Allegion plc

Annual Report
Financial year ended 31 December 2018

Allegion plc

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Directors' report for the year ended 31 December 2018

The directors' present their report and audited Consolidated Financial Statements for the fiscal year ended 31 December 2018.

Principal Activities

Allegion plc (the "Parent Company"), through its subsidiaries (together with Allegion plc, referred as "Allegion," "we," "us," the "Group," or the "Company"), is a leading global provider of security products and solutions that keep people safe, secure and productive. We make the world safer as a company of experts, securing the places where people thrive and we create peace of mind by pioneering safety and security. We offer an extensive and versatile portfolio of mechanical and electronic security products across a range of market-leading brands. Our experts across the globe deliver high-quality security products, services and systems and we use our deep expertise to serve as trusted partners to end-users who seek customized solutions to their security needs.

We sell a wide range of security products and solutions for end-users in commercial, institutional and residential facilities worldwide, including the education, healthcare, government, hospitality, commercial office and single and multi-family residential markets. Our leading brands include CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. We believe LCN, Schlage and Von Duprin hold the No.1 position in their primary product categories in North America while CISA, Interflex and SimonsVoss hold the No.1 or No.2 position in their primary product categories in certain European markets.

For the year ended 31 December 2018, we generated Turnover of $2,731.7 million and Operating profit of $525.5 million. For the year ended 31 December 2017, we generated Turnover of $2,408.2 million and Operating profit of $491.8 million.

History and Developments

We were incorporated in Ireland on 9 May 2013, to hold the commercial and residential security businesses of Ingersoll Rand plc ("Ingersoll Rand"). On 1 December 2013, we became a stand-alone public company after Ingersoll Rand completed the separation of these businesses from the rest of Ingersoll Rand via the transfer of these businesses from Ingersoll Rand to us and the issuance by us of ordinary shares directly to Ingersoll Rand's shareholders (the "Spin-off"). Our security businesses have long and distinguished operating histories. Several of our brands were established nearly 100 years ago, and many originally created their categories:

- Von Duprin, established in 1908, was awarded the first exit device patent;
- Schlage, established in 1920, was awarded the first patents granted for the cylindrical lock and the push button lock;
- LCN, established in 1926, created the first door closer;
- CISA, established in 1926, devised the first electronically controlled lock; and
- SimonsVoss, established in 1995, created the first keyless digital transponder.

We have built upon these founding legacies since our entry into the security products market through the acquisition of Schlage, Von Duprin and LCN in 1974. Today, we continue to develop and introduce innovative and market-leading products. In 2018, product innovation spanned:

- Improvements to the user experience, product design and ergonomics;
- New technology solutions, software, mobile applications and integration with leading platforms; and
- Improved locks and lights for portable security.

Recent examples of successful product launches are illustrated in the table below:

Product	Brands	Year	Innovation
Residential Locks, Cylinders and Levers	Schlage (Touch, Connect, Sense, Control, Encode, Custom, SEL, Q6, X7), Bricard, Milre	2016/2017 /2018	Updates to single and multi-family residential electronic locking platforms that provide for keyless entry (Touch); connected locking (Connect); integration with the Internet of Things (IoT), Apple HomeKit, Amazon Alexa, Google Assistant and Android platforms (Sense); multi-family interconnected locking (Control); next-generation smart lock that is the first-ever WiFi enabled deadbolt to work with Key by Amazon and Ring devices with built-in connectivity (Encode); and 4-in-1 lock with fingerprint sensors, smart card, code access or a physical key (SEL). Expanded handlesets for Schlage's new universal functionality solution that allows homeowners to change from a doorknob to a lever and convert a non-locking door to lockable in minutes (Custom) and expanded ranges of cylinders and new aluminum trims for DIY customers (Bricard). Continual technology upgrades include Z-Wave Plus and Zigbee Certified to improve battery life and range, improve the user experience and enable partnerships with leading providers like Key by Amazon (Connect). New residential e-locks for Asia Pacific and improved biometric sensors, new designs and push-pull electronic locks with Bluetooth modules (Q6, X7, Milre).
Commercial Locks, Cylinders, Levers and Electronic Access Platforms	Schlage (AD, CO, LE, NDE, S-series), Bricard, Briton, SimonsVoss, CISA	2016/2017 /2018	Enhancements to the comprehensive portfolio of globally available mechanical, wired electrified and wireless electronic solutions to give a common aesthetic and consistent user experience throughout a building; wireless locks can be managed with Allegion's ENGAGE web and mobile apps or with Software Alliance Member systems (AD, CO, LE, NDE). New rim and mortice locks for Southeast Asia (S-series), expanded cylinders for the European locksmith channel and multipoint mortise locks (Bricard), new stainless-steel trims (Bricard, Briton) and enhancements to the electronic Smart Handle (SimonsVoss). Firmware releases for the U.S. channel-partner readers to give new functionality and USB communication mode for readers (Schlage). Mobile credentials, new Bluetooth Low Energy and RFID technology and integrations between electronic locks and exit devices (CISA).
Exit Devices and Closers	Von Duprin, Falcon, CISA	2018	New award-winning and cost-effective retrofit exit device that allows for remote undogging and monitoring with partner software (Von Duprin). New fire-rated retrofit series (Falcon), quiet exit solutions (Von Duprin) and a new range of asymmetric rack-and-pinion door closers (CISA).
Bike Lighting and Portable Locking Solutions	AXA, Kryptonite, Trelock	2017/2018	Broad range of innovation in bike safety from each of our Global Portable Security brands (AXA, Kryptonite and Trelock), ranging from compact dynamo lights and e-bike lights to USB, battery powered and rechargeable lights. New and expanded lines of folding locks, integrated chains and ring locks and applications for bikes and motorcycles (AXA, Kryptonite, Trelock) and expanded track-and-trace services (AXA).
Software, Mobile and Web Applications	Allegion (Overtur, ENGAGE), Interflex	2018	Introduction of a new cloud-based suite of tools for project teams to collaborate on specifications and the security design of doors and openings, which provides a centralized place to capture and maintain door hardware requirements and decisions with easy options to push information back to the design tools (Overtur). Multiple enhancements to the user experience include biometric login for the mobile app, simplified account and site set-up and gateway site survey (ENGAGE). New modules for visitor management, encouraging self-service and Microsoft Outlook functionality (Interflex).

In addition, in 2018 we announced the formation of Allegion Ventures, a corporate venture fund that aims to supplement Allegion innovation by investing in innovative technologies and companies.

Review of Business Segments

We operate in and report financial results for three segments: Americas, EMEIA, and Asia Pacific. These segments represent the level at which our chief operating decision maker reviews Group financial performance and makes operating decisions.

Segment operating profit is the measure of profit and loss that our chief operating decision maker uses to evaluate the financial performance of the business and as the basis for resource allocation, performance reviews and compensation. For these reasons, we believe that Segment operating profit represents the most relevant measure of segment profit and loss. Our chief operating decision maker may exclude certain charges or gains, such as corporate charges and other special charges to arrive at a Segment operating profit that is a more meaningful measure of profit and loss upon which to base our operating decisions. We define Segment operating margin as Segment operating profit as a percentage of the Segment's turnover.

The segment discussions that follow describe the significant factors contributing to the changes in results for each segment included in Profit on ordinary activities after taxation.

Our business segments are as follows:

Americas

Our Americas segment is a leading provider of security products and solutions in approximately 30 countries throughout North America, Central America, the Caribbean and South America. The segment sells a broad range of products and solutions including locks, locksets, portable locks, key systems, door closers, exit devices, doors and door systems, electronic products and access control systems to end-users in commercial, institutional and residential facilities, including the education, healthcare, government, commercial office and single and multi-family residential markets. This segment’s primary brands are LCN, Schlage, Steelcraft and Von Duprin.

Segment results for the years ended 31 December were as follows:

In millions ($)	2018	2017	% change
Turnover	1,988.6	1,767.5	12.5%
Segment operating profit	544.5	508.5	7.1%
Segment operating margin	27.4%	28.8%	

Turnover for the year ended 31 December 2018 increased by 12.5%, or $221.1 million, compared to the same period in 2017 due to the following:

Pricing	1.7%
Volume	5.1%
Acquisitions	5.7%
Total	12.5%

The increase in Turnover is due to higher volumes, improved pricing and acquisitions during the current year. Turnover from non-residential products for the year ended 31 December 2018 increased mid-teens compared to the prior year, primarily driven by higher volumes, improved pricing and acquisitions in the current year. Turnover from residential products for the year ended 31 December 2018 increased mid-single digits compared to the prior year.

Segment operating profit for the year ended 31 December 2018 increased $36.0 million and Segment operating margin decreased to 27.4% from 28.8% compared to the same period in 2017 due to the following:

In millions ($)	Operating profit	Operating margin
31 December 2017	508.5	28.8 %
Inflation in excess of pricing and productivity	(4.2)	(0.8)%
Volume / product mix	42.1	0.9 %
Currency exchange rates	0.7	0.1 %
Investment spending	(7.2)	(0.4)%
Acquisitions	3.3	(1.3)%
Restructuring / acquisition costs	1.3	0.1 %
31 December 2018	544.5	27.4 %

Segment operating profit increased primarily due to favorable volume/product mix, favorable foreign currency exchange rate movements, acquisitions during the current year and year-over-year decreases in restructuring and acquisition costs. These increases were partially offset by inflation in excess of pricing and productivity and increased investment spending.

Segment operating margin decreased primarily due to inflation in excess of pricing and productivity, increased investment spending and lower margins from acquisitions during the current year. These decreases were partially offset by favorable volume/ product mix, favorable foreign currency exchange rate movements and year-over-year decreases in restructuring and acquisition costs.

EMEIA

Our EMEIA segment provides security products and solutions in approximately 85 countries throughout Europe, the Middle East, India and Africa. The segment offers end-users a broad range of products, services and solutions including locks, locksets, portable locks, key systems, door closers, exit devices, doors and door systems, electronic products and access control systems, as well as time and attendance and workforce productivity solutions. This segment's primary brands are AXA, Bricard, Briton, CISA, Interflex and SimonsVoss. This segment also resells LCN, Schlage and Von Duprin products, primarily in the Middle East.

Segment results for the years ended 31 December were as follows:

In millions ($)	2018	2017	% change
Turnover	589.9	523.5	12.7%
Segment operating profit	49.3	44.1	11.8%
Segment operating margin	8.4%	8.4%	

Turnover for the year ended 31 December 2018 increased by 12.7%, or $66.4 million, compared to the same period in 2017 due to the following:

Pricing	1.5%
Volume	2.2%
Acquisitions	5.1%
Currency exchange rates	3.9%
Total	12.7%

The increase in Turnover is due to higher volumes, improved pricing, favorable foreign currency exchange rate movements and the impact of acquisitions in the current year.

Segment operating profit for the year ended 31 December 2018 increased $5.2 million compared to the same period in 2017, while Segment operating margin remained consistent at 8.4% in 2018, the same as in 2017, due to the following:

In millions ($)	Operating profit	Operating margin
31 December 2017	44.1	8.4 %
Pricing and productivity in excess of inflation	0.2	(0.1)%
Volume / product mix	5.3	0.8 %
Currency exchange rates	3.0	0.3 %
Investment spending	(4.1)	(0.8)%
Acquisitions	(2.6)	(0.9)%
Restructuring / acquisition costs	3.4	0.7 %
31 December 2018	49.3	8.4 %

Segment operating profit increased due to favorable volume/product mix, pricing improvements and productivity in excess of inflation, favorable foreign currency exchange rate movements and year-over-year decreases in restructuring and acquisition costs. These increases were partially offset by increased investment spending and the impact of acquisitions in the current year.

Segment operating margin was unchanged year-over-year at 8.4%. Improvements due to favorable volume/product mix, foreign currency exchange rate movements and year-over-year changes in restructuring and acquisition costs were offset by lower pricing improvements and productivity in excess of inflation, increased investment spending and lower margins from acquisitions during the current year.

Asia Pacific

Our Asia Pacific segment provides security products, services and solutions in approximately 15 countries throughout the Asia Pacific region. The segment offers end-users a broad range of products, services and solutions including locks, locksets, portable locks, key systems, door closers, exit devices, electronic products and access control systems. This segment's primary brands are Brio, Briton, FSH, Gainsborough, Legge, Milre and Schlage.

Segment results for the years ended 31 December were as follows:

In millions ($)	2018	2017	% change
Turnover	153.2	117.2	30.7 %
Segment operating profit	6.9	9.5	(27.4)%
Segment operating margin	4.5%	8.1%	

Turnover for the year ended 31 December 2018 increased by 30.7%, or $36.0 million, compared to the same period in 2017, due to the following:

Pricing	(0.1)%
Volume	3.2 %
Acquisitions	28.6 %
Currency exchange rates	(1.0)%
Total	30.7 %

The increase in Turnover was primarily due to an acquisition during the current year and higher volumes. These increases were partially offset by unfavorable foreign currency exchange rate movements and slightly lower pricing.

Segment operating profit for the year ended 31 December 2018 decreased $2.6 million and Segment operating margin decreased to 4.5% from 8.1% compared with the same period in 2017 due to the following:

In millions ($)	Operating profit	Operating margin
31 December 2017	9.5	8.1 %
Pricing and productivity in excess of inflation	1.3	1.1 %
Volume / product mix	(2.1)	(2.0)%
Currency exchange rates	(0.6)	(0.4)%
Investment spending	(1.0)	(0.8)%
Acquisitions	2.1	(0.4)%
Restructuring / acquisition costs	(2.3)	(1.1)%
31 December 2018	6.9	4.5 %

Segment operating profit decreased due to unfavorable volume/product mix, unfavorable foreign currency exchange rate movements, increased investment spending and year-over-year increases in restructuring and acquisition costs. These decreases were partially offset by pricing and productivity improvements in excess of inflation and an acquisition during the current year.

Segment operating margin decreased due to unfavorable volume/product mix, unfavorable foreign currency exchange rate movements, increased investment spending, lower margins from an acquisition during the current year and year-over-year increases in restructuring and acquisition expenses. These decreases were partially offset by pricing and productivity improvements in excess of inflation.

Trends and Economic Events

We believe that the security products industry is growing and will continue to benefit from several global macroeconomic and long-term demographic trends, including:

- the convergence of mechanical and electronic security products;
- heightened awareness of security requirements;
- increased global urbanization; and
- the shift to a digital, interconnected environment.

We believe the security products industry will also benefit from continued growth in institutional, commercial and residential end-markets. As end-users adopt newer technologies in their facilities and homes, we also expect growth in the global electronic product categories we serve to outperform growth in mechanical products.

The economic conditions discussed above and a number of other challenges and uncertainties that could affect our business are described under "Principal Risks."

Group Key Performance Indicators

Turnover

Turnover for the year ended 31 December 2018 increased by 13.4%, or $323.5 million, compared to the same period in 2017 due to the following:

Pricing	1.6%
Volume	4.4%
Acquisitions	6.6%
Currency exchange rates	0.8%
Total	13.4%

The increase in Turnover was primarily driven by higher volumes in all segments, improved pricing, incremental Turnover from acquisitions and favorable foreign currency exchange rate movements relative to the U.S. Dollar.

Costs of sales

For the year ended 31 December 2018, Cost of sales as a percentage of Turnover increased to 57.0% from 55.4% due to the following:

Inflation in excess of pricing and productivity	0.1 %
Volume / product mix	(0.1)%
Acquisitions	1.5 %
Investment spending	0.3 %
Currency exchange rates	(0.1)%
Restructuring / acquisition costs	(0.1)%
Total	1.6 %

Costs of sales as a percentage of Turnover for the year ended 31 December 2018 increased primarily due to inflation in excess of pricing and productivity, the impact of acquisitions and increased investment spending. These increases were partially offset by favorable currency exchange rate movements, favorable product mix and volume and decreased restructuring and acquisition costs.

Distribution costs and Administrative expenses

For the year ended 31 December 2018, Distribution costs and Administrative expenses as a percentage of Turnover decreased to 23.7% from 24.1% due to the following:

Inflation in excess of productivity	0.5 %
Volume leverage	(0.8)%
Acquisitions	(0.4)%
Investment spending	0.3 %
Total	(0.4)%

Distribution costs and Administrative expenses as a percentage of Turnover for the year ended 31 December 2018 decreased primarily due to favorable leverage due to increased volume and the impact of acquisitions. These decreases were partially offset by inflation in excess of productivity benefits and increased investment spending.

Operating profit

Operating profit (excluding Other operatng expenses, discussed in Note 5 to the Consolidated Financial Statements) for the year ended 31 December 2018 increased $33.3 million from the same period in 2017 and Operating margin decreased to 19.2% from 20.5% for the same period in 2017 due to the following:

In millions ($)	Operating profit	Operating margin
31 December 2017	492.5	20.5 %
Inflation in excess of pricing and productivity	(6.4)	(0.6)%
Volume / product mix	45.3	0.9 %
Currency exchange rates	3.1	— %
Investment spending	(13.5)	(0.5)%
Acquisitions	2.8	(1.2)%
Restructuring / acquisition costs	2.0	0.1 %
31 December 2018	525.8	19.2 %

Operating profit increased due to favorable volume/product mix in all segments, foreign currency exchange rate movements, the impact of acquisitions and lower restructuring and acquisition costs. These increases were partially offset by inflation in excess of pricing and productivity and increased investment spending.

Operating margin decreased primarily due to inflation in excess of pricing and productivity, increased investment spending and lower margins from acquisitions during the current year. These decreases were partially offset by favorable volume/product mix and lower restructuring and acquisition costs.

Interest payable and similar charges

Interest payable and similar charges for the year ended 31 December 2018 decreased $51.7 million compared to the same period of 2017 primarily due to $44.7 million of costs in the prior year associated with the refinancing of our Credit Facilities, issuance of our 3.200% and 3.550% Senior Notes and redemption of our previously outstanding Senior notes due 2021 and 2023 in the third and fourth quarters of 2017. Lower interest rates on our outstanding indebtedness also contributed to the decrease in Interest payable and similar charges.

Tax on profit on ordinary activities

On 22 December 2017, the President of the United States signed comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Reform Act"). The Tax Reform Act makes broad and complex changes to the U.S. tax code which impacted our years ended 31 December 2018 and 2017, including, but not limited to (1) reducing the U.S. federal corporate tax rate, (2) requiring a one-time transition tax on certain unrepatriated profits of foreign subsidiaries, and (3) requiring a review of the future realizability of deferred tax balances.

For the year ended 31 December 2018, our effective tax rate was 8.4% compared to 30.1% for the year ended 31 December 2017. The effective income tax rate for the year ended 31 December 2018 was positively impacted by a $21.9 million tax benefit related to the Tax Reform Act and the reduction in the US statutory tax rate from 35% to 21%. The effective income tax rate for the year ended 31 December 2017 was negatively impacted by a $53.5 million tax charge related to the Tax Reform Act, which was partially offset by the release of $10.4 million of valuation allowances.

See Note 11 to the Consolidated Financial Statements for further discussion of tax matters.

Industry and Competition

The global markets we serve encompass commercial, institutional and residential construction markets throughout North America, EMEIA and Asia Pacific. In recent years, as end-users adopt newer technologies in their facilities and single and multi-family homes, growth in electronic security products and solutions continues to outperform growth in mechanical security products and solutions. We expect the security products industry will benefit from favorable long-term demographic trends such as continued urbanization of the global population, increased concerns about safety and security and technology-driven innovation.

The security products markets are highly competitive and fragmented throughout the world, with a number of large multi-national companies and thousands of smaller regional and local companies. This high fragmentation primarily reflects local regulatory requirements and highly variable end-user needs. We believe our principal global competitors are Assa Abloy AB and dormakaba Group. We also face competition in various markets and product categories throughout the world, including from Spectrum Brands Holdings, Inc. in the North American residential market. As we move into more technologically-advanced product categories, we may also compete against new, more specialized competitors.

Our success depends on a variety of factors, including brand and reputation, product breadth, integration with popular technology platforms, quality and delivery capabilities, price and service capabilities. As many of our businesses sell through wholesale distribution, our success also depends on building and partnering with a strong channel network. Although price often serves as an important customer decision criterion, we also compete based on the breadth and quality of our products and solutions, our ability to custom-configure solutions to meet individual end-user requirements and our global supply chain.

