized tax benefits in the income tax line. During the years ended December 31, 2020, 2019 and 2018, the Company recognized approximately \$0.1, \$nil and \$nil respectively, in interest and penalties.

The following is a summary of the tax years open by major tax jurisdiction:

<i>Jurisdiction</i>	Years open
U.K.	2018 - 2020
U.S. Federal	2017 - 2020
U.S. State and local	2017 - 2020
France	2017 - 2020
Germany	2016 - 2020
China	2017 - 2020
Canada	2016 - 2020

13. Income Taxes (continued)

Taxes have not been provided on undistributed earnings of subsidiaries where it is our intention to reinvest these earnings permanently or to repatriate the earnings only when it is tax efficient to do so. The amount of unremitted earnings at December 31, 2020, was approximately \$56.4 million (at December 31, 2019: \$47.2 million, at December 31, 2018: \$62.4 million). If these earnings were remitted, it is estimated that the additional income tax arising would be approximately \$0.8 million (at December 31, 2019: \$0.7 million, at December 31, 2018: \$0.6 million).

Deferred taxes were recorded in the Consolidated Balance Sheets as follows:

<i>In millions</i>	December 31,	
	2020	2019
Deferred tax assets	\$ 16.5	\$ 15.8
Deferred tax liabilities	(2.0)	(1.9)
Net deferred tax assets	\$ 14.5	\$ 13.9

The tax effects of the major items recorded in deferred tax assets and liabilities were as follows:

<i>In millions</i>	December 31,	
	2020	2019
Deferred tax assets		
Pension benefits	\$ 9.9	\$ 5.8
Accrued liabilities	0.7	0.9
Tax loss and credit carry forwards	25.8	23.8
Share based compensation	1.9	1.4
Other	1.5	4.7
Total deferred tax assets	39.8	36.6
Valuation allowances	(19.3)	(16.2)
Deferred tax assets, net of valuation allowances	\$ 20.5	\$ 20.4
Deferred tax liabilities		
Property, plant and equipment	\$ 1.7	\$ 2.4
Goodwill and other intangibles	3.2	2.7
Other	1.1	1.4
Total deferred tax liabilities	\$ 6.0	\$ 6.5
Net deferred tax assets	\$ 14.5	\$ 13.9

Deferred tax liabilities and assets represent the tax effect of temporary differences between the value of assets and liabilities for financial statement purposes and such values as measured by the relevant jurisdiction's tax laws and regulations. Deferred tax assets and liabilities from the same tax jurisdiction have been netted, resulting in assets and liabilities being recorded under the deferred taxation captions on the consolidated balance sheet.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences and carryforwards become deductible or creditable. Management considers the scheduled reversal of existing taxable temporary differences, projected future taxable income, and tax-planning strategies in making this assessment.

13. Income Taxes (continued)

At December 31, 2020, the Company had carried forward tax losses and tax credits of \$104.2 million (U.K.: \$30.0 million, non-U.K.: \$74.2 million). Carried forward tax losses and tax credits for 2019 were \$94.9 million (U.K.: \$32.8 million, non-U.K.: \$62.1 million) and for 2018 were \$81.0 million (U.K.: \$38.8 million, non-U.K.: \$42.2 million). To the extent that these losses are not already recognized as deferred income taxes assets, and are available to offset against future taxable profits, it is expected that the future effective tax rate would be below the standard rate in the country where the profits are offset. A valuation allowance of \$19.3 million (2019: \$14.9 million, 2018: \$15.0 million) exists for deferred tax benefits related to the tax loss and tax credit carry forwards and other benefits that may not be realized. The apportionment of the valuation allowance between the U.K. and non-U.K. jurisdictions is U.K.: \$3.2 million, non-U.K.: \$16.1 million (2019: U.K.: \$2.8 million, non-U.K.: \$12.1 million; 2018: U.K.: \$4.1 million, non-U.K.: \$10.9 million). The non-U.K. valuation allowances relate predominantly to tax losses in France, Germany and Canada.

Of the carried forward tax losses and tax credits as at December 31, 2020, \$20.0 million expire between 2023 and 2034 and \$84.2 million are available for indefinite carry-forward.

14. Pension Plans

The Company has defined benefit pension plans in the U.K., the U.S. and France. The levels of funding are determined by periodic actuarial valuations. The assets of the plans are generally held in separate trustee-administered funds. The Company also operates defined contribution plans in the U.K., the U.S., Australia and Canada.

The "10% corridor" method for recognizing gains and losses has been adopted. This methodology means that cumulative gains and losses up to an amount equal to 10% of the higher of the liabilities and the assets (the corridor) have no impact on the pension cost. Cumulative gains or losses greater than this corridor are amortized over the average future lifetime of the members in the Plans.

The principal defined benefit pension plans in the Company is the U.K. Luxfer Group Pension Plan ("the Plan"), which closed to new members in 1998, new employees then being eligible for a defined contribution plan. In April 2016, the Plan was closed to further benefit accrual with members being offered contributions to a defined contribution plan. The Company's other arrangements are less significant than the Plan, the largest being the BA Holdings, Inc. Pension Plan in the U.S. In December 2005, this plan was closed to further benefit accrual with members being offered contributions to that company's 401(k) plan. At January 1, 2016, the U.S. pension plans (BA Holdings, Inc. Pension Plan and Luxfer Hourly Pension Plan) merged into one plan.

The following tables present reconciliations of plan benefit obligations, fair value of plan assets and the funded status of pension plans as of and for the years ended December 31, 2020 and 2019:

<i>In millions</i>	2020	2020	2020	2019	2019	2019
	U.K.	U.S./ other	Total	U.K.	U.S./ other	Total
Change in benefit obligations						
Benefit obligation at January 1	\$ 359.2	\$ 47.1	\$ 406.3	\$ 315.2	\$ 46.8	\$ 362
Service cost	—	—	—	—	0.1	0.1
Interest cost	7.0	1.4	8.4	9.2	1.9	11.1
Curtailement gain	—	—	—	—	(1.8)	(1.8)
Settlement gain	—	—	—	—	(2.7)	(2.7)
Actuarial loss	39.7	4.7	44.4	38.4	5.0	43.4
Exchange difference	12.7	—	12.7	10.0	—	10
Benefits paid	(14.7)	(2.5)	(17.2)	(13.6)	(2.2)	(15.8)
Prior service cost	0.1	—	0.1	—	—	—
Benefit obligation at December 31	\$ 404.0	\$ 50.7	\$ 454.7	\$ 359.2	\$ 47.1	\$ 406.3
Change in plan assets						
Fair value of plan assets at January 1	\$ 328.7	\$ 42.4	\$ 371.1	\$ 283.4	\$ 38.6	\$ 322.0
Actual return on assets	27.9	5.1	33.0	45.4	6.7	52.1
Exchange difference	11.2	—	11.2	7.6	—	7.6
Contributions from employer	5.8	—	5.8	5.9	2.0	7.9
Benefits paid	(14.7)	(2.5)	(17.2)	(13.6)	(2.2)	(15.8)
Settlement loss	—	—	—	—	(2.7)	(2.7)
Fair value of plan assets at December 31	\$ 358.9	\$ 45.0	\$ 403.9	\$ 328.7	\$ 42.4	\$ 371.1
Funded status						
Benefit obligations in excess of the fair value of plan assets	\$ (45.1)	\$ (5.7)	\$ (50.8)	\$ (30.5)	\$ (4.7)	\$ (35.2)

The net benefit obligations of \$50.8 million and \$35.2 million at December 31, 2020, and December 31, 2019, respectively, are recorded in non-current liabilities in the consolidated balance sheets.

14. Pension Plans (continued)

The amounts recognized in the consolidated statements of income in respect of the pension plans were as follows:

<i>In millions</i>	2020	2020	2020	2019	2019	2019	2018	2018	2018
	U.K.	U.S. / other	Total	U.K.	U.S. / other	Total	U.K.	U.S. / other	Total
<i>In respect of defined benefit plans:</i>									
Current service cost	\$ —	\$ —	\$ —	\$ —	\$ 0.1	\$ 0.1	\$ —	\$ 0.1	\$ 0.1
Interest cost	7.0	1.4	8.4	9.2	1.9	11.1	8.6	1.8	10.4
Expected return on assets	(12.2)	(2.3)	(14.5)	(13.4)	(2.3)	(15.7)	(14.5)	(2.2)	(16.7)
Curtailement gain	—	—	—	—	(1.8)	(1.8)	—	—	—
Settlement loss	—	—	—	—	0.8	0.8	—	—	—
Amortization of net actuarial loss	2.3	0.3	2.6	2.5	0.6	3.1	2.3	0.4	2.7
Amortization of prior service credit	(0.4)	—	(0.4)	(0.4)	—	(0.4)	(0.5)	—	(0.5)
Total (credit) / charge for defined benefit plans	\$ (3.3)	\$ (0.6)	\$ (3.9)	\$ (2.1)	\$ (0.7)	\$ (2.8)	\$ (4.1)	\$ 0.1	\$ (4.0)
<i>In respect of defined contribution plans:</i>									
Total charge for defined contribution plans	\$ 1.5	\$ 1.9	\$ 3.4	\$ 2.1	\$ 2.1	\$ 4.2	\$ 2.1	\$ 2.3	\$ 4.4
Total charge / (credit) for pension plans	\$ (1.8)	\$ 1.3	\$ (0.5)	\$ —	\$ 1.4	\$ 1.4	\$ (2.0)	\$ 2.4	\$ 0.4

In accordance with ASC 715, defined benefit pension credit is split in the income statement, with \$0.4 million (2019: \$0.3 million; 2018: \$0.7 million) of expenses recognized within sales, general and administrative expenses and a credit of \$4.3 million (2019: \$1.3 million credit; 2018: \$4.7 million credit) recognized below operating income in the income statement. In 2019 a credit of \$1.8 million was recognized in relation to the curtailment gain on the French pension plan, recognized in restructuring charge.

The following table shows other changes in plan assets and benefit obligations recognized in other comprehensive loss ("AOCI") during the years ended December 31:

<i>In millions</i>	2020	2019	2018
Net actuarial (loss)	\$ (26.9)	\$ (7.5)	\$ 1.4
Amortization of actuarial loss	2.6	3.1	2.7
Prior service cost	(0.1)	—	(2.2)
Amortization of prior service credit	(0.4)	(0.4)	(0.5)
Total recognized in other comprehensive loss	(24.8)	(4.8)	1.4
<i>Total credit recognized in net periodic benefit cost and other comprehensive income</i>	\$ (20.9)	\$ (2.0)	\$ 5.4

The estimated net loss for defined benefit plans included in AOCI that will be recognized in net periodic benefit cost during 2021 is \$3.4 million, consisting of amortization of net actuarial loss of \$3.8 million, partially offset by amortization of prior service credit of \$0.4 million.

The following table shows the amounts included in AOCI that have not yet been recognized as components of net periodic benefit cost for the years ended December 31:

<i>In millions</i>	2020	2019
Net actuarial loss	\$ (165.1)	\$ (140.8)
Net prior service credit	11.8	12.3
Total included in AOCI not yet recognized in the statement of loss	\$ (153.3)	\$ (128.5)

14. Pension Plans (continued)

In September 2019, the UK Statistics Authority announced plans to reform the RPI inflation index. On November 25, 2020, the government and UK Statistics Authority confirmed these plans to reform the RPI index to bring it into line with the CPIH index from 2030, with no compensation for the holders of index-linked gilts. Inflation measured by the CPIH is consistently significantly lower than that measured by RPI, and therefore these plans imply a significant expected reduction in RPI inflation from 2030 onwards. As a result of this we have taken a stepped approach and used different inflation rates pre and post 2030.

The financial assumptions used in the calculations were:

	Projected Unit Credit Valuation					
	U.K.			U.S.		
	2020	2019	2018	2020	2019	2018
	%	%	%	%	%	%
Discount rate	1.40	2.10	2.90	2.30	3.10	4.20
Expected return on assets	3.00	4.10	4.90	5.00	6.20	6.20
Pre-2030						
Retail Price Inflation	2.90	2.90	3.30	n/a	n/a	n/a
Consumer Price Inflation	1.80	2.00	2.20	n/a	n/a	n/a
Pension increases						
Pre 6 April 1997	1.70	1.80	2.00	n/a	n/a	n/a
1997 - 2005	1.90	2.10	2.20	n/a	n/a	n/a
Post 5 April 2005	1.60	1.70	1.80	n/a	n/a	n/a
Post-2030						
Retail Price Inflation	2.70	2.90	3.30	n/a	n/a	n/a
Consumer Price Inflation	2.60	2.00	2.20	n/a	n/a	n/a
Pension increases						
Pre 6 April 1997	2.20	1.80	2.00	n/a	n/a	n/a
1997 - 2005	2.60	2.10	2.20	n/a	n/a	n/a
Post 5 April 2005	2.00	1.70	1.80	n/a	n/a	n/a

The discount rate used represents the annualized yield based on a cash-flow matched methodology with reference to an AA corporate bond spot curve and having regard to the duration of the Plan's liabilities. The inflation rate is derived using a similar cash flow matched methodology as used for the discount rate but having regard to the difference between yields on fixed-interest and index-linked United Kingdom government gilts. The expected return on assets assumption is set having regard to the asset allocation and expected return on each asset class as at the balance sheet date.