Products and Services

We offer an extensive and versatile portfolio of mechanical and electronic security products across a range of market-leading brands:

- *Locks, locksets, portable locks and key systems and services:* A broad array of cylindrical and mortise door locksets, security levers and master key systems that are used to protect and control access and a range of portable security products, including bicycle, small vehicle and travel locks. We also offer locksmith services in select locations;
- *Door closers, controls and exit devices:* An extensive portfolio of life-safety products generally installed on fire doors and facility entrances and exits. Door closers are devices that automatically close doors after they are opened. Exit devices are generally horizontal attachments to doors and enable rapid egress;
- *Electronic security products and access control systems:* A broad range of electrified locks, access control systems, key card and reader systems and accessories, including Internet of Things (IoT), Bluetooth Low Energy (BLE), Power over Ethernet and cloud-based solutions;
- *Time, attendance and workforce productivity systems:* Products and services designed to help business customers manage and monitor workforce access control parameters, attendance and employee scheduling. We offer ongoing aftermarket services in addition to design and installation offerings;
- *Doors and door systems:* A portfolio of hollow metal, glass, wood and specialty doors and door systems; and
- *Other accessories:* A variety of additional security and product components, including hinges, door levers, door stops, bike lights, louvers, weather stripping, thresholds and other accessories, as well as certain bathroom fittings and accessibility aids.

Customers

We sell most of our products and solutions through distribution and retail channels, including specialty distribution, e-commerce and wholesalers. We have built a network of channel partners that help our customers choose the right solution to meet their security needs and help commercial and institutional end-users fulfill and install orders. We also sell through a variety of retail channels, including large do-it-yourself home improvement centers, multiple on-line and e-commerce platforms, as well as small, specialty showroom outlets. We work with our retail partners on developing marketing and merchandising strategies to maximize their sales per square foot of shelf space. Through our Interflex, API Locksmiths businesses and Global Portable Security brands, we also provide products and solutions directly to end-users.

Our 10 largest customers represented approximately 25% of our total Turnover in 2018. No single customer represented 10% or more of our total Turnover in 2018.

Sales and Marketing

In markets where we sell through commercial and institutional distribution channels, we employ sales professionals around the world who work with a combination of end-users, security professionals, architects, contractors, engineers and distribution partners to develop specific custom-configured solutions for our end-users' needs. Our field sales professionals are assisted by specification writers who work with architects, engineers and consultants to help design door openings and security systems to meet end-users' functional, aesthetic and regulatory requirements. Both groups are supported by dedicated customer care and technical sales-support specialists worldwide. We also support our sales efforts with a variety of marketing efforts, including trade-specific advertising, cooperative distributor merchandising, digital marketing and marketing at a variety of industry trade shows.

In markets in which we sell through retail and home-builder distribution channels, we have teams of sales, merchandising and marketing professionals who help drive brand and product awareness through our channel partners and to consumers. We utilize a variety of advertising and marketing strategies, including traditional consumer media, retail merchandising, digital marketing, retail promotions and builder and consumer trade shows, to support these teams.

We also work actively with several industry bodies around the world to help promote effective and consistent safety and security standards. For example, we are members of Builders Hardware Manufacturers Association (BHMA), Security Industry Association, Smart Card Alliance, American Society of Healthcare Engineering, American Institute of Architects, Construction Specification Institute, ASSOFERMA (Italy), BHE (Germany) and UNIQ (France).

Production and Distribution

We manufacture our products in our geographic markets around the world. We operate 34 production and assembly facilities, including 16 in Americas, 12 in EMEIA and 6 in Asia Pacific. We own 17 of these facilities and lease the others. Our strategy is to produce in the region of use, wherever appropriate, to allow us to be closer to the end-user and increase efficiency and timely product delivery. Much of our U.S. based residential portfolio is manufactured in the Baja region of Mexico under a NAFTA Maquiladora. In managing our network of production facilities, we focus on eliminating excess capacity, reducing cycle time through productivity and harmonizing production practices and safety procedures.

We distribute our products through a broad network of channel partners. In addition, third-party manufacturing and logistics providers perform certain manufacturing, storage and distribution services for us to support certain parts of our manufacturing and distribution network.

Raw Materials

We support our region-of-use production strategy with corresponding region-of-use supplier partners, where available. Our global and regional commodity teams work with production leadership, product management and materials management teams to ensure adequate materials are available for production.

We purchase a wide range of raw materials, including steel, zinc, brass and other non-ferrous metals, to support our production facilities. Where appropriate, we may enter into fixed-cost contracts to lower overall costs.

Seasonality

Our business experiences seasonality that varies by product line. Because more construction and do-it-yourself projects occur during the second and third calendar quarters of each year in the Northern Hemisphere, our security product sales related to those projects are typically higher in those quarters than in the first and fourth calendar quarters. However, certain other businesses typically experience higher sales in the fourth calendar quarter due to project timing. Turnover by quarter for the years ended 31 December 2018 and 2017 are as follows:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2018	22%	26%	26%	26%
2017	23%	26%	25%	26%

Research and Development

We are committed to investing in highly productive research and development capabilities, particularly in electro-mechanical systems. We concentrate on developing technology innovations that will deliver growth through the introduction of new products and solutions, as well as driving continuous improvements in product cost, quality, safety and sustainability.

We manage our R&D team as a global group with an emphasis on a global collaborative approach to identify and develop new technologies and worldwide product platforms. We are organized on a regional basis to leverage expertise in local standards and configurations. In addition to regional engineering centers in each geographic region, we also operate a global engineering design center in Bangalore, India.

Intellectual Property

Intellectual property, inclusive of certain patents, trademarks, copyrights, know-how, trade secrets and other proprietary rights, is important to our business. We create, protect and enforce our intellectual property investments in a variety of ways. We work actively in the U.S. and internationally to try to ensure the protection and enforcement of our intellectual property rights. We use trademarks on nearly all of our products and believe such distinctive marks are an important factor in creating a market for our goods, in identifying us and in distinguishing our products from others. We consider our CISA, Interflex, LCN, Schlage, SimonsVoss, Von Duprin and other associated trademarks to be among our most valuable assets, and we have registered these trademarks in a number of countries. Although certain proprietary intellectual property rights are important to our success, we do not believe we are materially dependent on any particular patent or license, or any particular group of patents or licenses.

Facilities

We operate through a broad network of sales offices, engineering centers, 34 production and assembly facilities and several distribution centers throughout the world. Our active properties represent approximately 6.9 million square feet, of which approximately 37% is leased.

Liquidity and Capital Resources

Sources and uses of liquidity

Our primary source of liquidity is cash provided by operating activities. Cash provided by operating activities is used to invest in new product development, fund capital expenditures and fund working capital requirements and is expected to be adequate to service any future debt, pay any declared dividends and potentially fund acquisitions and share repurchases. Our ability to fund these capital needs depends on our ongoing ability to generate cash from our operating activities and to access our borrowing facilities (including unused availability under our Revolving Facility) and capital markets. We believe that our future cash provided by operating activities, availability under our Revolving Facility and access to funds on hand and capital markets will provide adequate resources to fund our operating and financing needs.

The following table reflects the major categories of cash flows for the years ended 31 December. For additional details, please see the Consolidated Statement of Cash Flows in the Consolidated Financial Statements.

In millions ($)	2018	2017
Net cash provided by operating activities	457.8	347.2
Net cash used in investing activities	(443.8)	(50.2)
Net cash used in financing activities	(183.4)	(150.9)

Operating activities

Net cash provided by operating activities for the year ended 31 December 2018 increased $110.6 million compared to 2017. This increase in Net cash provided by operating activities for 2018 was primarily due to higher profits in the current year and a discretionary $50.0 million contribution to the U.S. qualified defined benefit pension plan in 2017, partially offset by changes in working capital and an increase in cash paid for taxes.

Investing activities

Net cash used in investing activities for the year ended 31 December 2018 increased $393.6 million compared to 2017. The increase in Net cash used in investing activities is primarily due to approximately $368 million of cash payments related to acquisitions and approximately $8 million of investments in unconsolidated entities during the year ended 31 December 2018, compared to $20.8 million for an acquisition in 2017. Additionally contributing to the increase in Net cash used in investing activities was the purchase of $14.3 million of investments during the year ended 31 December 2018 and the sale of an equity investment during 2017, which resulted in an investing cash inflow of $15.6 million that did not recur in 2018.

Financing activities

Net cash used in financing activities for the year ended 31 December 2018 increased $32.5 million compared to the year ended 31 December 2017. The increase in Net cash used in financing activities is primarily due to an increase in dividend payments of $18.5 million year-over-year. Additionally, during the year ended 31 December 2018, we repurchased $67.3 million of ordinary shares, compared to $60.0 million during 2017.

Capitalization

Long-term debt at 31 December consisted of the following:

In millions ($)	2018	2017
Term Facility	656.3	691.3
Revolving Facility	—	—
3.200% Senior Notes due 2024	400.0	400.0
3.550% Senior Notes due 2027	400.0	400.0
Other debt	1.2	1.0
Total borrowings outstanding	1,457.5	1,492.3
Less discounts and debt issuance costs, net	(12.7)	(15.0)
Total debt	1,444.8	1,477.3
Less current portion of long-term debt	35.3	35.0
Total long-term debt	1,409.5	1,442.3

As of 31 December 2018, we have an unsecured Credit Agreement in place that provides for up to $1,200.0 million in unsecured financing, consisting of a $700.0 million term loan facility (the "Term Facility") and a $500.0 million revolving credit facility (the "Revolving Facility" and, together with the Term Facility, the "Credit Facilities"). The Credit Facilities mature on 12 September 2022.

The Term Facility amortizes in quarterly installments at the following rates: 1.25% per quarter starting 31 December 2017 through 31 December 2020, 2.5% per quarter from 31 March 2021 through 30 June 2022, with the balance due on 12 September 2022. The Revolving Facility provides aggregate commitments of up to $500.0 million, which includes up to $100.0 million for the issuance of letters of credit. At 31 December 2018, there were no borrowings outstanding on the Revolving Facility, and we had $17.1 million of letters of credit outstanding.

Outstanding borrowings under the Credit Facilities accrue interest at our option of (i) a LIBOR rate plus the applicable margin or (ii) a base rate plus the applicable margin. The applicable margin ranges from 1.125% to 1.500% depending on our credit ratings. To manage our exposure to fluctuations in LIBOR rates, we have interest rate swaps to fix the interest rate for $250.0 million of the outstanding borrowings (see Note 26 to the Consolidated Financial Statements).

As of 31 December 2018, we also have $400.0 million outstanding of 3.200% Senior Notes due 2024 (the "3.200% Senior Notes") and $400.0 million outstanding of 3.550% Senior Notes due 2027 (the "3.550% Senior Notes" and, together with the 3.200% Senior Notes, the "Notes"). The Notes require semi-annual interest payments on 1 April and 1 October of each year and will mature on 1 October 2024 and 1 October 2027, respectively.

Historically, the majority of our profits were considered to be permanently reinvested in jurisdictions where we have made, and intend to continue to make, substantial investments to support the ongoing development and growth of our global operations. As a result of the Tax Reform Act transition tax, we analyzed our global working capital requirements and the potential tax liabilities that would be incurred if certain non-U.S. subsidiaries made distributions, which include local country withholding tax and potential U.S. state taxation. Based on this analysis, we made no changes to our permanent reinvestment assertions to reinvest earnings in our non-U.S. subsidiaries outside of the U.S.

Pension Plans

Our investment objective in managing defined benefit plan assets is to ensure that all present and future benefit obligations are met as they come due. We seek to achieve this goal while trying to mitigate volatility in plan funded status, contributions and expense by better matching the characteristics of the plan assets to that of the plan liabilities. Global asset allocation decisions are based on a dynamic approach whereby a plan's allocation to fixed income assets increases as the funded status increases. We monitor plan funded status and asset allocation regularly in addition to investment manager performance.

We monitor the impact of market conditions on our defined benefit plans on a regular basis. In January 2017, we made a discretionary $50.0 million contribution to the U.S. qualified defined benefit pension plan. At 31 December 2018, the funded status of our qualified pension plan for U.S. employees decreased to 93.1% from 93.3% at 31 December 2017. The funded status for our non-U.S. pension plans decreased to 98.7% at 31 December 2018 from 100.5% at 31 December 2017. Funded status for all of our pension plans at 31 December 2018 decreased to 94.1% from 95.5% at 31 December 2017. For further details on pension plan activity, see Note 27 to the Consolidated Financial Statements.

Contractual Obligations

The following table summarizes our contractual cash obligations by required payment periods:

In millions ($)	2019	2020-2021	2022-2023	Thereafter	Total
Long-term debt (including current maturities)	35.3	105.0	516.3	800.9	1,457.5
Interest payments on long-term debt	49.9	99.6	69.5	62.9	281.9
Purchase obligations	402.7	—	—	—	402.7
Operating leases	30.3	35.5	14.8	17.4	98.0
Total contractual cash obligations	518.2	240.1	600.6	881.2	2,240.1

Future interest payments on variable rate long-term debt are estimated based on the rate in effect as of 31 December 2018. Future expected obligations under our pension and postretirement benefit plans, income taxes, environmental and product liability matters have not been included in the contractual cash obligations table above.

Pensions

At 31 December 2018, we had net pension liabilities of $38.5 million, which consist of plan assets of $611.6 million and benefit obligations of $650.1 million. It is our objective to contribute to the pension plans to ensure adequate funds are available in the plans to make benefit payments to plan participants and beneficiaries when required. The funded status for all of our pension plans decreased to 94.1% at 31 December 2018 from 95.5% at 31 December 2017. We currently project that an additional approximately $11.6 million will be contributed to our plans worldwide in 2019. Because the timing and amounts of long-term funding requirements for pension obligations are uncertain, they have been excluded from the preceding table. See Note 27 to the Consolidated Financial Statements for additional information.

Postretirement Benefits Other than Pensions

At 31 December 2018, we had postretirement benefit obligations of $7.6 million. We fund postretirement benefit costs principally on a pay-as-you-go basis as medical costs are incurred by covered retiree populations. Benefit payments, which are net of expected plan participant contributions and Medicare Part D subsidies, are not expected to be material in 2019. Because the timing and amounts of long-term funding requirements for postretirement obligations are uncertain, they have been excluded from the preceding table.

Income Taxes

At 31 December 2018, we have total unrecognized tax benefits for uncertain tax positions of $42.0 million and $5.7 million of related accrued interest and penalties, net of tax. These liabilities have been excluded from the preceding table as we are unable to reasonably estimate the amount and period in which these liabilities might be paid. See Note 11 to the Consolidated Financial Statements for additional information regarding matters relating to income taxes, including unrecognized tax benefits and tax authority disputes.

Contingent Liabilities

We are involved in various litigation, claims and administrative proceedings, including those related to environmental, asbestos-related and product liability matters. We believe that these liabilities are subject to the uncertainties inherent in estimating future costs for contingent liabilities and will likely be resolved over an extended period of time. Because the timing and amounts of potential future cash flows are uncertain, they have been excluded from the preceding table. See Note 30 to the Consolidated Financial Statements for additional information.

Foreign Currency Exposures

We have operations throughout the world that manufacture and sell products in various international markets. As a result, we are exposed to movements in exchange rates of various currencies against the U.S. dollar as well as against other currencies throughout the world. We actively manage material currency exposures that are associated with purchases and sales and other assets and liabilities at the legal entity level; however, we do not hedge currency translation risk. We attempt to hedge exposures that cannot be naturally offset to an insignificant amount with foreign currency derivatives. Derivative instruments utilized by us in our hedging activities are viewed as risk management tools, involve little complexity and are not used for trading or speculative purposes. To minimize the risk of counter party non-performance, derivative instrument agreements are made only through major financial institutions with significant experience in such derivative instruments.

We evaluate our exposure to changes in currency exchange rates on our foreign currency derivatives using a sensitivity analysis. The sensitivity analysis is a measurement of the potential loss in fair value based on a percentage change in exchange rates. Based on the firmly committed currency derivative instruments in place at 31 December 2018, a hypothetical change in fair value of those derivative instruments assuming a 10% adverse change in exchange rates would result in an additional unrealized loss of approximately $6.8 million. This amount, when realized, would be partially offset by changes in the fair value of the underlying transactions.

Commodity Price Exposures

We are exposed to volatility in the prices of commodities used in some of our products and we use fixed price contracts to manage this exposure. We do not have committed commodity derivative instruments in place at 31 December 2018.

Interest Rate Exposure

Outstanding borrowings under the Credit Facilities accrue interest at the option of the Group of (i) a LIBOR rate plus the applicable margin or (ii) a base rate plus the applicable margin. The applicable margin ranges from 1.125% to 1.500% depending on the Group's credit ratings. At 31 December 2018, the outstanding borrowings under the Term Facility accrue interest at LIBOR plus a margin of 1.250%. To manage the Group's exposure to fluctuations in LIBOR rates, the Group has interest rate swaps to fix the interest rate for $250.0 million of the outstanding borrowings.

These swaps expire in September 2020. A 100 basis-point increase in LIBOR would have resulted in incremental 2018 interest expense of approximately $4.3 million. If the base interest rate in our credit facilities increases in the future, our floating-rate debt could have a material effect on our interest expense.

Critical Accounting Policies

The Group prepares its Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"). This requires management to use judgment in making estimates and assumptions based on the relevant information available at the end of each year. These estimates and assumptions have a significant effect on reported amounts of assets and liabilities, turnover and expenses as well as the disclosure of contingent assets and liabilities

because they result primarily from the need to make estimates and assumptions on matters that are inherently uncertain. Actual results may differ from estimates. If updated information or actual amounts are different from previous estimates, the revisions are included in our results for the year in which they become known.

The following policies are considered by management to be the most critical in understanding the judgments that are involved in the preparation of the Consolidated Financial Statements and the uncertainties that could impact the results of operations, financial position and cash flows. These Consolidated Financial Statements were prepared in accordance with Irish Company Law, to present to shareholders and file with the Companies Registration Office in Ireland. Accordingly, these Consolidated Financial Statements include presentation and disclosures required by Ireland's Companies Act 2014 in addition to those disclosures required under U.S. GAAP.

Goodwill and indefinite-lived intangible assets

We have significant goodwill and indefinite-lived intangible assets on our Consolidated Balance Sheet related to previous business combinations. Our goodwill and other indefinite-lived intangible assets is tested annually during the fourth quarter for impairment or when there is a significant change in events or circumstances that indicate that the fair value of an asset is more likely than not less than the carrying amount of the asset.

Recoverability of goodwill is measured at the reporting unit level and starts with a comparison of the carrying amount of the reporting unit to its estimated fair value. If the estimated fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired. To the extent that the carrying value of the reporting unit exceeds its estimated fair value, a goodwill impairment charge will be recognized for the amount by which the carrying value of the reporting unit exceeds its fair value, not to exceed the carrying amount of goodwill.

As quoted market prices are not available for our reporting units, the calculation of their estimated fair values is based on two valuation techniques, a discounted cash flow model (income approach) and a market adjusted multiple of profits and turnover (market approach), with each method being weighted in the calculation. The income approach relies on the Company's estimates of future cash flows and explicitly addresses factors such as timing, growth and margins, with due consideration given to forecasting risk. The market approach reflects the market's expectations for future growth and risk, with adjustments to account for differences between the guideline publicly-traded companies and the subject reporting units.

The estimated fair values for each of our reporting units exceeded their carrying values by more than 15% for the 2018 goodwill impairment test. Additionally, a 1% increase in the discount rate used or a 1% decrease in the terminal growth rate would not result in the carrying value of any reporting unit exceeding its estimated fair value.

Assessing the fair value of our reporting units includes, among other things, making key assumptions for estimating future cash flows and appropriate market multiples. These assumptions are subject to a high degree of judgment and complexity. We make every effort to estimate future cash flows as accurately as possible with the information available at the time the forecast is developed. However, changes in assumptions and estimates may affect the estimated fair value of the reporting unit, and could result in impairment charges in future periods. Factors that have the potential to create variances in the estimated fair value of the reporting unit include, but are not limited to, the following:

- Decreases in estimated market sizes or market growth rates due to greater-than-expected declines in volumes, pricing pressures or disruptive technology;
- Declines in our market share and penetration assumptions due to increased competition or an inability to develop or launch new products;
- The impacts of the market volatility, including greater-than-expected declines in pricing, reductions in volumes or fluctuations in foreign exchange rates;
- The level of success of on-going and future research and development efforts, including those related to recent acquisitions, and increases in the research and development costs necessary to obtain regulatory approvals and launch new products;
- Increase in the price or decrease in the availability of key commodities and the impact of higher energy prices; and
- Increases in our market-participant risk-adjusted weighted-average cost of capital.

Management uses external valuation specialists to assist in determining the fair value of the reporting units.

Other indefinite-lived intangible assets

We performed our annual indefinite-lived intangible asset impairment testing in 2018 and determined our indefinite-lived intangible assets were not impaired. Recoverability of intangible assets with indefinite useful lives is determined on a relief from royalty methodology, which is based on the implied royalty paid, at an appropriate discount rate, to license the use of an asset rather than owning the asset. The present value of the after-tax cost savings (i.e. royalty relief) indicates the estimated fair value of the asset. Any excess of the carrying value over the estimated fair value is recognized as an impairment loss equal to that excess.

A significant increase in the discount rate, decrease in the long-term growth rate, decrease in the royalty rate or substantial reductions in our end-markets and volume assumptions could have a negative impact on the estimated fair values of any of our indefinite-lived intangible assets. The estimates of fair value are based on the best information available as of the date of the assessment, which primarily incorporates management assumptions about expected future cash flows.

Long-lived assets and finite-lived intangible assets

Long-lived assets and finite-lived intangible assets are reviewed for impairment whenever events or changes in business circumstances indicate that the carrying amount of an asset may not be fully recoverable. Assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows can be generated. Impairment in the carrying value of an asset could be recognized whenever anticipated future undiscounted cash flows from an asset are less than its carrying value. The impairment is measured as the amount by which the carrying value exceeds the fair value of the asset as determined by an estimate of discounted cash flows. The estimates of fair value are based on the best information available as of the date of the assessment, and changes in business conditions could potentially require future adjustments to these valuations.

Provision for liabilities

Liabilities are recorded for various contingencies arising in the normal course of business, including litigation and administrative proceedings, environmental and asbestos matters and product liability, product warranty, worker's compensation and other claims. We have recorded reserves in the Consolidated Financial Statements related to these matters, which are developed using input derived from actuarial estimates and historical and anticipated experience data depending on the nature of the reserve, and in certain instances with consultation of legal counsel, internal and external consultants and engineers. Subject to the uncertainties inherent in estimating future costs for these types of liabilities, we believe our estimated reserves are reasonable and do not believe the final determination of the liabilities with respect to these matters would have a material effect on our financial condition, results of operations, liquidity or cash flows for any year.

Revenue recognition

Turnover is recognized based on the satisfaction of performance obligations under the terms of a contract. A performance obligation is a promise in a contract to transfer control of a distinct product or to provide a service, or a bundle of products or services, to a customer, and is the unit of account under ASC 606. We have two principal turnover streams, tangible product sales and services. Approximately 99% of consolidated Turnover involve contracts with a single performance obligation, the transfer of control of a product or bundle of products to a customer. Transfer of control typically occurs when goods are shipped from our facilities or at other predetermined control transfer points (for instance, destination terms). Turnover is measured as the amount of consideration we expect to receive in exchange for transferring control of the products and takes into account variable consideration, such as sales incentive programs, including discounts and volume rebates. The existence of these programs does not preclude revenue recognition but does require our best estimate of the variable consideration to be made based on expected activity, as these items are reserved for as a deduction to Turnover over time based on our historical rates of providing these incentives and annual forecasted sales volumes.

Our remaining Turnover involve services, including installation and consulting. Unlike the single performance obligation to ship a product or bundle of products, the service turnover stream delays revenue recognition until the service performance obligations are satisfied. In some instances, customer acceptance provisions are included in sales arrangements to give the buyer the ability to ensure the service meets the criteria established in the order. In these instances, revenue recognition is deferred until the performance obligations are satisfied, which could include acceptance terms specified in the arrangement being fulfilled through customer acceptance or a demonstration that established criteria have been satisfied.

We do not adjust the transaction price for the effects of a significant financing component, as the time period between control transfer of goods and services is less than one year. Sales, value-added and other similar taxes collected by us are excluded from Turnover. We also have elected to account for shipping and handling activities that occur after control of the related goods transfers as fulfillment activities instead of performance obligations. Our payment terms are generally consistent with the industries in which our businesses operate.

Sales returns and customer disputes involving a question of quantity or price are accounted for as variable consideration, and therefore, as a reduction in turnover and a contra debtor. At 31 December 2018 and 2017, we had a customer claim accrual (contra debtor) of $31.6 million and $32.5 million, respectively. All other incentives or incentive programs where the customer is required to reach a certain level of purchases, remain a customer for a certain period, provide a rebate form or is subject to additional requirements are also considered variable consideration and are accounted for as a reduction of turnover and a creditor. At 31 December 2018 and 2017, we had a sales incentive accrual of $33.9 million and $31.8 million, respectively. Variable consideration is estimated based on the most likely amount we expect to receive from customers. Each of these accruals represents the Group's best estimate of the most likely amount expected to be received from customers based on historical experience. These estimates are reviewed regularly for accuracy. If updated information or actual amounts are different from previous estimates, the revisions are included in the Group's results for the year in which they become known. Historically, the aggregate differences, if any, between the Group's estimates and actual amounts in any year have not had a material impact on the

Consolidated Financial Statements. We also offer a standard warranty with most product sales and the value of such warranty is included in the contractual price. The corresponding cost of the warranty obligation is accrued as a liability (see Note 30).

Income taxes

We account for income taxes in accordance with U.S. GAAP. Deferred tax assets and liabilities are determined based on temporary differences between financial reporting and tax bases of assets and liabilities, applying enacted tax rates expected to be in effect for the year in which the differences are expected to reverse. We recognize future tax benefits, such as net operating losses and non-U.S. tax credits, to the extent that realizing these benefits is considered in our judgment to be more likely than not. We regularly review the recoverability of our deferred tax assets considering our historic profitability, projected future taxable income, timing of the reversals of existing temporary differences and the feasibility of our tax planning strategies. Where appropriate, we record a valuation allowance with respect to future tax benefits.

The tax on profit on ordinary activities involves a significant amount of management judgment regarding interpretation of relevant facts and laws in the jurisdictions in which we operate. Future changes in applicable laws, projected levels of taxable income, and tax planning could change the effective tax rate and tax balances recorded by us. In addition, tax authorities periodically review income tax returns filed by us and can raise issues regarding our filing positions, timing and amount of income or deductions, and the allocation of income among the jurisdictions in which we operate. A significant period of time may elapse between the filing of an income tax return and the ultimate resolution of an issue raised by a revenue authority with respect to that return. We believe that we have adequately provided for any reasonably foreseeable resolution of these matters. We will adjust our estimates if significant events so dictate. To the extent that the ultimate results differ from our original or adjusted estimates, the effect will be recorded in the Tax on profit on ordinary activities in the period that the matter is finally resolved.

The Tax Reform Act constituted a major change to the U.S. tax system. The estimated impact of the Tax Reform Act is based on current interpretations and related assumptions. As discussed further in Note 11 to the Consolidated Financial Statements, where applicable, we included estimates in our Consolidated Financial Statements for impacts of the Tax Reform Act. The actual impact to us may be materially different from current estimates based on future regulatory developments.

Employee benefit plans

We provide a range of benefits to eligible employees and retirees, including pensions, postretirement and postemployment benefits. Determining the cost associated with such benefits is dependent on various actuarial assumptions including discount rates, expected return on plan assets, compensation increases, employee mortality, revenue rates and healthcare cost trend rates. Actuarial valuations are performed to determine expense in accordance with U.S. GAAP. Actual results may differ from the actuarial assumptions and are generally accumulated into Other reserves and amortized into the Consolidated Profit and Loss Account over future periods.

We review our actuarial assumptions at each measurement date and make modifications to the assumptions based on current rates and trends, if appropriate. The discount rate, the rate of compensation increase and the expected long-term rates of return on plan assets are determined as of each measurement date. Discount rates for all plans are established using hypothetical yield curves based on the yields of corporate bonds rated AA quality. Spot rates are developed from the yield curve and used to discount future benefit payments. The rate of compensation increase is dependent on expected future compensation levels. The expected long-term rate of return on plan assets reflects the average rate of returns expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. The expected long-term rate of return on plan assets is based on what is achievable given the plan's investment policy, the types of assets held and the target asset allocation. The expected long-term rate of return is determined as of each measurement date.

We believe that the assumptions utilized in recording our obligations under our plans are reasonable based on input from our actuaries, outside investment advisors and information as to assumptions used by plan sponsors.

Changes in any of the assumptions can have an impact on the net periodic pension and postretirement benefit cost. Estimated sensitivities to the expected 2018 net periodic pension benefit cost of a 0.25% rate decline in the two basic assumptions are as follows: the decline in the discount rate would increase expense by approximately $0.8 million and the decline in the estimated return on assets would increase expense by approximately $0.6 million.

Business combinations

The fair value of the consideration paid in a business combination is allocated to tangible assets and identifiable intangible assets, liabilities assumed and goodwill. Acquired intangible assets primarily include indefinite-lived trade names, customer relationships and completed technologies. The accounting for acquisitions involves a considerable amount of judgment and estimation, including the fair value of acquired intangible assets involving projections of future turnover and cash flows that are either discounted at an estimated discount rate or measured at an estimated royalty rate; fair value of other acquired assets and assumed liabilities, including potential contingencies; and the useful lives of the acquired assets. The assumptions used to determine the fair value of acquired intangible assets include projections developed

using internal forecasts, available industry and market data, estimates of long-term growth rates, profitability, customer attrition and royalty rates, which are determined at the time of the business combination.

The Group uses an income approach or market approach (or both) in accordance with accepted valuation models for each acquired intangible asset to determine the fair value. The impact of prior or future business combinations on our financial condition or results of operations may be materially impacted by the change in or initial selection of assumptions and estimates.

Environmental Regulation

We have a dedicated environmental program that is designed to reduce the utilization and generation of hazardous materials during the manufacturing process as well as to remediate identified environmental concerns. As to the latter, we are currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former production facilities. We regularly evaluates our remediation programs and considers alternative remediation methods that are in addition to, or in replacement of, those currently utilized based upon enhanced technology and regulatory changes.

We are sometimes a party to environmental lawsuits and claims and have received notices of potential violations of environmental laws and regulations from the U.S. Environmental Protection Agency (the "EPA") and similar state authorities. We have also been identified as a potentially responsible party ("PRP") for cleanup costs associated with off-site waste disposal at federal Superfund and state remediation sites. For all such sites, there are other PRPs and, in most instances, our involvement is minimal.

In estimating our liability, we have assumed that we will not bear the entire cost of remediation of any site to the exclusion of other PRPs who may be jointly and severally liable. The ability of other PRPs to participate has been taken into account, based on our understanding of the parties' financial condition and probable contributions on a per site basis. Additional lawsuits and claims involving environmental matters are likely to arise from time to time in the future.

We incurred $2.4 million and $3.2 million of expenses during the years ended 31 December 2018 and 2017, respectively, for environmental remediation at sites presently or formerly owned or leased by us. As of 31 December 2018 and 2017, we have recorded reserves for environmental matters of $22.6 million and $28.9 million, respectively. Of these amounts $6.3 million and $8.9 million, respectively, relate to remediation of sites previously disposed by us. Given the evolving nature of environmental laws, regulations and technology, the ultimate cost of future compliance is uncertain.

See Note 30 to the Consolidated Financial Statements for further discussion.

Principal Risks

The following are certain risk factors that could materially and adversely affect our business, financial condition, results of operations, and cash flows. These risk factors are not intended to be exhaustive and should be taken into consideration together with all other information contained in this report.

Risks Relating to Our Businesses

Our global operations subject us to economic risks.

We are incorporated in Ireland and operate in countries worldwide. Our global operations depend on products manufactured, purchased and sold in the U.S. and internationally, including in Australia, China, Columbia, Europe, Korea, Mexico, New Zealand, Turkey and the United Arab Emirates. The political, economic and regulatory environments in which we operate are becoming increasingly volatile and uncertain. Accordingly, we are subject to risks that are inherent in operating globally, including:

- changes in laws and regulations or imposition of currency restrictions and other restraints in various jurisdictions;
- limitation of ownership rights, including expropriation of assets by a local government, and limitation on the ability to repatriate earnings;
- sovereign debt crises and currency instability in developed and developing countries;
- changes in applicable tax regulations and interpretations;
- changes to trade agreements, sanctions, import and export regulations, including imposition of burdensome tariffs and quotas, and customs duties;
- difficulty in staffing and managing global operations;
- difficulty in enforcing agreements, collecting receivables and protecting assets through non-U.S. legal systems;
- political unrest, national and international conflict, including war, civil disturbances and terrorist acts; and
- economic downturns and social and political instability.

These risks could increase our cost of doing business in the U.S. and internationally, increase our counterparty risk, disrupt our operations, disrupt the ability of suppliers and customers to fulfill their obligations, increase our effective tax rate, increase the cost of our products, limit our ability to sell products in certain markets, reduce our operating margin, reduce cash flow and negatively impact our ability to compete.

Our business relies on the institutional, commercial and residential construction and remodeling markets.

We primarily rely on the institutional, commercial and residential construction and remodeling markets, which are marked by cyclicality based on overall economic conditions. Weakness or instability in these markets may cause current and potential customers to delay or choose not to make purchases, which could negatively impact the demand for our products and services.

Increased competition, including from technical developments, could adversely affect our business.

The markets in which we operate include a large number of participants, including multi-national companies, regional companies and small local companies. We primarily compete on the basis of quality, innovation, expertise, effective channels to market, breadth of product offering and price. We may be unable to effectively compete on all these bases. If we are unable to anticipate evolving trends in the market or the timing and scale of our competitors' activities and initiatives, the demand for our products and services could be negatively impacted.

In addition, we compete in an industry that is experiencing the convergence of mechanical, electronic, and digital products. Technology and innovation play significant roles in the competitive landscape. Our success depends, in part, upon the research, development, and implementation of new technologies and products including obtaining, maintaining and enforcing necessary intellectual property protections. Securing and maintaining key partnerships and alliances, recruiting and retaining highly skilled and qualified employee talent, and having access to technologies, services, intellectual property and solutions developed by others will play a significant role in our ability to effectively compete. The continual development of new technologies by existing and new competitors, including non-traditional competitors with significant resources, could adversely affect our ability to sustain operating margins and desirable levels of sales volumes. To remain competitive, we must develop new products and respond to new technologies in a timely manner.

Our growth is dependent, in part, on the development, commercialization and acceptance of new products and services.

We must develop and commercialize new products and services in order to remain competitive in our current and future markets and in order to continue to grow our business. The speed of development by our competitors and new market entrants is increasing. We cannot provide any assurance that any new product or service will be successfully commercialized in a timely manner, if ever, or, if commercialized, will result in returns greater than our investment. Investment in a product or service could divert our attention and resources from other projects that become more commercially viable in the market. We also cannot provide any assurance that any new product or service will be accepted by the market.

Changes in customer preferences and the inability to maintain beneficial relationships with large customers could adversely affect our business.

We have significant customers, particularly major retailers, although no one customer represented 10% or more of our total Turnover in any of the past two fiscal years. The loss or material reduction of business, the lack of success of sales initiatives or changes in customer preferences or loyalties for our products related to any such significant customer could have a material adverse impact on our business. In addition, major customers who are volume purchasers are much larger than us and have strong bargaining power with suppliers. This limits our ability to recover cost increases through higher selling prices. Furthermore, unanticipated stock adjustments by these customers can have a negative impact on sales.

Our brands are important assets of our businesses, and violation of our trademark rights by imitators could negatively impact Turnover and brand reputation.

Our brands and trademarks enjoy a reputation for quality and value and are important to our success and competitive position. Unauthorized use of our trademarks may not only erode sales of our products but may also cause significant damage to our brand name and reputation, interfere with relationships with our customers and increase litigation costs. There can be no assurance that our on-going effort to protect our brand and trademark rights will prevent all violations.

Currency exchange rate fluctuations may adversely affect our results.

We are exposed to a variety of market risks, including the effects of changes in currency exchange rates. Approximately 30% of our 2018 Turnover was derived outside the U.S., and we expect sales to non-U.S. customers to continue to represent a significant portion of our consolidated Turnover. Although we may enter into currency exchange contracts to reduce our risk related to currency exchange fluctuations, changes in the relative fair values of currencies occur from time to time and may, in some instances, have a material impact on our results of operations. We do not hedge against all of our currency exposure and therefore, our business will continue to be susceptible to currency fluctuations.

We also translate assets, liabilities, turnover and expenses denominated in non-U.S. dollar currencies into U.S. dollars for our Consolidated Financial Statements based on applicable exchange rates. Consequently, fluctuations in the value of the U.S. dollar compared to other currencies will have a material impact on the value of these items in our Consolidated Financial Statements, even if their value has not changed in their original currency.

Our business strategy includes making acquisitions and investments that complement our existing business. These acquisitions and investments could be unsuccessful or consume significant resources, which could adversely affect our operating results.

We will continue to analyze and evaluate the acquisition of strategic businesses or product lines with the potential to strengthen our industry position or enhance our existing set of products and services offerings. We cannot provide assurance that we will identify or successfully complete transactions with suitable acquisition candidates in the future, nor can we provide assurance that completed acquisitions will be successful.

Some of the businesses we may seek to acquire or invest in may be marginally profitable or unprofitable. For these businesses to achieve acceptable levels of profitability, we must improve their management, operations, products and market penetration. We may not be successful in this regard and we may encounter other difficulties in integrating acquired businesses into our existing operations.

Acquisitions and investments may involve significant cash expenditures, debt incurrence, operating losses and expenses. Acquisitions involve numerous other risks, including:

- diversion of management time and attention from daily operations;
- difficulties integrating acquired businesses, technologies and personnel into our business;
- difficulties completing the transaction in a timely manner;
- difficulties realizing synergies expected to result from acquisitions;
- difficulties in obtaining and verifying the financial statements and other business information of acquired businesses;
- inability to obtain regulatory approvals and/or required financing on favorable terms;
- potential loss of key employees, key contractual relationships or key customers of acquired companies or of us;
- difficulties competing in the new markets we enter;
- assumption of the liabilities and exposure to unforeseen liabilities of acquired companies;
- dilution of interests of holders of our ordinary shares through the issuance of equity securities or equity-linked securities; and
- difficulty in integrating financial reporting systems and implementing controls, procedures and policies, including disclosure controls and procedures and internal control over financial reporting, appropriate for public companies of our size at companies that, prior to the acquisition, had lacked such controls, procedures and policies.

We continually look to expand our services and products into international markets. As we expand into new international markets, we will have only limited experience in marketing and operating services and products in such markets. In some instances, we may rely on the efforts and abilities of foreign business partners in such markets. Certain international markets may be slower than U.S. markets in adopting our services and products, and our operations in such markets may not develop at a rate that supports our level of investment. In addition to the risks outlined above, expansion into certain international markets may require us to compete with local businesses with greater knowledge of the market, including the tastes and preferences of customers and businesses with dominant market shares. Any acquisitions or investments may ultimately harm our business or financial condition; as such, acquisitions may not be successful and may ultimately result in impairment charges.

We may pursue business opportunities that diverge from core business.

We may pursue business opportunities that diverge from our core business, including expanding our products or service offerings, investing in new and unproven technologies and forming new alliances with companies to distribute our products and services. We can offer no assurance that any such business opportunities will prove to be successful. Among other negative effects, our investment in new business opportunities may exceed the returns we realize. Additionally, any new investments could have higher cost structures than our current business, which could reduce operating margins and require more working capital. In the event that working capital requirements exceed operating cash flow, we may be required to draw on our revolving credit facility or pursue other external financing, which may not be readily available.

Our enterprise excellence efforts may not achieve the improvements we expect.

We utilize a number of tools to improve efficiency and productivity. Implementation of new processes to our operations could cause disruptions and may prove to be more difficult, costly or time consuming than expected. There is no assurance that all of our planned enterprise excellence projects will be fully implemented, or if implemented, will realize the expected improvements.