Other principal actuarial assumptions:	2020	2019
	Years	Years
Life expectancy of male / female in the U.K. aged 65 at accounting date	21.5 / 24.3	21.5 / 24.2
Life expectancy of male / female in the U.K. aged 65 at 20 years after accounting date	22.9 / 25.8	22.8 / 25.7

Investment strategies

For the principal defined benefit plan in the Company and the U.K., the Luxfer Group Pension Plan, the assets are invested in a diversified range of asset classes and include matching assets (comprising fixed-interest and index-linked bonds and swaps) and growth assets (comprising all other assets). The Trustees of the Plan have formulated a de-risking strategy to help control the short-term risk of volatility associated with holding growth assets. The Trustees also monitor the cost of a buy-in to secure pensioner liabilities with an insurance company to ensure they and the Company are able to act if such an opportunity arises. Other options to progressively reduce the scale of the liabilities are discussed between the Trustees and the Company.

14. Pension Plans (continued)

Risk exposures

The plans hold a high proportion of assets in equity and other growth investments, with the intention of growing the value of assets relative to liabilities. The Company is at risk if the value of liabilities grows at a faster rate than the plans assets, or if there is a significant fall in the value of these assets not matched by a fall in the value of liabilities. If these events occurred, this would be expected to lead to an increase in the Company's future cash contributions.

Special events

In June 2019, the closure of Luxfer Gas Cylinders' French site affected the French pension plan. This resulted in a curtailment gain of \$1.8 million and triggered immediate recognition of the unamortized net actuarial losses of \$0.3 million.

In December 2019, the U.S. plan offered deferred members the opportunity to receive a lump sum in respect of their benefits in the Plan. The result of this exercise was that lump sums totaling \$2.7 million were paid out with a corresponding \$3.6 million of defined benefit obligation being extinguished. This triggered immediate recognition of the unamortized net actuarial losses of \$0.8 million.

In October 2018, following a High Court ruling in the U.K., a \$2.2 million allowance in relation to the expected future costs of equalizing Guaranteed Minimum Pensions (GMPs) in the U.K. Plan has been included in the obligations on the balance sheet at December 31, 2018. An additional obligation of \$0.1 million was recognized at December 31, 2020 following a further U.K. ruling in November 2020 to equalize GMP benefits post 1990 for those members that have since transferred out of the Plan. The total allowance is being amortized in the income statement over the future lifetime of the Plan members.

The fair value of plan assets were:

<i>In millions</i>	2020	2020	2020	2019	2019	2019
	U.K.	U.S./ other	Total	U.K.	U.S./ other	Total
Assets in active markets:						
Equities and growth funds	\$ 152.3	\$ 26.9	\$ 179.2	\$ 146.8	\$ 26.2	\$ 173.0
Government bonds	63.1	—	63.1	52.7	—	52.7
Corporate bonds	141.6	18.1	159.7	129.1	16.2	145.3
Cash	1.9	—	1.9	0.1	—	0.1
Total fair value of plan assets	<u>\$ 358.9</u>	<u>\$ 45.0</u>	<u>\$ 403.9</u>	<u>\$ 328.7</u>	<u>\$ 42.4</u>	<u>\$ 371.1</u>

All investments were classified as Level 2 in the fair value hierarchy as of December 31, 2020 and December 31, 2019.

The following benefit payments are expected to be paid by the plans for the years ended December 31 as follows:

<i>In millions</i>	U.K. pension plans	U.S./ other pension plans
2021	\$ 15.0	\$ 2.5
2022	15.3	2.5
2023	15.6	2.5
2024	15.8	2.5
2025	16.1	2.5
Thereafter	<u>84.5</u>	<u>12.3</u>

The estimated amount of employer contributions expected to be paid to the defined benefit pension plans for the year ending December 31, 2021, is \$5.8 million (2020: \$5.8 million actual employer contributions).

15. Shareholders' Equity

(a) Ordinary share capital

	December 31, 2020 No.	December 31, 2019 No.	December 31, 2020 Millions	December 31, 2019 Millions
Authorized:				
Ordinary shares of £0.50 each	40,000,000	40,000,000	\$ 35.7 (1)	\$ 35.7 (1)
Deferred ordinary shares of £0.0001 each	761,835,338,444	761,835,338,444	149.9 (1)	149.9 (1)
	<u>761,875,338,444</u>	<u>761,875,338,444</u>	<u>\$ 185.6 (1)</u>	<u>\$ 185.6 (1)</u>
Allotted, called up and fully paid:				
Ordinary shares of £0.50 each	29,000,000	29,000,000	\$ 26.6 (1)	\$ 26.6 (1)
Deferred ordinary shares of £0.0001 each	761,835,338,444	761,835,338,444	149.9 (1)	149.9 (1)
	<u>761,864,338,444</u>	<u>761,864,338,444</u>	<u>\$ 176.5 (1)</u>	<u>\$ 176.5 (1)</u>

(1) The Company's ordinary and deferred share capital are shown in U.S. dollars at the exchange rate prevailing at the month-end spot rate at the time of the share capital being issued.

The rights of the shares are as follows:

Ordinary shares of £0.50 each

The ordinary shares carry no entitlement to an automatic dividend but rank *pari passu* in respect of any dividend declared and paid. The ordinary shares were allotted and issued to satisfy share awards which vested under the Company's share award and share incentive plans.

At December 31, 2020, there were 27,636,153 (2019: 27,431,283) ordinary shares of Luxfer Holdings PLC listed on the New York Stock Exchange (NYSE).

Deferred ordinary shares of £0.0001 each

The deferred shares have no entitlement to dividends or to vote. On a liquidation, (but not otherwise) the holders of the deferred shares shall be entitled to the repayment of the paid up nominal amount of the deferred shares, but only after any payment to the holders of ordinary shares of an amount equal to 100 times the amount paid up on such ordinary shares.

(b) Treasury Shares

In millions

At January 1, 2019	\$ (4.3)
Utilization of treasury shares	0.3
At December 31, 2019	<u>(4.0)</u>
At December 31, 2020	<u>\$ (4.0)</u>

In June 2015, the Board announced a share buy-back program of up to \$10 million to cover the needs of employee share plans. Shareholder approval for this program was granted at the 2014 Annual General Meeting (for repurchases up to an aggregate amount of 2,700,000 ordinary shares or ADSs).

During 2019 and 2020, no ordinary shares were repurchased under the share buy-back program. At December 31, 2020, there were 350,335 (2019: 352,499) treasury shares held at a cost of \$4.0 million (2019: \$4.0 million).

15. Shareholders' Equity (continued)

(c) *Own shares held by ESOP*

<i>In millions</i>	
At January 1, 2019	\$ (2.2)
Shares sold from ESOP	0.2
Utilization of ESOP shares	0.3
At December 31, 2019	(1.7)
Shares sold from ESOP	0.3
At December 31, 2020	<u>\$ (1.4)</u>

At December 31, 2020, there were 1,013,512 ordinary shares of £0.50 each (2019: 1,216,220 ordinary shares of £0.50 each) held by The Luxfer Group Employee Share Ownership Plan (the "ESOP").