Our periodic restructuring plans may not be successful.

We have in the past restructured or made other adjustments to our workforce and manufacturing footprint in response to market changes, product changes, performance issues, changes in strategy, acquisitions and other internal and external considerations. Historically, these types of restructuring activities have resulted in increased restructuring costs and temporarily reduced productivity. In addition, we may not achieve or sustain the expected growth or cost savings benefits of these restructurings or

do so within the expected timeframe. These effects could recur in connection with future acquisitions and other restructurings and our Turnover and other results of operations could be negatively affected.

Material adverse legal judgments, fines, penalties or settlements could adversely affect our business.

We are currently and may in the future become involved in legal proceedings and disputes incidental to the operation of our business. Our business may be adversely affected by the outcome of these proceedings and other contingencies (including, without limitation, environmental, product liability, intellectual property, data protection and labor and employment matters) that cannot be predicted with certainty. As required by U.S. GAAP, we establish reserves based on our assessment of contingencies. Subsequent developments in legal proceedings and other contingencies may affect our assessment and estimates of the loss contingency recorded as a reserve, and we may be required to make additional material payments.

Allegations that we have infringed the intellectual property rights of third parties could negatively affect us.

We may be subject to claims of infringement of intellectual property rights by third parties. In particular, we often compete in areas having extensive intellectual property rights owned by others and we have become subject to claims alleging infringement of intellectual property rights of others. In general, if it is determined that one or more of our technologies, products or services infringes the intellectual property rights owned by others, we may be required to cease marketing those services, to obtain licenses from the holders of the intellectual property at a material cost or to take other actions to avoid infringing such intellectual property rights. The litigation process is costly and subject to inherent uncertainties, and we may not prevail in litigation matters regardless of the merits of our position. Adverse intellectual property litigation or claims of infringement against us may become extremely disruptive if the plaintiffs succeed in blocking the trade of our products and services and may have a material adverse effect on our business.

Our reputation, ability to do business and results of operations could be impaired by improper conduct by any of our employees, agents or business partners.

We are subject to regulation under a variety of U.S. federal and state and non-U.S. laws, regulations and policies including laws related to anti-corruption, export and import compliance, anti-trust and money laundering due to our global operations. We cannot provide assurance that our internal controls will always protect us from the improper conduct of our employees, agents and business partners. Any improper conduct could damage our reputation and subject us to, among other things, civil and criminal penalties, material fines, equitable remedies (including profit disgorgement and injunctions on future conduct), securities litigation and a general loss of investor confidence.

Disruptions in our global supply chain, including product manufacturing and logistical services provided by outsourcing partners, may negatively impact our business.

Our ability to meet our customers' needs and achieve cost targets depends on our ability to maintain key manufacturing and supply arrangements, including execution of supply chain optimizations and certain sole supplier or sole manufacturing arrangements. The loss or disruption of such manufacturing and supply arrangements could interrupt product supply and, if not effectively managed and remedied, have an adverse impact on our business.

We outsource certain manufacturing and logistical services to partners located throughout the world. Our reliance on these third parties reduces our control over the manufacturing and delivery process, exposing us to risks including reduced control over quality assurance, product costs, product supply and delivery delays. If we are unable to effectively manage these relationships, or if these third parties experience delays, disruptions, capacity constraints, regulatory issues or quality control problems in their operations or otherwise fail to meet our future requirements for timely delivery, our ability to ship and deliver certain of our products to our customers could be impaired and our business could be harmed.

We may be subject to risks relating to our information technology and operational technology systems.

We rely extensively on information technology and operational technology systems, networks and services including hardware, software, firmware and technological applications and platforms (collectively, "IT Systems") to manage and operate our business from end-to-end, including ordering and managing materials from suppliers, design and development, manufacturing, marketing, selling and shipping to customers, invoicing and billing, managing our banking and cash liquidity systems, managing our enterprise resource planning and other accounting and financial systems and complying with regulatory, legal and tax requirements. There can be no assurance that our current IT Systems will function properly. We have invested and will continue to invest in improving our IT Systems. Some of these investments are significant and impact many important operational processes and procedures. There is no assurance that any newly implemented IT Systems will improve our current systems, improve our operations or yield the expected returns on the investments. In addition, the implementation of new IT Systems may cause disruptions in our operations and, if not properly implemented and maintained, negatively impact our business. If our IT Systems cease to function properly or if these systems do not provide the anticipated benefits, our ability to manage our operations could be impaired.

We currently rely on third-party vendors for many of the critical elements of our global information and operational technology infrastructure and their failure to provide effective support for such infrastructure could negatively impact our business and financial results.

We have outsourced many of the critical elements of our global information and operational technology infrastructure to third-party service providers in order to achieve efficiencies. If such service providers do not perform or do not perform effectively, we may not be able to achieve the expected efficiencies and may have to incur additional costs to address failures in providing service by the service providers. Depending on the function involved, such non-performance, ineffective performance or failures of service may lead to business disruptions, processing inefficiencies or security breaches.

Disruptions or breaches of our information systems could adversely affect us.

Despite our implementation of network security measures which have focused on prevention, mitigation, resilience and recovery, our network and products, including access solutions may be vulnerable to cybersecurity attacks, computer viruses, malicious codes, malware, ransomware, phishing, social engineering, denial of service, hacking, break-ins and similar disruptions. Cybersecurity attacks and intrusion efforts are continuous and evolving, and in certain cases they have been successful at the most robust institutions. The scope and severity of risks that cyber threats present have increased dramatically and include, but are not limited to, malicious software, attempts to gain unauthorized access to data or premises, exploiting weaknesses related to vendors or other third parties that could be exploited to attack our systems, denials of service and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and corruption of data. Any such event could have a material adverse effect on our business, operating results and financial condition, as we face regulatory, reputational and litigation risks resulting from potential cyber incidents, as well as the potential of incurring significant remediation costs.

Our daily business operations also require us to retain sensitive data such as intellectual property, proprietary business information and data related to customers, suppliers and business partners within our networking infrastructure including data from individuals subject to the European Union's General Data Protection Regulation ("GDPR"). The loss or breach of such information due to various causes including catastrophic events, natural disasters, power outages, system failures, computer viruses, improper data handling and employee error or malfeasance could result in wide reaching negative impacts to our business, and as such, the ongoing maintenance and security of this information is pertinent to the success of our business operations and our strategic goals.

Our networking infrastructure and related assets may be subject to unauthorized access by hackers, employee error or malfeasance or other unforeseen activities. Such issues could result in the disruption of business processes, network degradation and system downtime, along with the potential that a third party will exploit our critical assets such as intellectual property, proprietary business information and data related to our customers, suppliers and business partners. To the extent that such disruptions occur and our business continuity plans do not effectively address these disruptions in a timely manner, they may cause delays in the manufacture or shipment of our products and the cancellation of customer orders and, as a result, our business operating results and financial condition could be materially and adversely affected, resulting in a possible loss of business or brand reputation.

Commodity shortages, price increases and higher energy prices could negatively affect our financial results.

We rely on suppliers to secure commodities, including steel, zinc, brass and other non-ferrous metals, required for the manufacture of our products. A disruption of deliveries from our suppliers or decreased availability of commodities could have an adverse effect on our ability to meet our commitments to customers or increase our operating costs. We believe that available sources of supply will generally be sufficient for our needs for the foreseeable future. Nonetheless, the unavailability of some commodities could have a material adverse impact on our business.

Volatility in the prices of these commodities could increase the costs of our products and services, and we may not be able to pass on these costs to our customers. We do not currently use financial derivatives to hedge against this volatility; however, we utilize firm purchase commitments to mitigate risk. The pricing of some commodities we use is based on market prices. To mitigate this exposure, we may use annual price contracts to minimize the impact of inflation and to benefit from deflation.

Additionally, we are exposed to fluctuations in energy prices due to the instability of current market prices. Higher energy costs increase our operating costs and the cost of shipping our products and supplying services to our customers around the world. Consequently, sharp price increases, the imposition of taxes or an interruption of supply could cause us to lose the ability to effectively manage the risk of rising energy prices and may have an adverse impact on our results of operations and cash flows.

We may be required to recognize impairment charges for our goodwill, indefinite-lived intangible assets and other long-lived assets.

At 31 December 2018, the net carrying value of our goodwill and other indefinite-lived intangible assets totaled approximately $883.0 million and $130.6 million, respectively. Pursuant to U.S. GAAP, we are required to annually assess our goodwill, indefinite-lived intangibles and other long-lived assets to determine if they are impaired. In addition, interim assessments must be performed whenever events or changes in circumstances indicate that impairment may have occurred. If the testing performed

indicates that impairment has occurred, we are required to record a non-cash impairment charge for the difference between the carrying value of the goodwill or other indefinite-lived intangible assets and the fair value of the goodwill or other indefinite-lived intangible assets in the period the determination is made. Disruptions to our business, end market conditions and protracted economic weakness, unexpected significant declines in operating results of reporting units, divestitures and market capitalization declines may result in additional charges for goodwill and other asset impairments. We have significant intangible assets, including goodwill with an indefinite life, which are susceptible to valuation adjustments as a result of changes in such factors and conditions.

The basis of the fair value for our impairment assessments is determined by projecting future cash flows using assumptions concerning future operating performance and economic conditions that may differ from actual cash flows. Financial and credit market volatility directly impacts our fair value measurement through our weighted-average cost of capital that we use to determine our discount rate and through our stock price that we use to determine our market capitalization. Although our last analysis regarding the fair values of the goodwill and indefinite-lived intangible assets for our reporting units indicates that they exceed their respective carrying values, materially different assumptions regarding the future performance of our businesses or significant declines in our stock price could result in goodwill and intangible asset impairment losses. Specifically, an unanticipated deterioration in Turnover and operating margins generated by our EMEIA and/or Asia Pacific segments could trigger future impairment in those segments. While we currently believe that our projected results will not result in future impairment, a deterioration in results or other factors could trigger a future impairment.

Our ability to successfully grow and expand our business depends on our ability to recruit and retain a highly qualified and diverse workforce.

Our ability to successfully grow and expand our business depends on the contributions and abilities of our employees and key management, including, for example, the ability of our sales force to adapt to any changes made in the sales organization and achieve adequate customer coverage. We must therefore continue to effectively recruit, retain and motivate key management, sales and other highly qualified and skilled personnel to maintain our current business and support our projected growth. A shortage of these key employees for various reasons, including changes in laws and policies regarding immigration and work authorizations in jurisdictions where we have operations, might jeopardize our ability to grow and expand our business.

Our operations are subject to regulatory risks.

Our U.S. and non-U.S. operations are subject to a number of laws and regulations, including fire and building codes and environmental, health and safety standards. We have incurred, and will be required to continue to incur, significant expenditures to comply with these laws and regulations. Changes to, or changes in interpretations of, current laws and regulations could require us to increase our compliance expenditures, cause us to significantly alter or discontinue offering existing products and services or cause us to develop new products and services. Altering current products and services or developing new products and services to comply with changes in the applicable laws and regulations could require significant research and development investments, increase the cost of providing the products and services and adversely affect the demand for our products and services.

In the event a regulatory authority concludes that we are not or have not at all times been in full compliance with these laws or regulations, we could be fined, criminally charged or otherwise sanctioned.

Certain environmental laws assess liability on current or previous owners of real property or operators of manufacturing facilities for the costs of investigation, removal or remediation of hazardous substances or materials at such properties or at properties at which parties have disposed of hazardous substances. Liability for investigative, removal and remedial costs under certain U.S. federal and state laws and certain non-U.S. laws are retroactive, strict and joint and several. In addition to cleanup actions brought by governmental authorities, private parties could bring personal injury or other claims due to the presence of, or exposure to, hazardous substances. We have received notification from U.S. and non-U.S. governmental agencies, including the EPA and similar state environmental agencies, that conditions at a number of current and formerly owned sites where we and others have disposed of hazardous substances require investigation, cleanup and other possible remedial action. These agencies may require that we reimburse the government for its costs incurred at these sites or otherwise pay for the costs of investigation and cleanup of these sites, including by providing compensation for natural resource damage claims from such sites.

While we have planned for future capital and operating expenditures to maintain compliance with environmental laws and have accrued for costs related to current remedial efforts, our costs of compliance, or our liabilities arising from past or future releases of, or exposures to, hazardous substances, may exceed our estimates. We may also be subject to additional environmental claims for personal injury or cost recovery actions for remediation of facilities in the future based on our past, present or future business activities.

The capital and credit markets are important to our business.

Instability in U.S. and global capital and credit markets, including market disruptions, limited liquidity and interest rate volatility or reductions in the credit ratings assigned to us by independent ratings agencies, could reduce our access to capital markets or increase the cost of funding our short and long-term credit requirements. In particular, if we are unable to access capital and

credit markets on terms that are acceptable to us, we may not be able to make certain investments or fully execute our business plans and strategy.

Our suppliers and customers are also dependent upon the capital and credit markets. Limitations on the ability of customers, suppliers or financial counterparties to access credit could lead to insolvencies of key suppliers and customers, limit or prevent customers from obtaining credit to finance purchases of our products and services and cause delays in the delivery of key products from suppliers.

As a global business, we have a relatively complex tax structure, and there is a risk that tax authorities will disagree with our tax positions.

Since we conduct operations worldwide through our subsidiaries, we are subject to complex transfer pricing regulations in the countries in which we operate. Transfer pricing regulations generally require that, for tax purposes, transactions between us and our affiliates be priced on a basis that would be comparable to an arm's length transaction and that contemporaneous documentation be maintained to support the tax allocation. Although uniform transfer pricing standards are emerging in many of the countries in which we operate, there is still a relatively high degree of uncertainty and inherent subjectivity in complying with these rules. To the extent that any tax authority disagrees with our transfer pricing policies, we could become subject to significant tax liabilities and penalties. Our tax returns are subject to review by taxing authorities in the jurisdictions in which we operate. Although we believe that we have provided for all tax exposures, the ultimate outcome of a tax review could differ materially from our Provisions for liabilities.

We could be subject to changes in tax rates, the adoption of new U.S. or international tax legislation or exposure to additional tax liabilities.

Our future effective tax rate and cash tax obligations could be adversely affected by shifts in our mix of earnings in countries with varying statutory tax rates, changes in the valuation of our deferred tax assets or liabilities or changes in tax laws, regulations, interpretations or accounting principles, as well as certain discrete items. In addition, we are subject to regular review and audit by both U.S. and non-U.S. tax authorities. As a result, we have received, and may in the future receive, assessments in multiple jurisdictions on various tax-related assertions. Any adverse outcome of such a review or audit could have a negative effect on our operating results and financial condition. In addition, the determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment, and there are many transactions and calculations where the ultimate tax determination is uncertain. Although we believe our estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in our financial statements and may materially affect our financial results in the period or periods for which such determination is made. Furthermore, due to shifting economic and political conditions, tax policies, laws, interpretations and rates in various jurisdictions may be subject to significant change, which could materially affect our financial position and results of operations. For example, the Tax Reform Act enacted in December 2017 in the U.S. had a significant impact on our cash tax obligations and the issuance of additional regulatory guidance related to the Tax Reform Act could materially affect our cash tax obligations and effective tax rate. In addition, many countries in Europe, as well as a number of other countries and organizations, have recently proposed or recommended changes to existing tax laws or have enacted new laws that could significantly increase our effective tax rate or cash tax obligations in many countries where we do business or require us to change the manner in which we operate our business.

There are risks associated with our outstanding and future indebtedness.

We have approximately $1.5 billion of outstanding indebtedness at 31 December 2018. In addition, we have a senior unsecured revolving credit facility that permits borrowings of up to an additional $500 million. Volatility in the credit markets could adversely impact our ability to obtain favorable financing terms in the future. A substantial portion of our cash flows from operations is dedicated to the payment of principal and interest on our indebtedness and will not be available for other purposes, including our operations, capital expenditures, payment of dividends, share repurchase programs or future business opportunities.

Our ability to make scheduled payments or to refinance our debt obligations depends on our financial and operating performance, which is subject to prevailing economic and competitive conditions and to certain financial, business and other factors beyond our control. If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay capital expenditures, reduce or eliminate the payment of dividends, sell assets, seek additional capital or seek to restructure or refinance our indebtedness. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to sell material assets or operations to attempt to meet our debt service and other obligations.

Additionally, a portion of our borrowings at 31 December 2018 includes a term loan with a variable rate of interest, which exposes us to interest rate risk. We are exposed to the risk of rising interest rates to the extent that we fund our operations with short-term or variable-rate borrowings. At 31 December 2018, our $1.5 billion of aggregate debt outstanding includes $656 million of floating-rate term loans and $800 million of fixed-rate senior notes. We have the ability to incur up to $500 million of additional floating-rate debt under our senior unsecured revolving credit facility. We have entered into interest rate swaps for $250 million of our floating-rate term loans to manage our interest rate risk. A 100 basis-point increase in LIBOR would have

resulted in incremental 2018 interest expense of approximately $4.3 million. If the LIBOR or other applicable base rates under our senior unsecured credit facilities increase in the future, the interest on floating-rate debt could have a material impact on our Interest payable and similar charges.

Risks Relating to the Spin-off

In connection with the Spin-off, Ingersoll Rand indemnified us for certain liabilities and we indemnified Ingersoll Rand for certain liabilities. If we are required to act on these indemnities to Ingersoll Rand, we may need to divert cash to meet those obligations and our financial results could be negatively impacted. The Ingersoll Rand indemnity may not be sufficient to insure us against the full amount of liabilities for which it will be allocated responsibility, and Ingersoll Rand may not be able to satisfy its indemnification obligations in the future.

Pursuant to the Separation and Distribution Agreement, the Employee Matters Agreement and the Tax Matters Agreement with Ingersoll Rand, Ingersoll Rand agreed to indemnify us for certain liabilities, and we agreed to indemnify Ingersoll Rand for certain liabilities, in each case for uncapped amounts. Such indemnities may be significant and could negatively impact our business, particularly indemnities relating to our actions that could impact the tax-free nature of the Spin-off. Third parties could also seek to hold us responsible for any of the liabilities that Ingersoll Rand retained. Further, the indemnity from Ingersoll Rand may not be sufficient to protect us against the full amount of such liabilities, and Ingersoll Rand may not be able to fully satisfy its indemnification obligations. Moreover, even if we ultimately succeed in recovering from Ingersoll Rand any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves.

If the distribution or certain internal transactions undertaken in anticipation of the Spin-off are determined to be taxable for U.S. federal income tax purposes, we, our shareholders that are subject to U.S. federal income tax and/or Ingersoll Rand could incur significant U.S. federal income tax liabilities and, in certain circumstances, we could be required to indemnify Ingersoll Rand for material taxes pursuant to indemnification obligations under the Tax Matters Agreement.

Ingersoll Rand has received an IRS ruling substantially to the effect that, among other things, the distribution of our ordinary shares, together with certain related transactions, qualify under Sections 355 and 368(a) of the Internal Revenue Code ("the Code"), with the result that Ingersoll Rand and Ingersoll Rand's shareholders will not recognize any taxable income, gain or loss for U.S. federal income tax purposes as a result of the Spin-off, except to the extent of cash received in lieu of fractional shares (the "IRS Ruling"). The IRS Ruling also provided that certain internal transactions undertaken in anticipation of the distribution qualify for favorable treatment under the Code. In addition to obtaining the IRS Ruling, Ingersoll Rand received opinions from the law firm of Simpson Thacher & Bartlett LLP substantially to the effect that certain requirements, including certain requirements that the IRS did not rule on, necessary to obtain tax-free treatment have been satisfied, such that the distribution for U.S. federal income tax purposes and certain other matters relating to the distribution, including certain internal transactions undertaken in anticipation of the distribution, received tax-free treatment under Section 355 of the Code.