(d) *Dividends paid and proposed*

<i>In millions</i>	2020	2019	2018
Dividends declared and paid during the year:			
Interim dividend paid February 7, 2018 (\$0.125 per ordinary share)	\$ —	\$ —	\$ 3.4
Interim dividend paid May 2, 2018 (\$0.125 per ordinary share)	—	—	3.3
Interim dividend paid August 1, 2018 (\$0.125 per ordinary share)	—	—	3.3
Interim dividend paid November 7, 2018 (\$0.125 per ordinary share)	—	—	3.4
Interim dividend paid February 6, 2019 (\$0.125 per ordinary share)	—	3.4	—
Interim dividend paid May 1, 2019 (\$0.125 per ordinary share)	—	3.4	—
Interim dividend paid August 7, 2019 (\$0.125 per ordinary share)	—	3.4	—
Interim dividend paid November 6, 2019 (\$0.125 per ordinary share)	—	3.4	—
Interim dividend paid February 5, 2020 (\$0.125 per ordinary share)	3.4	—	—
Interim dividend paid May 6, 2020 (\$0.125 per ordinary share)	3.4	—	—
Interim dividend paid August 5, 2020 (\$0.125 per ordinary share)	3.4	—	—
Interim dividend paid November 4, 2020 (\$0.125 per ordinary share)	3.4	—	—
	<u>\$ 13.6</u>	<u>\$ 13.6</u>	<u>\$ 13.4</u>

<i>In millions</i>	2020	2019	2018
Dividends declared and paid after December 31 (not recognized as a liability at December 31):			
Interim dividend paid February 6, 2019: (\$0.125 per ordinary share)	\$ —	\$ —	\$ 3.4
Interim dividend paid February 5, 2020: (\$0.125 per ordinary share)	—	3.4	—
Interim dividend paid February 4, 2021: (\$0.125 per ordinary share)	3.4	—	—
	<u>\$ 3.4</u>	<u>\$ 3.4</u>	<u>\$ 3.4</u>

16. Share Plans

(a) *The Luxfer Group Employee Share Ownership Plan*

The trust

In 1997, the Company established an employee benefit trust ("the ESOP") with independent Trustees, to purchase and hold shares in the Company in trust to be used to satisfy options granted to eligible senior employees under the Company's share plans established from time to time.

The ESOP was established with the benefit of a gift equivalent to the set up and running costs. Purchase monies and costs required by the ESOP Trustees to purchase shares for and under the provisions of the trust are provided by way of an interest free loan from a Company subsidiary. The loan is repayable, in normal circumstances, out of monies received from senior employees when they exercise options granted to them over shares. Surplus shares are held by the ESOP Trustees to satisfy future option awards. The ESOP Trustees have waived their right to receive dividends on shares held in trust. The Remuneration Committee is charged with determining which senior employees are to be granted options and in what number subject to the relevant plan rules.

The current plan

The current share option plan, implemented by the Company in February 2007 is The Luxfer Holdings Executive Share Option Plan ("the Plan"), which consists of two parts. Part A of the Plan is approved by HM Revenue & Customs and Part B is unapproved. Options can be exercised at any time up to the tenth anniversary of their grant subject to the rules of the relevant part of the Plan. As a result of the Company's initial public offering of ordinary shares in 2012, all leaver restrictions over the shares were released. There are no other performance criteria attached to the options.

Changes in the year

The change in the number of shares held by the Trustees of the ESOP and the number of share options held over those shares are shown below:

	Number of shares held by ESOP Trustees	
	£0.0001 deferred shares	£0.50 ordinary shares
At January 1, 2020	15,977,968,688	1,216,220
Shares utilized during the year	—	(131,909)
Shares sold from the ESOP during the year	—	(70,799)
At December 31, 2020	15,977,968,688	1,013,512

At December 31, 2020, the loan outstanding from the ESOP was \$0.6 million (2019: \$0.6 million).

The market value of each £0.50 ordinary share held by the ESOP at December 31, 2020, was \$16.42 (2019: \$18.51).

(b) *Share-based compensation*

Luxfer Holdings PLC Long-Term Umbrella Incentive Plan and Luxfer Holdings PLC Non-Executive Directors Equity Incentive Plan

As an important retention tool and to align the long-term financial interests of our management with those of our shareholders, the Company adopted the Luxfer Holdings PLC Long-Term Umbrella Incentive Plan (the "LTIP") for the Company's senior employees, and the Luxfer Holdings PLC Non-Executive Directors Equity Incentive Plan (the "Director EIP") for the Non-Executive Directors.

The equity or equity-related awards under the LTIP and the Director EIP are based on the ordinary shares of the Company. The Remuneration Committee administers the LTIP and has the power to determine to whom the awards will be granted, the amount, type and other terms. Awards granted under the LTIP generally vest one-quarter each year over a four-year period, subject to continuous employment and certain other conditions, with the exercise period expiring six years after grant date. Awards granted under the Director EIP are non-discretionary, are purely time-based and vest over one year, with settlement occurring immediately on vesting.

16. Share Plans (continued)

(b) *Share-based compensation (continued)*

Share option and restricted stock awards

In March 2020, a combined 132,900 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over four years and expiring two years later. In May 2020, a combined 2,000 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over four years and expiring two years later. In June 2020, a combined 27,280 of Restricted Stock Units and Options over ordinary shares were granted under the Director EIP, which were all time-based awards that would fully vest one year later. In September 2020, a combined 3,892 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over four years and expiring two years later.

In March 2019, a combined 196,320 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over four years and expiring two years later. In May 2019, a combined 3,981 of Restricted Stock Units and Options over ordinary shares were granted under the Director EIP, which were all time-based awards that would fully vest one year later. In December 2019, a combined 6,000 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over four years and expiring two years later.

In March 2018, a combined 432,600 of Restricted Stock Units and Options over ordinary shares were granted under the LTIP, which were all time-based awards vesting over three years and expiring two years later. In April 2018, a combined 11,936 of Restricted Stock Units and Options over ordinary shares were granted under the Director EIP, of which 2,000 would vest over three years and 9,936 would fully vest one year later. The Director EIP are all time-based awards.

In January 2018, Heather Harding was granted share options in respect of her appointment to the role of Chief Financial Officer. These time, and performance-based options were outside the terms of reference of the LTIP but granted in accordance with the provisions of the Remuneration Policy. The details of the awards are as follows:

The Remuneration Committee determined that the new Chief Financial Officer should acquire 21,000 nominal cost RSUs to vest over three years.

Performance-based awards amounting to 30,000 shares should be made to the new Chief Financial Officer which would vest upon achievement of attaining a specified adjusted diluted EPS target at each annual measurement date. Three levels of target were set:

- The lower target must be achieved by the measurement date at the end of 2020 and will result in the vesting of 5,000 shares.
- The mid-point target must be achieved by the measurement date at the end of 2022 and will result in the vesting of a further 10,000 shares.
- The top target must be achieved by the measurement date at the end of 2024 and will result in the vesting of a further 15,000 shares.

These awards have vested in full at the maximum level as all performance criteria were confirmed as having been met by the Remuneration Committee in the first quarter of 2019.

16. Share Plans (continued)

(b) Share-based compensation (continued)

Total share-based compensation expense for 2020, 2019 and 2018 was as follows:

<i>In millions</i>	Years ended December 31,		
	2020	2019	2018
Total share-based compensation charges	\$ 2.8	\$ 4.5	\$ 4.8

There were no cancellations or modifications to the awards in 2020, 2019 or 2018.

The actual tax benefit realized for the tax deductions from option exercises totaled \$0.6 million, \$0.9 million and \$0.2 million in 2020, 2019 and 2018, respectively.

The following tables illustrates the number of, and movements in, share options during the year, with each option relating to 1 ordinary share:

	Number of shares	Weighted-average exercise price	Weighted-average remaining contractual life (years)	Aggregate intrinsic value (\$M)
At January 1, 2020	467,362	\$ 0.75	1.7	\$ 8.7
Granted during the year	166,072	\$ 1.00		
Exercised during the year	(222,375)	\$ 0.71		
Accrued dividend awards	14,727	\$ 0.84		
Lapsed during the year	(12,982)	\$ 0.90		
At December 31, 2020	412,804	\$ 0.87	1.9	\$ 6.8
Options exercisable at December 31, 2020	11,495	\$ 0.66	2.4	\$ 0.2
Options expected to vest as of December 31, 2020	401,309	\$ 0.88	1.9	\$ 6.6

The weighted average fair value of options granted in 2020, 2019 and 2018 was estimated to be \$9.41, \$17.65 and \$11.02 per share, respectively. The total intrinsic value of options that were exercised during 2020, 2019 and 2018 was \$3.0 million, \$11.2 million and \$9.3 million, respectively. At December 31, 2020, the total unrecognized compensation cost related to share options was \$2.2 million (2019: \$2.7 million). This cost is expected to be recognized over a weighted average period of 1.3 years (2019: 1.3 years).

The following table illustrates the assumptions used in deriving the fair value of share options during the year:

	2020	2019	2018
Dividend yield (%)	3.39 - 4.09	2.10	4.00
Expected volatility range (%)	36.48 - 56.28	35.06 - 44.20	22.65 - 35.77
Risk-free interest rate (%)	0.18 - 0.49	0.74 - 2.52	0.12 - 2.57
Expected life of share options range (years)	0.50 - 4.00	0.50 - 4.00	0.50 - 6.00
Forfeiture rate (%)	5.00	5.00	5.00
Weighted average exercise price (\$)	\$1.00	\$1.00	\$0.65
Models used	Black-Scholes & Monte-Carlo	Black-Scholes & Monte-Carlo	Black-Scholes & Monte-Carlo

The expected life of the share options is based on historical data and current expectations and is not necessarily indicative of exercise patterns that may occur. The expected volatility reflects the assumption that the historical volatility over a period similar to the life of the options is indicative of future trends, which may not necessarily be the actual outcome.

Employee share incentive plans

The Company operates an all-employee share incentive plan in its U.K. and U.S. operations and may look to implement plans in other geographic regions.

17. Segmental Information

We classify our operations into two core business segments, Gas Cylinders and Elektron, based primarily on shared economic characteristics for the nature of the products and services; the nature of the production processes; the type or class of customer for their products and services; the methods used to distribute their products or provide their services; and the nature of the regulatory environment. The Company has four identified business units, which aggregate into the two reportable segments. Luxfer Gas Cylinders forms the Gas Cylinders segment, and Luxfer MEL Technologies, Luxfer Magtech and Luxfer Graphic Arts aggregate into the Elektron segment. The Superform business unit, used to aggregate into the Gas Cylinders segment, but is now recognized within discontinued operations. Prior to its sale at the end of the second quarter of 2019, there was a further business unit, Luxfer Czech Republic which was part of the Elektron segment. A summary of the operations of the segments is provided below:

Gas Cylinders segment

Our Gas Cylinders segment manufactures and markets specialized products using carbon composites and aluminum, including pressurized cylinders for use in various applications including self-contained breathing apparatus (SCBA) for firefighters, containment of oxygen and other medical gases for healthcare, alternative fuel vehicles, and general industrial.

Elektron segment

Our Elektron segment focuses on specialty materials based primarily on magnesium and zirconium, with key product lines including advanced lightweight magnesium alloys with a variety of uses across a variety of industries; magnesium powders for use in countermeasure flares, as well as heater meals; photoengraving plates for graphic arts; and high-performance zirconium-based materials and oxides used as catalysts and in the manufacture of advanced ceramics, fiber-optic fuel cells, and many other performance products.

Other

Other primarily represents unallocated corporate expense and includes non-service related defined benefit pension cost / credit.

Management monitors the operating results of its reportable segments separately for the purpose of making decisions about resource allocation and performance assessment. Segment performance is evaluated by the chief operating decision maker, who is responsible for allocating resources and assessing performance of the operating segments and has been identified as the CEO, using adjusted EBITA⁽¹⁾ and adjusted EBITDA, which is defined as segment income and is based on operating income adjusted for share based compensation charges; loss on disposal of property, plant and equipment, restructuring charges; impairment charges; acquisition and disposal related gains and costs; other charges; depreciation and amortization; and unwind of discount on deferred consideration.

Unallocated assets and liabilities include those which are held on behalf of the Company and cannot be allocated to a segment, such as taxation, investments, cash, retirement benefits obligations, bank and other loans and holding company assets and liabilities.

Financial information by reportable segment for the years ended December 31, is included in the following summary:

<i>In millions</i>	Net Sales			Adjusted EBITDA		
	2020	2019	2018	2020	2019	2018
Gas Cylinders segment	\$ 141.9	\$ 153.5	\$ 152.1	\$ 21.3	\$ 22.3	\$ 23.4
Elektron segment	182.9	219.9	249.8	32.6	44.8	56.2
Consolidated	\$ 324.8	\$ 373.4	\$ 401.9	\$ 53.9	\$ 67.1	\$ 79.6

During 2020, 2019 and 2018 there were \$0.4 million of sales made from the Elektron segment to the Gas Cylinders segment.

<i>In millions</i>	Depreciation and amortization			Restructuring Charges		
	2020	2019	2018	2020	2019	2018
Gas Cylinders segment	\$ 3.7	\$ 3.6	\$ 5.2	\$ 7.9	\$ 20.7	\$ 9.8
Elektron segment	9.6	9.6	11.7	0.9	5.2	3.4
Other segment	—	—	—	0.1	—	—
Consolidated	\$ 13.3	\$ 13.2	\$ 16.9	\$ 8.9	\$ 25.9	\$ 13.2

⁽¹⁾ Adjusted EBITA is adjusted EBITDA less depreciation and loss on disposal of property, plant and equipment.