The receipt and effectiveness of the IRS Ruling and the opinions were conditions to the distribution that were satisfied or waived by Ingersoll Rand. The IRS Ruling and the opinions rely on certain facts and assumptions and certain representations and undertakings from us and Ingersoll Rand regarding the past and future conduct of our respective businesses and other matters. Notwithstanding the IRS Ruling and the opinions, the IRS could determine on audit that the distribution or the internal transactions should be treated as taxable transactions if it determines that any of these facts, assumptions, representations or undertakings is not correct or has been violated, or that the distribution or the internal transactions should be taxable for other reasons, including as a result of significant changes in shares or asset ownership after the distribution. A legal opinion represents the tax adviser's best legal judgment, is not binding on the IRS or the courts, and the IRS or the courts may not agree with the opinion. In addition, the opinion will be based on then current law, and cannot be relied upon if current law changes with retroactive effect. If the distribution is determined to be taxable, the distribution could be treated as a taxable dividend or capital gain for U.S. federal income tax purposes, and our shareholders could incur significant U.S. federal income tax liabilities. In addition, we or Ingersoll Rand could incur significant U.S. federal income tax liabilities if it is ultimately determined that certain internal transactions undertaken in anticipation of the distribution are taxable.

In addition, under the terms of the Tax Matters Agreement, in the event the distribution or the internal transactions were determined to be taxable as a result of actions taken after the distribution by us or Ingersoll Rand, the party responsible for such failure would be responsible for all taxes imposed on us or Ingersoll Rand as a result thereof. If such failure is not the result of actions taken after the distribution by us or Ingersoll Rand, then we would be responsible for any taxes imposed on us or Ingersoll Rand as a result of such determination. Such tax amounts could be significant.

If the distribution is determined to be taxable for Irish tax purposes, significant Irish tax liabilities may arise.

Ingersoll Rand has received an opinion of the Irish Revenue regarding the Irish tax consequences of the distribution to the effect that certain reliefs and exemptions for corporate reorganizations apply. In addition to obtaining the opinion from Irish Revenue, Ingersoll Rand received an opinion from the law firm of Arthur Cox confirming the applicability of the relevant exemptions and reliefs to the distribution and that certain internal transactions will not trigger tax costs. These opinions rely on certain facts and assumptions and certain representations and undertakings from us and Ingersoll Rand regarding the past and future conduct of

our respective businesses and other matters. Notwithstanding the opinions, the Irish Revenue could determine on audit that the distribution or the internal transactions do not qualify for the relevant exemptions or reliefs if it determines that any of these facts, assumptions, representations or undertakings is not correct or has been violated. A legal opinion represents the tax adviser's best legal judgment, is not binding on the Irish Revenue or the courts and the Irish Revenue or the courts may not agree with the legal opinion. In addition, the legal opinion was based on then current law, and cannot be relied upon if current law changes with retroactive effect. If the distribution ultimately is determined not to fall within certain exemptions or reliefs, the distribution could result in our shareholders having an Irish tax liability as a result of the distribution (if a shareholder is an Irish resident or holds shares in Ingersoll Rand in an Irish branch or agency), or we or Ingersoll Rand could incur Irish tax liabilities.

In addition, under the terms of the Tax Matters Agreement, in the event the distribution does not qualify for certain reliefs or exemptions, then we would be responsible for any taxes imposed on us or Ingersoll Rand as a result of such determination. Such tax amounts could be significant.

Risks Related to Our Incorporation in Ireland

Irish law differs from the laws in effect in the United States and may afford less protection to holders of our securities.

The U.S. currently does not have a treaty with Ireland providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. As such, there is some uncertainty as to whether the courts of Ireland would recognize or enforce judgments of U.S. courts obtained against us or our directors or officers based on U.S. federal or state civil liability laws, including the civil liability provisions of the U.S. federal or state securities laws, or hear actions against us or those persons based on those laws.

As an Irish company, we are governed by the Companies Act 2014 of Ireland, as amended, which differs in some material respects from laws generally applicable to U.S. corporations and shareholders, including, among others, differences relating to interested director and officer transactions and shareholder lawsuits. Likewise, the duties of directors and officers of an Irish company generally are owed to the company only. Shareholders of Irish companies generally do not have a personal right of action against directors or officers of the company and may exercise such rights of action on behalf of the company only in limited circumstances. Accordingly, holders of our securities may have more difficulty protecting their interests than would holders of securities of a corporation incorporated in a jurisdiction of the U.S.

In addition, Irish law allows shareholders to authorize share capital which then can be issued by a board of directors without shareholder approval. Also, subject to specified exceptions, Irish law grants statutory preemptive rights to existing shareholders to subscribe for new issuances of shares for cash. At our annual meeting of shareholders, our shareholders authorized our Board of Directors to issue up to 33% of our issued ordinary shares and further authorized our Board of Directors to issue up to 5% of such shares for cash without first offering them to our existing shareholders. Both of these authorizations will expire after a certain period unless renewed by our shareholders, and we cannot guarantee that the renewal of these authorizations will always be approved.

Changes in tax laws, regulations or treaties, changes in our status under the tax laws of many jurisdictions or adverse determinations by taxing authorities could increase our tax burden or otherwise affect our financial condition or operating results, as well as subject our shareholders to additional taxes.

The realization of any tax benefit related to our incorporation and tax residence in Ireland could be impacted by changes in tax laws, tax treaties or tax regulations or the interpretation or enforcement thereof by the tax authorities of many jurisdictions. From time to time, proposals have been made and/or legislation has been introduced to change the tax laws of various jurisdictions or limit tax treaty benefits that if enacted could materially increase our tax burden and/or our effective tax rate. For instance, pending regulatory guidance on the recently enacted U.S. tax legislation could modify or eliminate the tax deductibility of various currently deductible payments, which could materially and adversely affect our effective tax rate and cash tax position. Moreover, other legislative proposals could have a material adverse impact on us by overriding certain tax treaties and limiting the treaty benefits on certain payments, which could increase our tax liability. We cannot predict the outcome of any specific legislation in any jurisdiction.

While we monitor proposals that would materially impact our tax burden and/or our effective tax rate and investigate our options, we could still be subject to increased taxation on a going forward basis no matter what action we undertake if certain legislative proposals are enacted, certain tax treaties are amended and/or our interpretation of applicable tax law is challenged and determined to be incorrect. In particular, any changes and/or differing interpretations of applicable tax law that have the effect of disregarding our incorporation in Ireland, limiting our ability to take advantage of tax treaties between jurisdictions, modifying or eliminating the deductibility of various currently deductible payments or increasing the tax burden of operating or being resident in a particular country, could subject us to increased taxation.

Dividends received by our shareholders may be subject to Irish dividend withholding tax.

In certain circumstances, we are required to deduct Irish dividend withholding tax (currently at the rate of 20%) from dividends paid to our shareholders. In the majority of cases, shareholders residing in the U.S. will not be subject to Irish withholding tax,

and shareholders resident in a number of other countries will not be subject to Irish withholding tax provided that they complete certain Irish dividend withholding tax forms. However, some shareholders may be subject to withholding tax, which could discourage the investment in our stock and adversely impact the price of our shares.

Dividends received by our shareholders could be subject to Irish income tax.

Dividends paid in respect of our shares generally are not subject to Irish income tax where the beneficial owner of these dividends is exempt from Irish dividend withholding tax, unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Allegion. Our shareholders who receive their dividends subject to Irish dividend withholding tax will generally have no further liability to Irish income tax on the dividends unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Allegion.

Certain provisions in our Memorandum and Articles of Association, among other things, could prevent or delay an acquisition of us, which could decrease the trading price of our ordinary shares.

Our Memorandum and Articles of Association contains provisions to deter takeover practices, inadequate takeover bids and unsolicited offers. These provisions include, amongst others:

- a provision of our Articles of Association which generally prohibits us from engaging in a business combination with an interested shareholder (being (i) the beneficial owner, directly or indirectly, of the relevant percentage of our voting shares or (ii) an affiliate or associate of us that has at any time within the last five years been the beneficial owner, directly or indirectly, of the relevant percentage of our voting shares), subject to certain exceptions;
- rules regarding how shareholders may present proposals or nominate directors for election at shareholder meetings;
- the right of our Board of Directors to issue preferred shares without shareholder approval in certain circumstances, subject to applicable law; and
- the ability of our Board of Directors to set the number of directors and to fill vacancies on our Board of Directors in certain circumstances.

We believe these provisions will provide some protection to our shareholders from coercive or otherwise unfair takeover tactics. These provisions are not intended to make us immune from takeovers. However, these provisions will apply even if the offer may be considered beneficial by some shareholders and could delay or prevent an acquisition that our Board of Directors determines is in our best interests and our shareholders' best interests. These provisions may also prevent or discourage attempts to remove and replace incumbent directors.

In addition, several mandatory provisions of Irish law could prevent or delay an acquisition of us. For example, Irish law does not permit shareholders of an Irish public limited company to take action by written consent with less than unanimous consent. We also will be subject to various provisions of Irish law relating to mandatory bids, voluntary bids, requirements to make a cash offer and minimum price requirements, as well as substantial acquisition rules and rules requiring the disclosure of interests in our shares in certain circumstances. Also, Irish companies, including us, may alter their Memorandum of Association and Articles of Association only with the approval of at least 75% of the votes of the company's shareholders cast in person or by proxy at a general meeting of the company.

The agreements that we entered into with Ingersoll Rand in connection with the Spin-off generally require Ingersoll Rand's consent to any assignment by us of our rights and obligations under the agreements. The consent and termination rights set forth in these agreements might discourage, delay or prevent a change of control that shareholders may consider favorable.

Non-Financial Statement

Introduction

The European Union Regulations 2017 regarding the disclosure of non-financial and diversity information by certain large undertakings and groups has been transposed into Irish legislation. This legislation requires the Group to identify and report on our business model and key non-financial matters related to the Group's activities, including information, relevant policies and principal risks with regard to environmental matters, respect for human rights, social and employee matters and bribery and corruption. The non-financial matters discussed below represent such matters at a Group level.

Overview of business model

Allegion's strategy has been built on five growth pillars: expand in core markets, innovation in existing and new product categories, opportunistic acquisitions, enterprise excellence and growth in emerging markets. These pillars have helped us to deliver growth and increase profitability since becoming an independent publicly traded company. As we look ahead, we will continue to focus on capital allocation, expand in core markets and deliver enterprise excellence, while increasing focus on delivering new value in access, and being the partner of choice. We believe this will produce expanded opportunities to continually deliver the best experience and value for our customers. For further information, please refer to our website at www.allegion.com.

We believe our success is a direct reflection of our people and culture. In fact, we believe that our values-driven culture is a formidable competitive advantage – one that should be fostered and protected. Allegion's vision is "seamless access and a safer world," and our purpose is to "create peace of mind by pioneering safety and security".

For an overview of the Company's principal activities, history and developments, and products and brands please refer to pages 3-4 of the Directors' Report.

Principal risks

Principal risks in relation to the non-financial matters outlined below are covered, if applicable, under the principal risks section of the Directors' Report on page 18.

Environmental, health and safety matters

At Allegion, we create peace of mind by pioneering safety and security and value a "be safe, be healthy" mindset to positively impact our global environment, employees, customers and local community members. In its five years as an independent publicly traded company, Allegion has committed to do business in a safe and environmentally responsible manner. Our company regularly monitors its facilities and processes to comply with environmental standards and regulations. We strive to advance sustainable business practices by setting strong safety standards and working to help improve the environment, while operating in accordance with the following principles:

- Continual improvement in Environmental, Health and Safety (EHS) management systems and performance, with the goals of reducing the usage of natural resources, minimizing waste, decreasing pollution and preventing accidents and injuries;
- Periodic, formal evaluation of our EHS compliance;
- Integration of integrity and personal accountability through the belief that every Allegion employee and contractor is responsible for safety;
    - Lead by example to ensure a safe, healthy and environmentally friendly workplace;
    - Engage in training and education for employees to understand their role in supporting the EHS issues associated with their jobs and work areas;
    - Be empowered to report unsafe conditions; and
    - Understand they have a duty to protect themselves, their co-workers and the environment.
- Integration of sound environmental, health, safety and sustainability strategies into all business functions;
- Designing, operating and maintaining our facilities with the objective of helping to minimize negative environmental impacts;
- Responsible use of materials, including, where feasible, the recycling and reuse of materials; and
- Sensitivity to community concerns about EHS issues.

We aim to reinforce this commitment in multiple ways, including the employee Code of Conduct, the business partner Code of Conduct, audits, acquisition integration, EHS consultation and participation during the development and/or implementation of programs.

The application of these principles continues to positively impact Allegion's sustainability performance. Safety and environmental "kaizens" are held to drive continuous improvement globally with a focus toward identifying, eliminating and reducing hazards and waste.

Allegion continues to look for ways to offer products that support global sustainability initiatives. To understand the impact of our products on the environment, we participate in numerous sustainability initiatives, including the Leadership in Energy and Environmental Design (LEED) program, the Living Building Challenge and the Living Product Challenge. In addition, we conduct life cycle assessments and publish both environmental and chemical declarations for select products.

Allegion values the importance of a safer and cleaner world and commits to be a responsible member of our global communities.

In 2018, we focused on business continuity planning, safety initiatives aimed at the point of operations, hazardous energy control, ergonomics, security protocols, incident response and training:

- This resulted in improvements in injury rates and improvements to sustainability metrics, including greenhouse gas emissions and water usage, compared to 2017 results.
    - 6.7% year on year improvement in the Lost Time Injury Rate (LTIR)
    - 12.4% year on year reduction in greenhouse gas emissions*
    - 2.8% year on year reduction in water usage*
    - 15.3% year on year reduction in waste disposed*

      * Data is normalized to hours worked.
- Additionally, three locations achieved zero waste to landfill, and no environmental violations were issued to any Allegion operation.

- We are proud that all manufacturing sites generally conform to ISO 14001:2015 and OHSAS 18001:2007 principles, including recent acquisitions.

To learn more about our stance on environmental matters, please refer to the sustainability and safety section of our website at www.allegion.com.

Respect for human rights

Allegion believes in fundamental standards that support our commitment to our employees, our business partners, our customers and our communities. Safe, healthy workspaces, respect for diversity, and competitive wages and benefits reflect our commitment to increase the enjoyment of human rights. Risk assessments and on-site reviews help Allegion continue to have conversations with the companies we work with about the importance of human rights. Allegion has adopted:

- Global Human Rights Policy - many of the standards set forth in the policy align with basic working conditions and human rights concepts advanced by international organizations such as the International Labor Organization and the United Nations, but the policy also represents Allegion's own minimum standards for working conditions and human rights.
- Section 54 of the UK Modern Slavery Act 2015 and the California Supply Chains Act of 2010 (SB 657) require Allegion disclose our efforts to combat such issues and details the steps Allegion has taken to ensure slavery and human trafficking are not taking place in our business and supply chains. Allegion has chosen to not only apply these standards for the business units under the jurisdiction of the regulations, but also to all wholly-owned locations and facilities. We also review new applicable regulations as they are adopted, such as in Australia and the Netherlands, to maintain compliance with any additional requirements. To review the full Anti-Human Trafficking Statement, visit Allegion's website at www.allegion.com.

Allegion has provided training to employees and made the information available to vendors working with us to increase awareness on human rights and supply chain transparency. Training during 2018 included:

- Code of Conduct refresher training to all salaried employees, including in-person discussion sessions with global leaders about the importance of setting the tone for an ethical culture in the workplace.
- Training provided to Human Resources, Marketing, IT, Legal on data privacy, sensitive personal information and upcoming GDPR changes to implement.
- Training on human rights and supply chain transparency provided to members of Global Supply Management and Legal.

Social and employee matters

Allegion is committed to being a good corporate citizen globally as well as creating a positive employee environment. Allegion also strives to be a leader in doing what's right. Our Code of Conduct details Allegion's core values, reinforces our commitment to lawful and ethical conduct and applies to all our officers, employees and directors of the Group. Our code guides our business relationships with customers, suppliers and each other. It also emphasizes what's expected of Allegion by shareholders, government regulators and the communities we serve.

Allegion is also committed to complying with its equal employment opportunity policy and will not discriminate based on race, sex, color, national origin, creed, religion, pregnancy, age, disability, military status, protected veteran status, sexual orientation, gender identity, genetic information, marital status or any legally protected status (collectively, "protected status"). We are dedicated to fulfilling this policy as it relates to decisions regarding all employment actions at all levels of employment. For more details, please refer to the careers section of our website at www.allegion.com.

In 2018, Allegion continued its commitment to ensuring a zero-tolerance rate to discrimination in line with its equal employment opportunity policy. A globally coordinated anti-harassment, inclusion and discrimination training was provided to all salaried and U.S. hourly employees. In addition, we have designated an Equal Employment Opportunity Officer to coordinate the dissemination and implementation of this policy at the Allegion facilities.

Allegion is also honored to support our global communities, not just with our vision to make the world safer, but also through the passions and service of our people. We empower employees to identify local needs and make a difference through three philanthropic pillars: safety and security, wellness, and supporting communities where we live and thrive. Allegion has also made great strides in supporting our global communities and improving the wellness of our employees during the year; some of our highlights have been outlined in the giving back section of our website at www.allegion.com.

Bribery and corruption

Allegion strives to be a leader in doing what's right. Our Ethics & Compliance Program ("E&C Program") and Code of Conduct details Allegion's core values, reinforces our commitment to lawful and ethical conduct, and applies to all of our officers, employees and directors. Based on a combination of written standards and procedures, regular training, communication and

regular monitoring, our E&C Program provides practical application guidance that employees and business partners can understand and follow. Our global team reviews and updates our policies and processes as needed.

Every new employee joining Allegion is educated on our Code of Conduct. In addition, all salaried employees are trained throughout the year on topics such as conflicts of interest, fraud, and appropriate gifts and entertainment.

Allegion communicates our Business Partner Code of Conduct, which includes topics such as protection of human rights, data privacy expectations and our stance on anti-corruption practices, to every customer and supplier through our terms and conditions. Our reputation is important and Allegion holds our partners to the same standards, which includes representative partners before engaging to do business.

The Allegion Ethics Helpline is accessible to all employees, shareholders, customers and any other outside parties in approximately 30 languages. Allegion takes each report seriously and conducts thorough investigations, all while enforcing our strict non-retaliation policy. For more information or inquiries, please contact Allegion's Chief Compliance Officer at ethicsandcompliance@allegion.com or visit the ethics and compliance page on our website at www.allegion.com.

Significant Events in 2018 and 2017

Acquisitions

We completed six business acquisitions in 2018 and one business acquisition in 2017:

Business	Month
Republic Doors & Frames, LLC ("Republic")	January 2017
Technical Glass Products, Inc. ("TGP")	January 2018
Hammond Enterprises, Inc. ("Hammond")	January 2018
Qatar Metal Industries LLC ("QMI")	February 2018
AD Systems, Inc. ("AD Systems")	March 2018
Gainsborough Hardware and API Locksmiths ("Door and Access Systems")	July 2018
ISONAS Security Systems, Inc. ("ISONAS")	July 2018

Republic provides hollow metal doors and frames throughout the U.S. and in select non-U.S. markets, complementing our Steelcraft® brand and core business in the Americas segment. Republic has been integrated into our Americas segment.

TGP provides fire-rated architectural glass and framing solutions for commercial buildings, as well as non-fire rated architectural glass and framing, including channel glass systems and curtain walls throughout the U.S., Canada and select markets in the Middle East. TGP has been integrated into our Americas and EMEIA segments.

We acquired 100% of the machinery, equipment and intellectual property of a division of Hammond. The assets acquired have been integrated into our existing production facilities and are specific to our Schlage-branded products.

QMI specializes in fire rated and non-fire rated steel and wooden doors, acoustic doors, wooden cabinets and access panels in the Middle East and Africa. QMI has been integrated into our EMEIA segment.

AD Systems designs and manufactures high-performance interior and storefront door systems, specializing in sliding and acoustic solutions for the U.S. market. AD Systems' portfolio includes sliding and swinging doors, perimeter frames, door hardware, gasketing, seals and sidelite panels. AD Systems has been integrated into our Americas segment.

Door and Access Systems, based in Australia, includes the brands Gainsborough Hardware, the market-leading residential door hardware brand in Australia, and API Locksmiths, which serves the Australian market with its keying, installation and access control services. Door and Access Systems has been integrated into our Asia Pacific segment.

ISONAS designs and manufactures edge-computing technology that produces Power over Ethernet access control solutions for non-residential end-markets in the U.S. ISONAS has been integrated into our Americas segment.