17. Segmental Information (continued)

<i>In millions</i>	Total assets		Capital expenditure		
	2020	2019	2020	2019	2018
Gas Cylinders segment	\$ 99.7	\$ 113.1	\$ 2.0	\$ 3.1	\$ 2.1
Elektron segment	189.7	200.8	5.1	10.9	10.5
Other	24.7	33.5	—	—	0.3
Discontinued operations	32.3	42.9	0.3	0.8	0.7
	\$ 346.4	\$ 390.3	\$ 7.4	\$ 14.8	\$ 13.6

The following table presents a reconciliation of Adjusted EBITDA to net income from continuing operations:

<i>In millions</i>	2020	2019	2018
Adjusted EBITDA	\$ 53.9	\$ 67.1	\$ 79.6
Other share based compensation charges	(2.8)	(4.5)	(4.8)
Loss on disposal of property, plant and equipment	(0.1)	(0.2)	(0.3)
Depreciation and amortization	(13.3)	(13.2)	(16.9)
Unwind discount on deferred consideration	—	(0.2)	(0.2)
Restructuring charges	(8.9)	(25.9)	(13.2)
Impairment credit / (charge)	—	0.2	(5.9)
Acquisition costs	—	(1.4)	(4.3)
Other charges	(0.4)	(2.5)	—
Defined benefits pension gain	4.3	1.3	4.7
Interest expense, net	(5.0)	(4.4)	(4.5)
Provision for taxes	(6.9)	(7.6)	(6.5)
Net income from continuing operations	\$ 20.8	\$ 8.7	\$ 27.7

Equity income of unconsolidated affiliates for 2020, 2019 and 2018 relates predominantly to the Gas Cylinders Segment.

17. Segmental Information (continued)

The following tables present certain geographic information by geographic region for the years ended December 31,:

	Net Sales ⁽¹⁾					
	2020		2019		2018	
	\$M	Percent	\$M	Percent	\$M	Percent
United States	\$ 173.0	53.3 %	\$ 201.4	53.9 %	\$ 205.5	51.2 %
U.K.	18.7	5.8 %	23.9	6.4 %	28.6	7.1 %
Germany	15.7	4.8 %	21.8	5.8 %	41.8	10.4 %
Italy	10.5	3.2 %	13.3	3.6 %	12.6	3.1 %
France	20.2	6.2 %	15.9	4.3 %	16.4	4.1 %
Top five countries	\$ 238.1	73.3 %	\$ 276.3	74.0 %	\$ 304.9	75.9 %
Rest of Europe	25.4	7.8 %	37.7	10.1 %	32.7	8.1 %
Asia Pacific	45.2	13.9 %	42.8	11.5 %	48.0	11.9 %
Other ⁽²⁾	16.1	5.0 %	16.6	4.4 %	16.3	4.1 %
	\$ 324.8		\$ 373.4		\$ 401.9	

<i>In millions</i>	Property, plant and equipment, net	
	2020	2019
United States	\$ 44.3	\$ 48.6
United Kingdom	36.6	36.7
Canada	3.7	3.6
Rest of Europe	1.1	1.0
Asia Pacific	0.3	0.3
	\$ 86.0	\$ 90.2

(1) Net sales are based on the geographic destination of sale.

18. Leases

We have operating leases for buildings, vehicles and certain equipment. The majority of our leases have remaining lease terms of one to nine years, with one building having 53 years remaining.

The components of the lease expense is as follows:

<i>In millions</i>	Year to date		
	2020	2019	2018
Operating lease cost	\$ 3.8	\$ 4.1	\$ 4.8

None of our leases were classified as finance leases in any of the years disclosed.

Supplemental cash flow information related to leases was as follows:

<i>In millions</i>	Year-to-date		
	2020	2019	2018
Operating cash flows from operating leases	\$ 3.8	\$ 4.1	\$ 4.8

Supplemental balance sheet information related to leases was as follows:

<i>In millions</i>	December 31,	
	2020	2019
Operating leases		
Operating lease right-of-use asset	\$ 9.5	\$ 11.0
Other current liabilities	2.9	2.3
Other non-current liabilities	6.7	8.9
	\$ 9.6	\$ 11.2
Weighted Average Remaining Lease Term (Years)	21.9	17.1
Weighted Average Discount Rate	4.43 %	4.46 %

Maturities of lease liabilities were as follows:

<i>In millions</i>	2020
2021	\$ 2.4
2022	1.7
2023	1.5
2024	1.1
2025	0.7
Thereafter	8.5
Total lease payments	\$ 15.9
Less imputed interest	(6.3)
Total	\$ 9.6

19. Commitments and Contingencies

Capital commitments

At December 31, 2020, the Company had capital expenditure commitments of \$1.1 million (2019: \$1.0 million and 2018: \$2.5 million) for the acquisition of new plant and equipment.

Committed banking facilities

At December 31, 2020 and 2019 the Company had committed banking facilities of \$150.0 million. Of the committed facilities, \$4.1 million was drawn at December 31, 2020 (2019: \$17.5 million).

The Company had a separate (uncommitted) facility for letters of credit which at December 31, 2020 and 2019 was £1.0 million (\$1.3 million). None of this were utilized at December 31, 2020 and 2019 respectively.

The Company also has two separate (uncommitted) bonding facilities for bank guarantees; one denominated in GBP sterling of £4.5 million (2020: \$6.1 million, 2019: \$5.9 million), and one denominated in USD of \$1.5 million (2019: \$0.4 million). Of that dominated in GBP, £1.0 million (\$1.4 million) was utilized at December 31, 2020 (2019: £1.6 million / \$2.3 million). Of that denominated in USD, \$0.8 million was utilized in December 31, 2020 (2019: fully utilized).

Contingencies

During February 2014, a cylinder was sold to a long-term customer and ruptured at one of their gas facilities. As a result of this rupture, three people were noted to have injuries such as loss of hearing. There was no major damage to assets of the customer. A claim has been launched by the three people who were injured in the incident. We have reviewed our quality control checks from around the time which the cylinder was produced and no instances of failures have been noted. It has also been noted by the investigator that the customer has poor quality and safety checks. As a result we do not believe that we are liable for the incident, and therefore, do not currently expect this case to have a material impact on the Company's financial position or results of operations.

In November 2018, an alleged explosion occurred at a third-party waste disposal and treatment site in Boise, Idaho, reportedly causing property damage, personal injury, and one fatality. We had contracted with a service company for removal and disposal of certain waste resulting from the magnesium powder manufacturing operations at the Reade facility in Manchester, New Jersey. We believe this service company, in turn, apparently contracted with the third-party disposal company, at whose facility the explosion occurred, for treatment and disposal of the waste. In November 2020, we were named as a defendant in three lawsuits in relation to the incident – one by the third-party disposal company, one by the estate of the decedent, and one by an injured employee of the third-party disposal company. At present, we have received insufficient information on the cause of the explosion. We do not believe that we are liable for the incident, have asserted such, and, therefore, do not currently expect this matter to have a material impact on the Company's financial position or results of operations.