The incremental impact of the 2018 acquisitions for the twelve months ended 31 December 2018 was an increase in Turnover of approximately $160.2 million and an increase to Operating profit of approximately $2.8 million. The incremental impact of acquisitions for the twelve months ended 31 December 2017 was an increase in Turnover of approximately $32.3 million and a decrease to Operating profit of approximately $0.6 million.

During the years ended 31 December 2018 and 2017, we incurred $10.0 million and $4.7 million of acquisition and integration related expenses, respectively.

2018 Dividends

We paid quarterly dividends of $0.21 per ordinary share to shareholders on record as of 15 March 2018, 15 June 2018, 17 September 2018, and 17 December 2018. We paid a total of $79.4 million in cash for dividends to ordinary shareholders during the year ended 31 December 2018.

Restructuring charges

We incurred charges of $4.9 million and $12.3 million for the years ended 31 December 2018 and 2017, respectively, in conjunction with ongoing restructuring actions. We also incurred other non-qualified restructuring charges of $1.6 million and $1.5 million for the years ended 31 December 2018 and 2017, respectively, related to costs directly attributable to restructuring activities but that do not fall into the severance, exit or disposal category.

Financing activities

In 2017, we entered into a new $1.2 billion unsecured credit agreement (the "Credit Agreement"), consisting of a $700.0 million term loan facility (the "Term Facility") and a $500.0 million revolving credit facility (the "Revolving Facility", and together with the Term Facility, the "Credit Facilities"), and repaid in full our previously outstanding secured credit facility, the Second Amended and Restated Credit Agreement, dated as of 30 September 2015.

Also in 2017, we issued $400.0 million of 3.200% Senior Notes due 2024 (the "3.200% Senior Notes") and $400.0 million of 3.550% Senior Notes due 2027 (the "3.550% Senior Notes" and, together with the 3.200% Senior Notes, the "Notes"). We used a portion of the net proceeds from the Notes to redeem in full our previously outstanding $300.0 million Senior Notes due 2021 and $300.0 million Senior Notes due 2023.

Share repurchases

In February 2017, our Board of Directors approved a new stock repurchase authorization of up to $500 million of the Company's ordinary shares ("2017 Share Repurchase Authorization"). The 2017 Share Repurchase Authorization does not have a prescribed expiration date. We paid a total of $67.3 million to repurchase 0.9 million ordinary shares during the year ended 31 December 2018 and $60.0 million to repurchase 0.8 million ordinary shares during the year ended 31 December 2017. At 31 December 2018, we have approximately $372.7 million available under the 2017 Share Repurchase Authorization.

Results for the year and proposed transfer to reserves

The results for the year are set out in the Consolidated Profit and Loss Account on page 41. The balance to be transferred to reserves is $434.9 million.

Future Developments

We intend to maintain profitable growth in the markets we serve today and in adjacent product categories by being the preferred, trusted security partners to our end-users.

Accounting Records

The directors are responsible for ensuring that the Group keeps proper books of accounting records and appropriate accounting systems to secure compliance with the requirements of Sections 281 to 285 of the Companies Act 2014. To achieve this, the directors have appointed a Chief Financial Officer who makes regular reports to the Board of Directors and to the Audit and Finance Committee of the Board of Directors. In addition, the head of the Group's internal audit department and the General Counsel make regular reports to the Audit and Finance Committee regarding fraud and other financial-related irregularities. The Audit and Finance Committee, which is comprised of the Group's independent directors except for Mr. Szews, in turn, briefs the full Board of Directors as appropriate on significant financial matters arising from reports of the Chief Financial Officer, the head of internal audit, the General Counsel and the external auditor.

The measures taken by the directors to secure compliance with the Group's obligation to keep proper books of account are the use of appropriate systems and procedures and employment of competent persons. The books of account are kept at Block D, Iveagh Court, Harcourt Road, Dublin 2, Republic of Ireland.

Events since Year End

Dividends declared and paid

On 5 February 2019, the Group's Board of Directors declared a quarterly dividend of $0.27 cents per ordinary share. The dividend was paid on 29 March 2019 to shareholders of record on 15 March 2019.

Share repurchases

As of 4 April 2019, the Group had repurchased and cancelled approximately 0.8 million ordinary shares of $0.01 each, at a weighted-average price of approximately $86 since the year ended 31 December 2018.

Directors and Secretary

The names of the persons who were directors or secretary at any time during the year ended 31 December 2018 are set out below.

David D. Petratis (Appointed 1 December 2013)
Kirk S. Hachigian (Appointed 17 November 2013)
Michael J. Chesser (Appointed 1 December 2013 and retired 7 February 2018)
Martin E. Welch III (Appointed 1 December 2013)
Carla Cico (Appointed 1 December 2013)
Dean Schaffer (Appointed 9 April 2014)
Nicole Parent Haughey (Appointed 6 September 2017)
Charles L. Szews (Appointed 4 April 2018)
Samuel W. Sheek - Company Secretary (Appointed 11 June 2014 and retired 20 April 2018)
Jeffrey N. Braun - Company Secretary (Appointed 20 April 2018)

Directors' and Secretary's Interests in Shares

No director, the Company secretary nor any member of their immediate families had any interest in shares or debentures of any subsidiary. Directors' remuneration is set forth in Note 10 to the Consolidated Financial Statements. The beneficial interests, including the interests of spouses and minor children, of the directors and secretary in office at 31 December (or date of appointment if later) in the share capital of Allegion plc pursuant to Section 329 of the Companies Act 2014, are presented in the table below:

	At 31 December 2018		At 31 December 2017	
Directors:	Vested Shares Held	Options and Awards Granted	Vested Shares Held	Options and Awards Granted
David D. Petratis	165,173	282,242	158,105	241,414
Kirk S. Hachigian	4,734	1,266	3,785	1,273
Martin E. Welch III	4,639	1,266	3,733	1,273
Carla Cico	3,809	1,266	3,116	1,273
Dean Schaffer	4,571	1,266	3,623	1,273
Nicole Parent Haughey	—	1,266	—	—
Charles L. Szews	—	1,266	—	—
Secretary:				
Jeffrey N. Braun	5,722	28,603	4,630	27,556

Political Donations

No political contributions that require disclosure under Section 26 (1) Electoral Act 1997 (as amended) were made during the financial year.

Subsidiary Companies and Associates

Information regarding subsidiary undertakings and associates are provided in Note 37 to the Consolidated Financial Statements.

Going Concern

The Board of Directors has formed a judgment at the time of approving the financial statements that there is a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future. In arriving at this conclusion the Board has taken account of current and anticipated trading performance, together with the current and anticipated levels of net debt and the availability of the committed borrowing facilities. For this reason, the going concern basis continues to be adopted in the preparation of the Consolidated Financial Statements and the Parent Company Financial Statements.

Directors' Compliance Statement

The Directors acknowledge that they are responsible for securing the Company's compliance with its relevant obligations (as defined in the Companies Act 2014 (the "2014 Act") and, as required by Section 225 of the 2014 Act, the Directors confirm that:

- Allegion plc is committed to being compliant with all laws applicable to its operations. In particular, it is the policy of Allegion plc to comply with the Company's relevant obligations as defined in Section 225 of the 2014 Act. A compliance policy statement has been drawn up by the Company in accordance with Section 225(3)(a) of the Act setting out the Company's policies;
- appropriate arrangements and structures are in place that, in our opinion, are designed to secure compliance with the Company's relevant obligations; and
- during the financial year ended 31 December 2018, the arrangements and structures referred to above were reviewed.

Disclosure of Information to Auditors

The directors in office at the date of this report have each confirmed that:

- as far as he/she is aware, there is no relevant audit information of which the Company's statutory auditors are unaware; and
- he/she has taken all the steps that he/she ought to have taken as a director in order to make himself/herself aware of any relevant audit information and to establish that the Company's statutory auditors are aware of that information.

Audit Committee

The Group established an Audit and Finance Committee in 2013. Refer to the paragraph above on accounting records for further details on the function and responsibility of the Audit and Finance Committee.

Auditors

The Group's independent auditor, PricewaterhouseCoopers, has indicated their willingness to continue in office, and a resolution that they be re-appointed will be proposed at the Annual General Meeting.

Annual General Meeting

The Annual General Meeting ("AGM") of Allegion plc will take place at the Ritz-Carlton Montréal located at 1228 Sherbrooke St., West, Montréal, H3G 1H6, Canada on June 5, 2019, at 4.00pm local time.

On behalf of the Directors

David D. Petratis
David D. Petratis
Director

Martin E. Welch III
Martin E. Welch III
Director

STATEMENT OF DIRECTORS' RESPONSIBILITIES

The directors are responsible for preparing the Directors' report and the financial statements in accordance with Irish law.

Irish law requires the directors to prepare financial statements for each financial year giving a true and fair view of the Consolidated and Company's assets, liabilities and financial position as at the end of the financial year and of the profit or loss of the Group for the financial year. Under that law, the directors have prepared the Consolidated Financial Statements in accordance with U.S. accounting standards, as defined in Section 279 (1) of the Companies Act 2014, to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of the Companies Act or of any regulations made thereunder and the Parent Company Financial Statements in accordance with Generally accepted accounting practice in Ireland (accounting standards issued by the Financial Reporting Council and Irish Law) including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the United Kingdom and the Republic of Ireland" ("FRS 102").

Under Irish law, the directors shall not approve the financial statements unless they are satisfied that they give a true and fair view of the Company's assets, liabilities and financial position as at the end of the financial year and the profit or loss of the Company for the financial year.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state that the Consolidated Financial Statements of Allegion plc and its subsidiaries comply with accounting principles generally accepted in the U.S. GAAP to the extent that they do not contravene Irish Company Law and that the stand-alone entity financial statements of the Parent Company comply with accounting standards issued by the Financial Reporting Council of the UK and promulgated by the Institute of Chartered Accountants in Ireland and Irish Law, subject to any material departure from those standards being disclosed and explained in the Financial Statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to:

- correctly record and explain the transactions of the Company;
- enable, at any time, the assets, liabilities, financial position and profit or loss of the Company to be determined with reasonable accuracy; and
- enable the directors to ensure that the financial statements comply with the Companies Act 2014 and enable those financial statements to be audited.

The directors are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website (www.allegion.com). Legislation in Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Independent auditors' report to the members of Allegion plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Allegion plc's Consolidated Financial Statements and Parent Company Financial statements (the "financial statements") give a true and fair view of the Group's and the Parent Company's assets, liabilities and financial position as at 31 December 2018 and of the Group's profit and cash flows for the year then ended;
- the Consolidated Financial Statements have been properly prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"), as defined in Section 279 of the Companies Act 2014, to the extent that the use of those principles in the preparation of Consolidated Financial Statements does not contravene any provision of Part 6 of the Companies Act 2014;
- the Parent Company Financial Statements have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council of the UK, including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" and Irish law); and
- the financial statements have been properly prepared in accordance with the requirements of the Companies Act 2014.

We have audited the financial statements, included within the Annual Report, which comprise:

- the Consolidated Balance Sheet as at 31 December 2018;
- the Parent Company Balance Sheet as at 31 December 2018;
- the Consolidated Profit and Loss Account and Consolidated Statement of Comprehensive Income for the year then ended;
- the Consolidated Statement of Cash Flows for the year then ended;
- the Consolidated Reconciliation of Movements in Shareholders' Funds for the year then ended;
- the Parent Company Statement of Changes in Equity for the year then ended; and
- the Consolidated and Parent Company Notes to the financial statements, which include a description of the significant accounting policies.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (Ireland) ("ISAs (Ireland)") and applicable law. Our responsibilities under ISAs (Ireland) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in Ireland, which includes IAASA's Ethical Standard as applicable to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

Our audit approach

Overview

Materiality

- $24 million (2017: $20 million) - Consolidated Financial Statements
  Based on 5% of profit before taxation.
- $46 million (2017: $45 million) - Parent Company Financial Statements
  Based on 1% of net assets. For Group audit purposes, the lower group materiality of $24 million was applied to all balances and transactions that did not eliminate in the Consolidated Financial Statements

Audit scope

- We conducted audit procedures on eleven reporting components representing business units across the Group. We included these components due to their size or characteristics as well as to ensure appropriate audit coverage. Full scope audits were performed on three components and specified procedures were performed on the remaining eight components.
- Additionally, certain centralised Group functions, including treasury, taxation, equity and stock compensation, goodwill and intangible assets, business combinations, pension and post- retirement benefits, and consolidation and financial reporting were subject to full scope audit procedures.
- Taken together, the Components and Group functions resulted in audit coverage of circa 83% of Group turnover and circa 86% of Group total assets.
-

Key audit matters

- Valuation of Goodwill – Europe, Middle East, India and Africa ("EMEIA") and Asia Pacific
- Valuation of Acquired Intangible Assets – Trade names and Customer Relationships

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits we also addressed the risk of management override of internal controls, including evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

Key audit matter	***How our audit addressed the key audit matter***
Valuation of Goodwill –EMEIA and Asia Pacific	
As described in Notes 2 and 16 to the Consolidated Financial Statements, the Company's Consolidated Goodwill balance was $883.0 million at 31 December, 2018.	We tested the effectiveness of controls relating to management's goodwill impairment tests for the EMEIA and Asia Pacific reporting units, including controls over the determination of the fair value of the reporting units.
The Goodwill associated with EMEIA and Asia Pacific was $288.5 million and $108.4 million, respectively.	We evaluated the revenue growth and margin assumptions and methods utilised by management in developing the

Key audit matter	*How our audit addressed the key audit matter*
Goodwill is tested annually for impairment during the fourth quarter or whenever there is a significant change in events or circumstances that indicate that the fair value of the reporting unit is more likely than not less than the carrying amount of the reporting unit. Potential impairment is identified by comparing the carrying amount of the reporting unit to its estimated fair value. Estimated fair value of the Company's reporting units is based on a combination of techniques, including a discounted cash flow model. The determination of fair value using the discounted cash flow model requires the use of judgement in the selection of revenue growth and margin assumptions to estimate future cash flows, and in the determination of an appropriate discount rate and terminal growth rate to use. We determined that goodwill impairment assessment of EMEIA and Asia Pacific reporting units is a key audit matter due to the significant judgement required by management when developing the fair value measurements of these reporting units, including the cash flow projections and assumptions related to revenue growth, margin, discount rate, and terminal growth rate.	fair value measurements of the reporting units. When assessing the assumptions related to projected cash flows, we evaluated whether these assumptions utilized were reasonable considering the past performance of the reporting units. We also assessed the reasonableness of growth rates by comparing the assumptions used to comparable companies and analyst expectations for the industry in these regions. We considered whether the discount rates used were consistent with our internally developed models and relevant benchmarks. We were assisted by our internal valuation specialists to assist in evaluating the Company's discounted cash flow model and significant assumptions, including discount rate and terminal growth rate for the EMEIA and Asia Pacific reporting units.
Valuation of Acquired Intangible Assets – Trade names and Customer Relationships As described in Notes 2 and 12 to the Consolidated Financial Statements, the Company recorded $204.3 million of intangible assets during 2018, relating to acquisitions in the current year. Intangibles assets recorded by the Company in 2018 primarily include trade names of $59 million and customer relationships of $112 million. Fair values of acquired trade names and customer relationships are estimated using income approaches. Management used the relief from royalty method and multi-period excess earnings method for trade names and customer relationships, respectively. The determination of the fair value of the acquired intangible assets involves the use of significant estimates and assumptions by management with respect to projections of future revenues and royalty rates specific to trade names valued under the relief-from-royalty method and with respect to projections of future revenues growth rates and customer attrition rates specific to customer relationships valued under the multi-period excess earnings method. The determination of fair value of acquired intangible assets also involves the selection of appropriate discount rates. We determined that the valuation of acquired intangible assets - trade names and customer relationships is a key audit matter due to the significant judgement required by management when developing the fair value of acquired trade names and customer relationships.	We tested the effectiveness of controls relating to the valuation of acquired trade names and customer relationships. We evaluated the significant assumptions and methods used by management in developing the fair value of the acquired intangibles. When assessing the assumptions related to projected cash flows, we evaluated whether the assumptions utilised were reasonable by: • assessing whether growth rates were consistent with historical data and comparable companies and analysts expectations for the industries in which the acquired entities operate; • assessing whether the selected royalty rates were reasonable based on royalty rates for comparable companies and profitability of the acquired businesses; • evaluating whether the selected attrition rates used were consistent with historical attrition trends of the acquired businesses; and • considering whether the discount rates used were consistent with our internally developed discount rates and relevant benchmarks. We used an internal valuation specialist to assist us in evaluating the reasonableness of the valuation models used and significant assumptions, including discount rates, royalty rates, and customer attrition rates.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the group, the accounting processes and controls, and the industry in which the Group operates.

The Group is structured along three geographic segments being Americas; EMEIA; and Asia Pacific. Each operating segment provides security products and solutions through various brands resulting in a number of management reporting entities identified as components by the Group engagement team. The Consolidated Financial Statements are a consolidation of the aforementioned components. We considered the nature and extent of audit work necessary to be performed at each component to support our Group opinion whether by the Group team, or by other component auditors within other PwC network firms.

Three components were identified as significant components, and full scope audits were performed at these components by the PwC US component engagement team. Based on our risk assessment, eight additional components were subjected to specified audit procedures on specific account balances, classes of transactions or disclosures to achieve the desired level of evidence on the Group's Consolidated Financial Statements, and issued instructions to those components audited by other component auditors within other PwC network firms. Of the eleven components, six were audited by the PwC US component engagement team and five were audited by other component auditors within other PwC network firms. For those remaining components not selected for testing, the Group engagement team, performed additional risk assessment procedures. Through full scope audits performed at three components, specified procedures audits performed at eight components, and centralized Group functions and accounts tested by the PwC US component engagement team, we obtained audit coverage of 83% of Group turnover and 86% of Group total assets.

The Group team was responsible for the scope and direction of the audit process. Where the work was performed by component auditors, we determined the level of involvement the Group team needed to have to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the Consolidated Financial Statements as a whole. The supervision of the component teams included a combination of site visits, regular calls with the senior members of the component audit teams and review of detailed memoranda of examinations on work performed by component teams. We also ensured that audit teams included appropriate skills and competencies that were needed for the audit, including in the areas of information technology, income taxes, valuations, and employee benefits.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Consolidated Financial Statements	***Parent Company Financial Statements***
Overall materiality	$24 million (2017: $20 million)	$46 million (2017: $45 million)
How we determined it	5% of profit before taxation (2017: approximately 5% of profit before taxation)	1% of net assets (2017: approximately 1% of net assets)
Rationale for benchmark applied	We believe that profit before taxation is the key performance measure to assess the continuing performance of the Group.	The Parent Company is a holding company. Consequently, we consider that net assets is the most relevant measure to reflect the nature of its activities and transactions. For Group audit purposes, we used the lower overall Group materiality of $24 million (2017: $20 million) on any balances and transactions that do not eliminate on consolidation.

For each component in the scope of our group audit, we allocated a materiality that is less than our overall Group materiality. The range of materiality allocated across components was $6 million to $ 21 million (2017: $5 million to $19 million).

We agreed with the Audit Committee that we would report to them misstatements identified during our audit of the Group and the Parent Company above $2 million (2017: $1.5 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which ISAs (Ireland) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Group's or the Parent Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Group's or the Parent Company's ability to continue as a going concern.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Directors' Report, we also considered whether the disclosures required by the Companies Act 2014 (excluding the information included in the "Non Financial Statement" as defined by that Act on which we are not required to report) have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, ISAs (Ireland) and the Companies Act 2014 require us to also report certain opinions and matters as described below:

- In our opinion, based on the work undertaken in the course of the audit, the information given in the Directors' Report (excluding the information included in the "Non-Financial Statement" on which we are not required to report) for the year ended 31 December 2018 is consistent with the financial statements and has been prepared in accordance with the applicable legal requirements.
- Based on our knowledge and understanding of the Group and Parent Company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Directors' Report (excluding the information included in the "Non-Financial Statement" on which we are not required to report).

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities set out on page 34, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view.

The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Group's and the Parent Company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the Parent Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (Ireland) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the IAASA website at:

https://www.iaasa.ie/getmedia/b2389013-1cf6-458b-9b8f-a98202dc9c3a/Description_of_auditors_responsibilities_for_audit.pdf

This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with section 391 of the Companies Act 2014 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2014 opinions on other matters

- We have obtained all the information and explanations which we consider necessary for the purposes of our audit.
- In our opinion the accounting records of the parent company were sufficient to permit the parent company financial statements to be readily and properly audited.
- The Parent Company Balance Sheet is in agreement with the accounting records.

Companies Act 2014 exception reporting

Directors' remuneration and transactions

Under the Companies Act 2014 we are required to report to you if, in our opinion, the disclosures of directors' remuneration and transactions specified by sections 305 to 312 of that Act have not been made. We have no exceptions to report arising from this responsibility.

Alisa Hayden
for and on behalf of PricewaterhouseCoopers
Chartered Accountants and Statutory Audit Firm
Dublin
4 April 2019

Allegion plc
Consolidated Profit and Loss Account
For the year ended 31 December

In millions ($), except for share amounts	Note	2018	2017
Turnover	4	2,731.7	2,408.2
Cost of sales		(1,558.4)	(1,335.3)
Gross profit		1,173.3	1,072.9
Distribution costs		(373.3)	(334.2)
Administrative expenses		(274.2)	(246.2)
Other operating expenses	5	(0.3)	(0.7)
		(647.8)	(581.1)
Operating profit		525.5	491.8
Income from other financial assets	6	2.9	8.4
Other interest receivable and similar income	7	0.8	1.2
Interest payable and similar charges	8	(54.0)	(105.7)
Profit on ordinary activities before taxation	9	475.2	395.7
Tax on profit on ordinary activities	11	(39.8)	(119.0)
Profit on ordinary activities after taxation		435.4	276.7
Attributable to non-controlling interests	14	(0.5)	(3.4)
Profit for the financial year		434.9	273.3
Profit per share attributable to Allegion plc ordinary shareholders:			
Basic:	15	$	$
Profit for the financial year		4.58	2.87
Diluted:	15		
Profit for the financial year		4.54	2.85

Allegion plc
Consolidated Statement of Comprehensive Income
For the year ended 31 December

In millions ($)	Note	2018	2017
Profit on ordinary activities after taxation		435.4	276.7
Other comprehensive (loss) income, net of tax:			
Foreign currency items		(56.9)	97.5
Cash flow hedges and marketable securities:			
Unrealized net gains arising during year		4.6	5.2
Net gains reclassified to profit and loss account		(2.3)	(4.7)
Tax expense		(0.5)	(0.1)
Total cash flow hedges and marketable securities, net of tax		1.8	0.4
Pension and OPEB items:			
Net actuarial (losses) gains for the year		(16.6)	25.5
Amortization reclassified to profit and loss account		4.5	5.2
Settlements/curtailments reclassified to profit and loss account		—	0.1
Currency translation and other		5.1	0.7
Tax benefit (expense)		1.6	(12.2)
Total pension and OPEB items:		(5.4)	19.3
Other comprehensive (loss) income, net of tax		(60.5)	117.2
Total comprehensive income for the financial year, net of tax		374.9	393.9
Less: Total comprehensive income attributable to non-controlling interests		0.9	2.8
Total comprehensive income for the financial year attributable to Allegion plc		374.0	391.1

Allegion plc
Consolidated Balance Sheet
At 31 December

In millions ($)	Note	2018	2017
Fixed assets			
Intangible assets	16	1,430.1	1,155.5
Tangible assets	17	276.7	252.2
Financial assets	18	43.6	16.2
		1,750.4	1,423.9
Current assets			
Stock	19	280.3	239.8
Debtors	20	359.9	325.8
Cash at bank and in hand	21	290.6	466.2
Assets held for sale		0.8	0.9
		931.6	1,032.7
Debtors: amounts falling due after more than one year	22	128.2	85.4
Creditors: amounts falling due within one year	23	(481.4)	(415.8)
Net current assets		450.2	616.9
Total assets less current liabilities		2,328.8	2,126.2
Creditors: amounts falling due after more than one year	24	(1,409.5)	(1,442.3)
Net assets excluding provisions for liabilities		919.3	683.9
Provisions for liabilities	29	(265.3)	(278.4)
Net assets including provisions for liabilities		654.0	405.5
Capital and reserves			
Called up share capital presented as equity	32	0.9	1.0
Share premium account	33	65.4	62.2
Other reserves	33	(143.8)	(92.4)
Profit and loss account	33	728.5	430.8
Equity shareholders' funds		651.0	401.6
Non-controlling interests	14	3.0	3.9
Total equity		654.0	405.5

Approved by the Board of Directors on 4 April 2019 and signed on its behalf by:

David D. Petratis
David D. Petratis
Director

Martin E. Welch III
Martin E. Welch III
Director

Allegion plc
Consolidated Reconciliation of Movements in Shareholders' Funds

In millions ($)	Total equity	Called up share capital: Amount	Called up share capital: Shares (Number)	Share premium account	Profit and loss account	Other reserves	Non-controlling interests
Balance at 31 December 2016	116.4	1.0	95.3	55.0	276.9	(219.6)	3.1
Cumulative effect of change in accounting principle	(5.0)	—	—	—	(5.0)	—	—
Profit for the year	276.7	—	—	—	273.3	—	3.4
Other comprehensive income (loss)	117.2	—	—	—	—	117.8	(0.6)
Shares issued under incentive stock plans	7.2	—	—	7.2	—	—	—
Repurchase of ordinary shares	(60.0)	—	(0.8)	—	(60.0)	—	—
Share-based compensation	15.8	—	0.6	—	—	15.8	—
Dividends declared to non-controlling interests	(1.8)	—	—	—	—	—	(1.8)
Cash dividends declared ($0.64 per share)	(60.9)	—	—	—	(60.9)	—	—
Other	(0.1)	—	—	—	6.5	(6.4)	(0.2)
Balance at 31 December 2017	405.5	1.0	95.1	62.2	430.8	(92.4)	3.9
Profit for the year	435.4	—	—	—	434.9	—	0.5
Other comprehensive (loss) income	(60.5)	—	—	—	—	(60.9)	0.4
Shares issued under incentive stock plans	3.2	—	—	3.2	—	—	—
Repurchase of ordinary shares	(67.3)	(0.1)	(0.9)	—	(67.2)	—	—
Share-based compensation	19.2	—	0.4	—	—	19.2	—
Dividends declared to non-controlling interests	(1.8)	—	—	—	—	—	(1.8)
Cash dividends declared ($0.84 per share)	(79.7)	—	—	—	(79.7)	—	—
Reclassification due to adoption of ASU 2018-02 (see Note 2)	—	—	—	—	9.7	(9.7)	—
Balance at 31 December 2018	654.0	0.9	94.6	65.4	728.5	(143.8)	3.0

Allegion plc
Consolidated Statement of Cash Flows
For the year ended 31 December

In millions ($)	2018	2017
Cash flows from operating activities:		
Profit on ordinary activities after taxation	435.4	276.7
Adjustments to arrive at net cash provided by operating activities:		
Debt extinguishment costs	—	43.1
Depreciation and amortization	86.2	66.9
Share-based compensation	19.6	16.2
Loss (gain) on sale of tangible fixed assets	0.4	(0.1)
Equity earnings, net of dividends	(0.1)	(5.3)
Discretionary pension plan contribution	—	(50.0)
Deferred income taxes	(64.4)	24.9
Other items	(8.3)	3.0
Changes in other assets and liabilities:		
Debtors	(8.6)	(22.7)
Stock	(19.7)	(4.4)
Debtors: amounts falling due after more than one year and financial assets	(3.3)	3.5
Creditors: amounts falling due within one year	33.9	0.4
Creditors: amounts falling due after more than one year	(13.3)	(5.0)
Net cash provided by operating activities	457.8	347.2
Cash flows from investing activities:		
Capital expenditures	(49.1)	(49.3)
Acquisition of and equity investments in businesses, net of cash acquired	(376.1)	(20.8)
Proceeds from sale of tangible fixed assets	0.2	3.1
Proceeds from sale of equity investment	—	15.6
Proceeds related to business dispositions	—	1.2
Purchase of investments	(14.3)	—
Other investing activities, net	(4.5)	—
Net cash used in investing activities	(443.8)	(50.2)
Cash flows from financing activities:		
Short-term borrowings, net	(0.6)	(1.3)
Proceeds from revolving facility	115.0	165.0
Repayments of revolving facility	(115.0)	(165.0)
Issuance of term facility	—	700.0
Settlement of second amended credit facility	—	(856.3)
Proceeds from issuance of senior notes	—	800.0
Redemption of senior notes	—	(600.0)
Payments of long-term debt	(35.5)	(32.3)
Net (repayments of) proceeds in debt	(36.1)	10.1

Allegion plc
Consolidated Statement of Cash Flows (Continued)

In millions ($)	2018	2017
Cash flows from financing activities (continued):		
Debt issuance costs	—	(9.5)
Redemption premium	—	(33.2)
Dividends paid to ordinary shareholders	(79.4)	(60.9)
Repurchase of ordinary shares	(67.3)	(60.0)
Proceeds from shares issued under incentive plans	3.2	7.2
Other financing activities, net	(3.8)	(4.6)
Net cash used in financing activities	(183.4)	(150.9)
Effect of exchange rate changes on cash at bank and in hand	(6.2)	7.7
Net (decrease) increase on cash at bank and in hand	(175.6)	153.8
Cash at bank and in hand – beginning of year	466.2	312.4
Cash at bank and in hand – end of year	290.6	466.2

1. BASIS OF PREPARATION

Irish law requires the directors to prepare financial statements for each financial year that give a true and fair view of the Consolidated and Company's assets, liabilities and financial position as at the end of the financial year and of the profit or loss of the Group for the financial year. Under that law, the directors have prepared the Consolidated Financial Statements in accordance with U.S. accounting standards, as defined in Section 279 (1) of the Companies Act 2014, to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of the Companies Act or of any regulations made thereunder and the Parent Company Financial Statements in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council of the UK, and promulgated by the Institute of Chartered Accountants in Ireland and Irish law). The Consolidated Financial Statements are prepared in accordance with Irish Company Law, to present to the shareholders of Allegion plc and file with the Companies Registration Office in Ireland. Accordingly, these Consolidated Financial Statements include disclosures required by the Companies Act 2014 of Ireland in addition to those required under U.S. GAAP.

The Consolidated and Parent Company Financial Statements have been prepared on the going concern basis.

On 1 December 2013, Allegion became a stand-alone Group after Ingersoll Rand plc ("Ingersoll Rand") completed the separation of its commercial and residential security businesses ("the Business") from the rest of Ingersoll Rand, via the transfer of the Business from Ingersoll Rand to Allegion and the issuance by Allegion of ordinary shares directly to Ingersoll Rand's shareholders (the "Spin-off"). As part of the Spin-off, Allegion issued one ordinary share for every three ordinary shares of Ingersoll Rand held of record as of 5:00 p.m., New York City time on 22 November 2013 in return for the entire share capital of the subsidiaries which owned all the assets and liabilities of the Business. Allegion ordinary shares trade under the symbol "ALLE" on the New York Stock Exchange. Allegion issued a total of approximately 96.0 million ordinary shares in the Spin-off. Under Irish Company Law, this transaction has been accounted for using the merger method of accounting in the Consolidated Financial Statements.

The profit attributable to equity shareholders dealt within the Parent Company Financial Statements in 2018 was $202.4 million (2017: profit of $547.8 million). In accordance with Section 304 of the Companies Act 2014, the Company is availing of the exemption from presenting its Individual Profit and Loss Account at the Annual General Meeting and from filing it with the Registrar of Companies.

The financial statements are presented in U.S. dollars.

Certain comparative balances have been reclassified from original presentation as a result of the adoption of ASU 2017-07. The Group reclassified $4.3 million of net periodic pension and postretirement benefit cost, less service cost from Cost of sales, Distribution costs and Administrative expenses to Income from other financial assets within its previously reported Consolidated Profit and Loss Account for the year ended 31 December 2017.

2. SIGNIFICANT ACCOUNTING POLICIES

A summary of significant accounting policies used in the preparation of the accompanying Consolidated Financial Statements follows:

Accounting convention: These financial statements are prepared under the historical cost convention.

Basis of consolidation: The Consolidated Financial Statements include all majority-owned subsidiaries of the Group. A non-controlling interest in a subsidiary is considered an ownership interest in a majority-owned subsidiary that is not attributable to the parent. The Group includes non-controlling interests as a component of Total equity in the Consolidated Balance Sheet and the Profit for the year attributable to non-controlling interests are presented as an adjustment from Profit on ordinary activities after taxation used to arrive at Profit for the financial year attributable to Allegion plc in the Consolidated Profit and Loss Account.

Partially-owned equity affiliates generally represent 20-50% ownership interests in investments and where the Group demonstrates significant influence in investments but does not have a controlling financial interest. Partially-owned equity affiliates are accounted for under the equity method. The Group is also required to consolidate variable interest entities in which it bears a majority of the risk to the entities' potential losses or stands to gain from a majority of the entities' expected returns. Transactions between the Group and Ingersoll Rand and its affiliates are herein referred to as "related party" or "affiliated" transactions. Intercompany accounts and transactions have been eliminated.

Use of estimates: The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosures of contingent assets and liabilities at the date of the financial statements as well as the reported amounts of turnover and expenses during the reporting year. Estimates are based on several factors including the facts and circumstances available at the time the estimates are made, historical experience, risk of loss, general economic conditions and trends and the assessment of the probable future outcome. Some of the more significant estimates include useful lives of tangible and intangible assets, purchase price allocations of acquired businesses, valuation of assets including goodwill and other intangible assets, product warranties, sales allowances, pension

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

plans, postretirement benefits other than pensions, taxes, environmental costs, product liability and other contingencies. Actual results could differ from those estimates. Estimates and assumptions are reviewed periodically, and the effects of changes, if any, are reflected in the Consolidated Profit and Loss Account in the year that they are determined.

Currency translation: Assets and liabilities where the functional currency is not the U.S. dollar have been translated at year-end exchange rates, and income and expense accounts have been translated using average exchange rates throughout the year. Adjustments resulting from the process of translating an entity's financial statements into the U.S. dollar have been recorded in the equity section of the Consolidated Balance Sheet within Other reserves. Transactions that are denominated in a currency other than an entity's functional currency are subject to changes in exchange rates with the resulting gains and losses recorded within Profit on ordinary activities before taxation.

Cash at bank and in hand: Cash at bank and in hand include cash on hand, demand deposits and all highly liquid investments with original maturities at the time of purchase of three months or less.

Stock: Stock is stated at the lower of cost and net realizable value using the first-in, first-out (FIFO) method.

Allowance for doubtful accounts: The Group has provided an allowance for doubtful debtors, which represents the best estimate of probable loss inherent in the Group's debtor portfolio. Changes in the financial condition of customers or other unanticipated events, which may affect their ability to make payments, could result in charges for additional allowances exceeding the Group's estimates. The Group's estimates are influenced by the following considerations: a continuing credit evaluation of customers' financial condition; debtors aging; and historical loss experience. The Group has reserved $3.3 million and $2.8 million for doubtful accounts as of 31 December 2018 and 2017, respectively.

Tangible assets: Tangible assets are stated at cost, less accumulated depreciation. Assets placed in service are recorded at cost and depreciated using the straight-line method over the estimated useful life of the asset except for leasehold improvements, which are depreciated over the shorter of their economic useful life or their lease term. The range of useful lives used to depreciate tangible assets is as follows:

Buildings	10	to	50	years
Machinery and equipment	2	to	12	years
Vehicles	3	to	6	years
Fixtures and fittings	5	to	10	years
Software	2	to	7	years

Repair and maintenance costs that do not extend the useful life of the asset are charged against profits as incurred. Major replacements and significant improvements that increase asset values and extend useful lives are capitalized.

The Group assesses the recoverability of the carrying value of its tangible assets whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability is measured by a comparison of the carrying amount of an asset to the future net undiscounted cash flows expected to be generated by the asset. If the undiscounted cash flows are less than the carrying amount of the asset, an impairment loss is recognized for the amount by which the carrying value of the asset exceeds the fair value of the assets.

Goodwill and Intangible assets: The Group records as goodwill the excess of the purchase price of an acquired business over the fair value of the net assets acquired.

Irish company law requires goodwill and other intangible assets to be written off over a time period which does not exceed their useful life. Consistent with U.S. GAAP, the Group does not amortize goodwill and certain intangibles over an arbitrary period as they are considered to have an indefinite life. In accordance with U.S. GAAP, goodwill and other indefinite-lived intangible assets are tested and reviewed annually for impairment during the fourth quarter, or whenever there is a significant change in events or circumstances that indicate that the fair value of the reporting unit or indefinite-lived intangible asset is more likely than not less than the carrying amount of the reporting unit or indefinite-lived intangible asset.

Recoverability of goodwill is measured at the reporting unit level. The carrying amount of the reporting unit is compared to its estimated fair value. If the estimated fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired. To the extent that the carrying value of the reporting unit exceeds its estimated fair value, a goodwill impairment charge will be recognized for the amount by which the carrying value of the reporting unit exceeds its fair value, not to exceed the carrying amount of goodwill. Estimated fair value of the Group's reporting units is based on two valuation techniques, a discounted cash flow model (income approach) and a market adjusted multiple of profits and turnover (market approach), with each method being weighted in the calculation.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Recoverability of other intangible assets with indefinite useful lives (i.e. Trade names) is determined on a relief from royalty methodology, which is based on the implied royalty paid, at an appropriate discount rate, to license the use of an asset rather than owning the asset. The present value of the after-tax cost savings (i.e. royalty relief) indicates the estimated fair value of the asset. Any excess of the carrying value over the estimated fair value is recognized as an impairment loss equal to that excess.

Intangible assets such as patents, customer-related intangible assets and other intangible assets with finite useful lives are amortized on a straight-line basis over their estimated economic lives. The weighted-average useful lives approximate the following:

Customer relationships	20	years
Trade names (finite-lived)	25	years
Completed technology/patents	10	years
Other	25	years

Recoverability of intangible assets with finite useful lives is assessed in the same manner as tangible fixed assets as described above.

Taxation: The calculation of the Group's taxation involves considerable judgment and the use of both estimates and allocations. Deferred tax assets and liabilities are determined based on temporary differences between financial reporting and tax bases of assets and liabilities, applying enacted tax rates expected to be in effect for the year in which the differences are expected to reverse. The Group recognizes future tax benefits, such as net operating losses and tax credits, to the extent that realizing these benefits is considered in its judgment to be more likely than not. The Group regularly reviews the recoverability of its deferred tax assets considering its historic profitability, projected future taxable income, timing of the reversals of existing temporary differences and the feasibility of its tax planning strategies. Where appropriate, the Group records a valuation allowance with respect to future tax benefits.

Cash paid for taxation, net of refunds, for the twelve months ended 31 December 2018 and 2017 was $101.7 million and $86.7 million, respectively.

On 22 December 2017, the President of the United States signed comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Reform Act"), which is discussed in greater detail in Note 11. The Tax Reform Act includes a provision termed the global intangible low-taxed income ("GILTI"). The GILTI provisions will require the Group to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the non-U.S. subsidiary's tangible assets. The Company has elected to account for GILTI tax in the period in which it is incurred.

Product warranties: Standard product warranty accruals are recorded at the time of sale and are estimated based upon product warranty terms and historical experience. The Group assesses the adequacy of its liabilities and will make adjustments as necessary based on known or anticipated warranty claims, or as new information becomes available. Refer to Note 30 for further details of product warranties.

Revenue recognition: Turnover is recognized based on the satisfaction of performance obligations under the terms of a contract. A performance obligation is a promise in a contract to transfer control of a distinct product or to provide a service, or a bundle of products or services, to a customer, and is the unit of account under ASC 606. The Group has two principal turnover streams, tangible product sales and services. Approximately 99% of consolidated Turnover involve contracts with a single performance obligation, which is the transfer of control of a product or bundle of products to a customer. Transfer of control typically occurs when goods are shipped from the Group's facilities or at other predetermined control transfer points (for instance, destination terms). Turnover is measured as the amount of consideration the Group expects to receive in exchange for transferring control of the products and takes into account variable consideration, such as sales incentive programs, including discounts and volume rebates. The existence of these programs does not preclude revenue recognition but does require the Group's best estimate of the variable consideration to be made based on expected activity, as these items are reserved for as a deduction to Turnover over time based on historical rates of providing these incentives and annual forecasted sales volumes.