20. Selected Quarterly Data (unaudited)

The following tables present 2020 and 2019 quarterly financial information for continuing operations:

	2020				
<i>In millions, except per-share data</i>	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
Net sales	\$ 88.4	\$ 76.6	\$ 77.7	\$ 82.1	\$ 324.8
Gross profit	24.1	18.0	18.9	19.9	80.9
Operating income	9.0	5.8	5.3	8.4	28.5
Net income	7.2	4.6	2.4	6.6	20.8
Earnings per ordinary share⁽¹⁾					
Basic earnings per ordinary share	\$ 0.26	\$ 0.17	\$ 0.09	\$ 0.24	\$ 0.75
Diluted earnings per ordinary share	0.26	0.16	0.09	0.24	0.74
	2019				
<i>In millions, except per-share data</i>	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
Net sales	\$ 102.3	\$ 98.0	\$ 90.8	\$ 82.3	\$ 373.4
Gross profit	29.2	30.4	24.4	19.7	\$ 103.7
Operating (loss) / income	(0.5)	5.9	7.1	6.2	\$ 18.7
Net (loss) / income	(3.3)	4.1	6.3	1.6	\$ 8.7
(Loss) / earnings per ordinary share⁽¹⁾					
Basic (loss) / earnings per ordinary share	\$ (0.12)	\$ 0.15	\$ 0.23	\$ 0.06	\$ 0.32
Diluted (loss) / earnings per ordinary share	(0.12)	0.15	0.23	0.06	0.31

(1) Amounts may not total to annual earnings because each quarter and year are calculated separately based on basic and diluted weighted-average ordinary shares outstanding during the period.

21. Related-Party Transactions

Joint venture in which the Company is a venturer

In July 2020, the Company sold its 51% investment in the equity of its previous joint venture (see note 3 *Acquisitions and Disposals*), Luxfer Uttam India Private Limited. During 2020, prior to the sale, the Gas Cylinders segment made \$1.5 million (2019: \$6.4 million) of sales to the joint venture. At December 31, 2020, the entity was no longer a related-party. At December 31, 2019 the gross amounts receivable from the joint venture amounted to \$2.9 million and the net amounts receivable amounted to \$2.7 million.

In addition, in 2018 we transferred goods to Luxfer Uttam on extended credit terms with a sales value of \$1.6 million, where we did not deem it to be probable that we would collect substantially all of the consideration. In accordance with ASC 606, *Revenue from Contracts with Customers*, we did not recognize any revenue in relation to this transaction in 2018, however, this revenue was recognized, in full, during 2019.

During 2020, the Company also maintained its 50% investment in the equity of the joint venture, Nikkei-MEL Company Limited. During 2020, the Elektron segment made \$0.6 million of sales to the joint venture (2019: \$0.7 million). At December 31, 2020, the gross and net amounts receivable from the joint venture amounted to \$0.2 million (2019: \$0.1 million).

Associates in which the Company holds an interest

During 2020, Sub161 Pty Limited, in which the Company held 26.4% equity, was liquidated as it no longer traded. During 2020, the Company made \$nil sales (2019: \$nil) to the associate. At December 31, 2020, the amounts receivable from the associate denominated in Australian dollars was \$nil (2019: \$nil).

Transactions with other related parties

At December 31, 2020, the directors and key management comprising the members of the Executive Leadership Team, owned 425,413 £0.50 ordinary shares (2019: 377,424 £0.50 ordinary shares) and held awards over a further 248,522 £0.50 ordinary shares (2019: 302,752 £0.50 ordinary shares).

During the years ended December 31, 2020 and December 31, 2019, share options held by members of the Executive Leadership Team were exercised.

Cherokee Properties Inc. represented a related party in 2019 due to its association with Chris Barnes, who was until July 2019 the president of one of our operating segments and is the president of Cherokee Properties Inc. During 2019, we engaged with Cherokee Properties Inc. for rental and associated costs regarding our manufacturing site in Madison, IL, for the value of \$1.1 million. We continue to engage with Cherokee Properties Inc. although not as a related-party.

Other than the transactions with the joint ventures, associates and key management personnel disclosed above, no other related-party transactions have been identified.

22. Subsequent Events

No material subsequent events.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None

Item 9A. Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures for the period covered by this report, pursuant to Rule 13a-15(b) of the Securities Exchange Act of 1934 (the "Exchange Act"). Based upon their evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the year ended December 31, 2020, to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms and to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosures.

Management's Annual Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company as defined in Rules 13a-15(f) or 15d-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

Management has performed an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2020, based on the framework and criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework).

Based on this evaluation, management has concluded that internal control over financial reporting was effective as of December 31, 2020.

Remediation of Prior Material Weakness - Implementation of new ERP system

As previously disclosed, as a result of a new ERP system implementation in the fourth quarter of 2019, there were control deficiencies identified that led to a material weakness in our internal control over financial reporting as of December 31, 2019.

The Company did not maintain effective controls over certain IT general controls for the new ERP system. Specifically, the Company did not (a) adequately tailor privileged access to the financial application, programs, and data or sufficiently evidence the monitoring of such access; (b) adequately approve exceptions to segregation of duties in respect of the ability to develop and implement changes to the IT production environment; and (c) ensure that it appropriately used complete and accurate information in performing monitoring and oversight controls. In addition, as a consequence of the system implementation, the Company did not design, implement and consistently operate effectively certain process-level controls in the fourth quarter of 2019 and into 2020 in respect of the appropriate recording, accounting, and review of certain transactions and accounts; and ensure the completeness and accuracy of system-generated information used in performing certain IT-dependent manual controls.

In response, management has taken the following actions:

- i. implemented enhanced controls to monitor and document privileged access to, and segregation of duties within the ERP system;
- ii. implemented process improvements designed to ensure the completeness and accuracy of system-generated information used in performing IT-dependent manual controls; and
- iii. updated the design of certain process-level controls in respect of the appropriate recording, accounting and review of transactions.

Based on testing performed, as of December 31, 2020, management has concluded that these controls are operating effectively and the material weakness has been remediated.

Attestation Report of Independent Registered Public Accounting Firm

The attestation report required under this ITEM 9A is contained in ITEM 8 of this Annual Report on Form 10-K under the caption "Report of Independent Registered Public Accounting Firm."

Changes in Internal Control over Financial Reporting

Other than the changes in relation to the remediation of the material weakness as described above, there were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item is incorporated by reference to the following sections of our definitive Proxy Statement related to the 2021 Annual General Meeting to be filed with the SEC not later than 120 days after the end of the fiscal year covered by this annual report, (the "2021 Proxy Statement"): "Resolutions 1 - 5 - Election and Re-Election of Director Nominees," "Corporate Governance Matters" and "Section 16(a) Beneficial Ownership Reporting Compliance."

The Company has adopted a code of ethics which is applicable to all employees and is available on the corporate website, www.luxfer.com. A copy of the code can also be obtained, without charge, upon request. If there is an amendment to the code, then the nature of the amendment will also be made available of the corporate website.

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to the following sections of the Proxy Statement for the 2021 annual general meeting: "Executive Compensation Discussion and Analysis" and "Director Compensation".

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item is incorporated by reference to the following sections of the Proxy Statement for the 2021 annual general meeting: "Equity Compensation Plan Information" and "Security Ownership."

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item is incorporated by reference to the following sections of the Proxy Statement for the 2021 annual general meeting: "Policies and Procedures Regarding Conflicts of Interest and Related Party Transactions" and "Corporate Governance Matters."

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated by reference to the following section of the Proxy Statement for the 2021 annual general meeting: "Resolution 9 - Ratification of the appointment of PricewaterhouseCoopers LLP as the independent auditors of Luxfer Holdings PLC for 2021, and to authorize, by binding vote, the Audit Committee to set the auditors' remuneration".

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a)(1) Financial Statements

The Financial Statements listed in the Index to Financial Statements in Item 8 are filed as part of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedules

N/A

(a)(3) Exhibits

- 3.1 [Articles of Association of the Registrant, initially filed with the SEC on December 2, 2011 and as amended on May 22, 2018 and as amended on May 15, 2019](#)
- 4.1 [Form of specimen certificate evidencing ordinary shares \(incorporated by reference to Exhibit 4.1 to our Registration Statement on Form F-1 \(file no. 333-178278\), as amended, initially filed with the SEC on December 2, 2011\)](#)
- 10.1 [Amended and Restated Note Purchase Agreement dated as of June 29, 2016 by and among BA Holdings, Inc. and the parties named therein \(incorporated by reference to Exhibit 2.3 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.2 [Senior Facilities Agreement dated as of May 13, 2011, as amended and restated on July 31, 2017 by and among Luxfer Holdings PLC and the parties named therein \(incorporated by reference to Exhibit 2.4 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.3 [First Amendment to Amended and Restated Note Purchase Agreement dated as of March 13, 2017 by and among Luxfer Holdings PLC and the parties named therein \(incorporated by reference to Exhibit 2.5 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.4 [Amended and Restated Note Purchase and Private Shelf Agreement dated as of June 29, 2016 by and among Luxfer Holdings PLC and the parties named therein \(incorporated by reference to Exhibit 2.6 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.5 [First Amendment to Amended and Restated Note Purchase Agreement and Private Shelf Agreement dated as of March 13, 2017 by and among Luxfer Holdings PLC and the parties named therein \(incorporated by reference to Exhibit 2.7 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.6* [Executive Share Option Plan \(incorporated by reference to Exhibit 10.3 to our Registration Statement on Form F-1 \(file no. 333-178278\), as amended, initially filed with the SEC on December 2, 2011\)](#)
- 10.7* [Long-Term Umbrella Incentive Plan \(incorporated by reference to Exhibit 4.2 to our Annual Report on Form 20-F \(file no. 001-35370\), initially filed with the SEC on March 19, 2018\)](#)
- 10.8* [Amended and Restated Non-Executive Director Equity Incentive Plan \(incorporated by reference to Exhibit 4.7 to our Annual Report on Form 20-F \(file no. 001-35370\), filed with the SEC on March 29, 2013\)](#)
- 10.9* [The Luxfer Share Incentive Plan, initially filed with the SEC on March 11, 2019, amended May 15, 2019](#)
- 10.10* [The Luxfer Employee Stock Purchase Plan, filed with the SEC on March 11, 2019](#)
- 10.11* [Form of Executive Officer IPO Stock Option Grant Agreement \(incorporated by reference to Exhibit 10.6 to our Registration Statement on Form F-1 \(file no. 333-178278\), as amended, initially filed with the SEC on December 2, 2011\)](#)
- 10.12* [Form of Non-Executive Director IPO Stock Option Grant Agreement \(incorporated by reference to Exhibit 10.7 to our Registration Statement on Form F-1 \(file no. 333-178278\), as amended, initially filed with the SEC on December 2, 2011\)](#)
- 10.13* [Employment Agreements, filed with the SEC on March 11, 2019](#)
- 10.14* [Employment Agreements, filed with the SEC on March 11, 2019,](#)
- 10.15* [Employment Agreements, filed with the SEC on March 11, 2019](#)
- 10.16* [Employment Agreements, filed with the SEC on March 11, 2019](#)
- 10.17 [Lease with Cherokee Properties, filed with the SEC on March 11, 2019](#)
- 10.18 [Lease with Cherokee Properties - Amendment 1, dated August 2005 Lease with Cherokee Properties, filed with the SEC on March 11, 2019](#)

- 10.19 [Lease with Cherokee Properties - Amendment 2, dated January 2018](#)[Lease with Cherokee Properties, filed with the SEC on March 11, 2019](#)
- 21.1 [List of Subsidiaries of the Company](#)
- 23.1 [Consent of PricewaterhouseCoopers LLP](#)
- 31.1 [Certification Required by Rule 13a-14\(a\) or 15d-14\(a\) under the Securities Exchange Act of 1934-Alok Maskara](#)
- 31.2 [Certification Required by Rule 13a-14\(a\) or 15d-14\(a\) under the Securities Exchange Act of 1934-Heather Harding](#)
- 32.1 [Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 \(Subsections \(a\) and \(b\) of Section 1350, Chapter 63 of Title 18, United States Code\)-Alok Maskara](#)
- 32.2 [Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 \(Subsections \(a\) and \(b\) of Section 1350, Chapter 63 of Title 18, United States Code\)-Heather Harding](#)
- 101 The financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2020, formatted in XBRL: (i) Consolidated Statements of Income, (ii) Consolidated Statements of Comprehensive Income, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows, (v) Consolidated Statements of Changes in Equity, and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text and including detailed tags.

* Management contract or compensatory plan or arrangement

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Luxfer Holdings plc
(Registrant)

/s/Alok Maskara

Alok Maskara

Chief Executive Officer
(Duly Authorized Officer)

March 2, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
<u>/s/Alok Maskara</u> Alok Maskara	Chief Executive Officer (Principal Executive Officer) and Director	March 2, 2021
<u>/s/Heather Harding</u> Heather Harding	Chief Financial Officer (Principal Financial Officer)	March 2, 2021
<u>/s/Stephen M.D. Webster</u> Stephen M.D. Webster	Corporate Controller (Principal Accounting Officer)	March 2, 2021
<u>/s/David F. Landless</u> David F. Landless	Chairman of the Board and Director	March 2, 2021
<u>/s/Alisha Elliott</u> Alisha Elliott	Director	March 2, 2021
<u>/s/Richard J. Hipple</u> Richard J. Hipple	Director	March 2, 2021
<u>/s/Clive J. Snowdon</u> Clive J. Snowdon	Director	March 2, 2021
<u>/s/Lisa G. Trimberger</u> Lisa G. Trimberger	Director	March 2, 2021