The Group's remaining Turnover involve services, including installation and consulting. Unlike the single performance obligation to ship a product or bundle of products, the service turnover stream delays revenue recognition until the service performance obligations are satisfied. In some instances, customer acceptance provisions are included in sales arrangements to give the buyer the ability to ensure the service meets the criteria established in the order. In these instances, revenue recognition is deferred until the performance obligations are satisfied, which could include acceptance terms specified in the arrangement being fulfilled through customer acceptance or a demonstration that established criteria have been satisfied.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

The Group does not adjust the transaction price for the effects of a significant financing component, as the time period between control transfer of goods and services is less than one year. Sales, value-added and other similar taxes collected by the Group are excluded from Turnover. The Group has also elected to account for shipping and handling activities that occur after control of the related goods transfers as fulfillment activities instead of performance obligations. The Group's payment terms are generally consistent with the industries in which their businesses operate.

Sales returns and customer disputes involving a question of quantity or price are accounted for as variable consideration, and therefore, as a reduction in turnover and a contra debtor. At 31 December 2018 and 2017, the Group had a customer claim accrual (contra debtor) of $31.6 million and $32.5 million, respectively. All other incentives or incentive programs where the customer is required to reach a certain level of purchases, remain a customer for a certain period, provide a rebate form or is subject to additional requirements are also considered variable consideration and are accounted for as a reduction of turnover and a creditor. At 31 December 2018 and 2017, the Group had a sales incentive accrual of $33.9 million and $31.8 million, respectively. Variable consideration is estimated based on the most likely amount expected to be received by customers. Each of the accruals represents the Group's best estimate of the most likely amount expected to be received from customers based on historical experience. These estimates are reviewed regularly for accuracy. If updated information or actual amounts are different from previous estimates, the revisions are included in the Group's results for the period in which they become known. Historically, the aggregate differences, if any, between the Group's estimates and actual amounts in any year have not had a material impact on the Consolidated Financial Statements. The Group also offers a standard warranty with most product sales and the value of such warranty is included in the contractual price. The corresponding cost of the warranty obligation is accrued as a liability (see Note 30).

Environmental costs: The Group is subject to laws and regulations relating to protecting the environment. Environmental expenditures relating to current operations are expensed or capitalized as appropriate. Expenditures relating to existing conditions caused by past operations, which do not contribute to current or future turnover, is expensed. Liabilities for remediation costs are recorded when they are probable and can be reasonably estimated, generally no later than the completion of feasibility studies or the Group's commitment to a plan of action. The assessment of this liability, which is calculated based on existing technology, does not reflect any offset for possible recoveries from insurance companies and is not discounted. Refer to Note 29 and Note 30 for further details of environmental matters.

Research and development costs: The Group conducts research and development activities for the purpose of developing and improving new products and services. These expenditures are expensed when incurred. For the years ended 31 December 2018 and 2017, these expenditures amounted to approximately $54.4 million and $48.3 million, respectively, and consist of salaries, wages, benefits, building costs and other overhead expenses.

Software costs: The Group capitalizes certain qualified internal-use software costs during the application development stage and subsequently amortizes those costs over the software's useful life, which ranges from 2 to 7 years. Refer to Note 17 for further details on software.

Employee benefit plans: The Group provides a range of benefits, including pensions, postretirement and postemployment benefits to eligible current and former employees. Determining the cost associated with such benefits is dependent on various actuarial assumptions, including discount rates, expected return on plan assets, compensation increases, employee mortality, Turnover rates and healthcare cost trend rates. Actuaries perform the required calculations to determine expense in accordance with U.S. GAAP. Actual results may differ from the actuarial assumptions and are generally accumulated into Other reserves and amortized into the profit and loss over future periods. The Group reviews its actuarial assumptions at each measurement date and makes modifications to the assumptions based on current rates and trends, if appropriate. Refer to Note 27 for further details on employee benefit plans.

Provisions for liabilities: Liabilities are recorded for various contingencies arising in the normal course of business, including litigation and administrative proceedings, environmental matters, product liability, product warranty, worker's compensation and other claims. The Group has recorded reserves in the financial statements related to these matters, which are developed using inputs derived from actuarial estimates and historical and anticipated experience data depending on the nature of the reserve and, in certain instances, with consultation of legal counsel, internal and external consultants and engineers. Subject to the uncertainties inherent in estimating future costs for these types of liabilities, the Group believes its estimated reserves are reasonable and does not believe the final determination of the liabilities with respect to these matters would have a material effect on the financial condition, results of operations, liquidity or cash flows of the Group for any year. Refer to Notes 29 and 30 for further details on provisions.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Derivative instruments: The Group periodically enters into cash flow and other derivative transactions to specifically hedge exposure to various risks related to currency and interest rates. The Group recognizes all derivatives on the Consolidated Balance Sheet at their fair value as either assets or liabilities. For designated cash flow hedges, the changes in fair value of the derivative contract is recorded in Other reserves, net of tax, and in the Consolidated Profit and Loss Account at the time earnings are affected by the hedged transaction. For other derivative transactions, the changes in the fair value of the derivative contract are immediately recognized in the Consolidated Profit and Loss Account. Refer to Note 26 for further details on derivative instruments.

Dividends: Dividend income is recognized when the right to receive the payment is established. Interim dividends on ordinary shares to the Group's external shareholders are recognized in the financial statements when they are paid. In accordance with U.S. GAAP, interim dividends to non-controlling interests are recognized as a liability in the year in which they are declared.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements:

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers" (ASC 606). ASC 606 is a single, comprehensive revenue recognition model for all contracts with customers. The model is based on changes in contract assets (rights to receive consideration) and liabilities (obligations to provide a good or perform a service). Turnover is recognized based on the satisfaction of performance obligations, which occurs when control of a good or service transfers to a customer. ASC 606 contains expanded disclosure requirements relating to the nature, amount, timing and uncertainty of Turnover and cash flows arising from contracts with customers. ASC 606 allows entities to adopt the standard on either a full retrospective approach or report the cumulative effect as of the date of adoption ("modified retrospective method"). The FASB has also issued the following standards which clarify ASU 2014-09: ASU 2017-14, Revenue Recognition, Revenue from Contracts with Customers: Amendments to SEC Paragraphs Pursuant to Staff Accounting Bulletin No. 116 and SEC Release No. 33-10403, ASU 2017-13, Revenue Recognition, Revenue from Contracts with Customers: Amendments to SEC Paragraphs Pursuant to the Staff Announcement at the 20 July 2017 EITF Meeting and Rescission of Prior SEC Staff Announcements and Observer Comments, ASU 2016-20, Revenue from Contracts with Customers: Technical Corrections and Improvements, ASU 2016-12, Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients and ASU 2016-10, Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing. The Group adopted each of these standards (collectively, "ASC 606") on 1 January 2018 on a modified retrospective basis, which was applied to all contracts not completed as of 1 January 2018. The impact of adopting ASC 606 was not material to the Group’s Consolidated Financial Statements at 1 January 2018 or for the year ended 31 December 2018, and no cumulative effect adjustment was recorded to opening profit and loss account. Expanded disclosure as required by the new standards is presented within Note 4.

In January 2016, the FASB issued ASU 2016-01, “Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Liabilities.” The new guidance revises the accounting related to unconsolidated equity investments, other than those accounted for under the equity method. The new guidance requires the fair value measurement of investments in unconsolidated equity securities that are not accounted for under the equity method through the Consolidated Profit and Loss Account. Entities will no longer be able to apply the cost method of accounting for equity securities that do not have readily determinable fair values. Instead, for these types of equity investments, entities may measure the investment at cost less impairment plus or minus observable price changes (in orderly transactions). This ASU was effective for the Group on 1 January 2018. The adoption of ASU 2016-01 did not have a material impact on the Consolidated Financial Statements.

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Clarification of Certain Cash Receipts and Cash Payments." ASU 2016-15 eliminates the diversity in practice related to the classification of certain cash receipts and payments in the statement of cash flows by adding or clarifying guidance on eight specific cash flow issues. The ASU is effective for annual and interim reporting periods beginning after 15 December 2017, and as such, the Group adopted ASU 2016-15 on 1 January 2018. The amendments in this update are required to be applied retrospectively to all years presented. The adoption of ASU 2016-15 did not have a material impact on the Consolidated Financial Statements.

In November 2016, the FASB issued ASU 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash." ASU 2016-18 requires that a statement of cash flows explain the change during the period in the total of Cash at bank and in hand and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with Cash at bank and in hand when reconciling the beginning of the year and end of the year total amounts shown on the Consolidated Statement of Cash Flows. ASU 2016-18 is effective for annual and interim reporting periods beginning after 15 December 2017, and as such, the Group adopted ASU 2016-18 on 1 January 2018. The adoption of ASU 2016-18 did not have a material impact on the Consolidated Financial Statements.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

In January 2017, the FASB issued ASU 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business." This update provides guidance to assist companies in evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The update provides a more robust framework to use in determining when a set of transferred assets and activities is a business. This ASU is effective for annual and interim reporting periods beginning after 15 December 2017, and requires prospective adoption. The Group adopted ASU 2017-01 on 1 January 2018. The adoption of ASU 2017-01 did not have a material impact on the Consolidated Financial Statements.

In March 2017, the FASB issued ASU 2017-07, "Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." ASU 2017-07 requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the year. The other components of net benefit cost are required to be presented in the profit and loss account separately from the service cost component and outside a subtotal of Operating profit. ASU 2017-07 also allows only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured stock or a self-constructed asset). The ASU is effective for annual periods beginning after 15 December 2017, and as such, the Group adopted ASU 2017-07 on 1 January 2018. The Group has applied ASU 2017-07 retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the Consolidated Profit and Loss Account and prospectively for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit in the Consolidated Balance Sheet. Accordingly, for all years presented in the Consolidated Financial Statements, the service cost component of net periodic pension benefit cost (income) is recorded in Cost of sales, Distribution costs and Administrative expenses within the Consolidated Profit and Loss Account. The remaining components of net periodic pension benefit (income) cost are recorded within Income from other financial assets. The adoption of ASU 2017-07 did not have a material impact on the Consolidated Financial Statements.

In August 2017, the FASB issued ASU 2017-12, "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities." ASU 2017-12 addresses previous limitations on how an entity can designate the hedged risk in certain cash flow and fair value hedging relationships by expanding and refining hedge accounting for both non-financial and financial risk components and aligning the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. The ASU is effective for annual periods beginning after 15 December 2018, with early adoption permitted. The Group elected to early adopt the provisions of ASU 2017-12 on 1 January 2018. The amendments in this update have been applied to hedging relationships existing on the date of adoption. In October 2018, the FASB issued ASU 2018-16, "Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes." ASU 2018-16 slightly amended ASU 2017-12 to allow for the use of the SOFR OIS as a benchmark interest rate for hedge accounting purposes, in addition to the previously allowable benchmark interest rates. As the Group had previously adopted ASU 2017-12, ASU 2018-16 was effective for the Group upon release by the FASB. The adoptions of both ASU 2017-12 and ASU 2018-16 did not have a material impact on the Consolidated Financial Statements.

In February 2018, the FASB issued ASU 2018-02, "Income Statement-Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." The new guidance permits entities to reclassify tax effects stranded in Other reserves as a result of the Tax Reform Act. ASU 2018-02 provides this option not only for the impact to deferred tax assets and liabilities due to the reduction in the U.S. tax rate, but also for tax effects stranded in Other reserves for other reasons specific to the Tax Reform Act, such as state taxes or transitioning to a territorial tax system. Tax effects that are stranded in Other reserves for reasons not relating to the Tax Reform Act may not be reclassified under ASU 2018-02. This ASU is effective for fiscal years beginning after 15 December 2018, and interim periods within those fiscal years. Early adoption is permitted. Entities that adopt the ASU in an annual or interim period after the period of enactment are able to choose whether to apply the amendments retrospectively to each period in which the effect of the Tax Reform Act is recognized or to apply the amendments in the period of adoption. The Group has elected to early adopt ASU 2018-02 on 31 December 2018, and to apply the amendments in the year ended 31 December 2018. The impact of adoption resulted in a reclassification of $9.7 million of tax effects stranded in Other reserves into the profit and loss account.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement." The new guidance modifies the disclosure requirements related to fair value measurements in Topic 820, Fair Value Measurement, including removing certain previous disclosure requirements, adding certain new disclosure requirements and modifying certain other disclosure requirements. The ASU will be effective for fiscal years beginning after 15 December 2019, including interim periods within those fiscal years. Early adoption is permitted. The Group elected to early adopt ASU 2018-13 on 1 October 2018. The adoption of ASU 2018-13 did not have a material impact on the Consolidated Financial Statements.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

In August 2018, the FASB issued ASU 2018-14, "Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20): Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans." The new guidance modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans, including removing certain previous disclosure requirements, adding certain new disclosure requirements, and clarifying certain other disclosure requirements. The ASU will be effective for fiscal years beginning after 15 December 2020, including interim periods within those fiscal years. Early adoption is permitted. The Group elected to early adopt ASU 2018-14 on 1 October 2018. The adoption of ASU 2018-14 did not have a material impact on the Consolidated Financial Statements.

Recently Issued Accounting Pronouncements:

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)." ASU 2016-02 requires the identification of arrangements that should be accounted for as leases. In general, for lease arrangements exceeding a twelve-month term, these arrangements will be recognized as assets and liabilities on the balance sheet of the lessee. Under ASU 2016-02, a right-of-use (ROU) asset and lease obligation will be recorded for all leases, whether operating or financing, while the profit and loss account will reflect lease expense for operating leases and amortization/interest expense for financing leases. In July 2018, the FASB issued ASU 2018-10, "Codification Improvements to Topic 842 (Leases)", which provides narrow amendments to clarify how to apply certain aspects of ASU 2016-02, and ASU 2018-11, "Leases (Topic 842): Targeted Improvements", which provides an additional transition method by allowing entities to initially apply ASU 2016-02, and subsequent related standards, at the adoption date and recognize a cumulative-effect adjustment to the opening balance of the profit and loss account in the period of adoption. These ASUs (collectively “ASC 842”) are effective for annual periods beginning after 15 December 2018, and interim periods within those annual periods. The Group adopted ASC 842 on 1 January 2019 utilizing the transition method allowed per ASU 2018-11, and accordingly, comparative period financial information will not be adjusted for the effects of adopting ASC 842. No cumulative-effect adjustment was required to the opening balance of the profit and loss account on the adoption date.

The Group has substantially completed an assessment of the new standard’s impact and determined the new standards will not have a material impact on the Group's Consolidated Statements of Profit and Loss Account or Cash Flows; however, the estimated impact of adopting ASC 842 will result in a ROU asset and lease liability being recorded on the Consolidated Balance Sheet subsequent to 31 December 2018 in the range of approximately $80-90 million, based on the lease portfolio existing as of this date. While the ROU asset will be classified as Debtors: amounts falling due after more than one year, approximately one-third of the lease liability amount is expected to be classified as creditors amounts falling due within one year, with the remainder being classified to creditors amounts falling due after more than one year.

The Group has also made updates to its systems, policies, and internal controls over financial reporting in preparation of adopting these standards on 1 January 2019.

Upon adoption of ASC 842, the Group utilized the following elections and practical expedients:

- The Group has elected to not separate non-lease components from lease components and instead to account for each separate lease component and the non-lease components associated with that lease component as a single lease component.
- If at the lease commencement date, a lease has a lease term of 12 months or less and does not include a purchase option that is reasonably certain to exercise, the Group will elect not to apply ASC 842 recognition requirements. Nonetheless, the Group intends to include leases of less than 12 months within the updated footnote disclosures, if material.
- If the Group enters into a large number of leases in the same month with the same terms and conditions, these will be looked at as a group (portfolio) assuming the lease model under this approach will not materially differ from applying to each individual lease.
- As the Group has applied the new transition method allowed per ASU 2018-11, the Group has elected to not reassess arrangements entered into prior than 1 January 2019 for whether an arrangement is or contains a lease, the lease classification applied or to separate initial direct costs.
- The Group has elected to use hindsight in determining the lease term for lease contracts that have historically been renewed or amended.

The Group has no significant lease agreements in place for which the Group is a lessor, and substantially all of the Group’s leases for which the Group is a lessee are classified as operating leases under the existing guidance in ASC 840 as of 31 December 2018. As such, due to the practical expedient election to not reassess lease classification, substantially all the Group's leases will continue to be classified as operating leases under ASC 842. When available, the Group will utilize the rate implicit in the lease as the discount rate to determine the lease liability in accordance with ASC 842. However, if this rate is not available, the Group will use its incremental borrowing rate as the discount rate which is the rate, at inception of the lease, the Group would incur to borrow over a similar term in funds needed to purchase the leased asset. As a lessee, the Group categorizes its leases into two general categories: real estate leases and equipment leases.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

The Group's real estate lease portfolio includes leased production and assembly facilities, warehouses and distribution centers, office space and to a lesser degree, employee housing. The terms and conditions of real estate leases can vary significantly from lease to lease. The Group has assessed the specific terms and conditions of each real estate lease to determine the amount of the lease payments and the length of the lease term, which includes the minimum period over which lease payments are required plus any renewal options that are both within the Group's control to exercise and reasonably certain of being exercised upon lease commencement. In determining whether or not a renewal option is reasonably certain of being exercised, the Group assesses all relevant factors to determine if sufficient incentives exist as of lease commencement to conclude renewal is reasonably certain. There are no material residual value guarantees provided by the Group, nor any restrictions or covenants imposed by the real estate leases to which the Group is a party. In determining the lease liability, the Group utilizes its incremental borrowing rate to discount the future lease payments over the lease term to present value. As of 31 December 2018, the weighted-average remaining term of the Group's real estate lease portfolio was approximately 7.1 years.

The Group's equipment leases include vehicles, material handling equipment, other machinery and equipment utilized in the Group's production and assembly facilities, warehouses and distribution centers, laptops and other IT equipment, as well as other miscellaneous leased equipment. Most of the equipment leases are for terms ranging from two to five years, although terms and conditions can vary from lease to lease. The Group has applied similar estimates and judgments to its equipment lease portfolio as it has to its real estate lease portfolio in adopting ASC 842. There are no material residual value guarantees provided by the Group, nor any restrictions or covenants imposed by the equipment leases to which the Group is a party. In determining the lease liability, the Group utilizes its incremental borrowing rate to discount the future lease payments over the lease term to present value. As of 31 December 2018, the weighted-average remaining term of the Group's equipment lease portfolio was approximately 2.3 years.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." In November 2018, the FASB issued ASU 2018-19, "Codification Improvements to Topic 326, Financial Instruments-Credit Losses". The new guidance introduces an approach based on expected losses to estimate credit losses on certain types of financial instruments. These ASUs will be effective for fiscal years beginning after 15 December 2019, including interim periods within those fiscal years. Early adoption is permitted. The Group is assessing what impact ASU 2016-13 will have on the Consolidated Financial Statements.

In August 2018, the FASB issued ASU 2018-15, "Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The new guidance aligns the requirements for capitalizing implementation costs incurred in a cloud-based hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The ASU will be effective for fiscal years beginning after 15 December 2019, including interim periods within those fiscal years. Early adoption is permitted. The Group is assessing what impact ASU 2018-15 will have on the Consolidated Financial Statements.

3. BUSINESS SEGMENT INFORMATION

The Group classifies its business into the following three reportable segments based on industry and market focus: Americas, EMEIA, and Asia Pacific.

The Group largely evaluates performance based on Segment operating profit and Segment operating margins. Segment operating profit is the measure of profit and loss that the Group's chief operating decision maker uses to evaluate the financial performance of the business and as the basis for resource allocation, performance reviews, and compensation. For these reasons, the Group believes that Segment operating profit represents the most relevant measure of segment profit and loss. The Group's chief operating decision maker may exclude certain charges or gains, such as corporate charges and other special charges, from Operating profit to arrive at a Segment operating profit that is a more meaningful measure of profit and loss upon which to base its operating decisions. The Group defines Segment operating margin as Segment operating profit as a percentage of the Segment's turnover.

Segment operating profit excludes Other operating expenses as discussed in Note 5 to the Consolidated Financial Statements.

3. BUSINESS SEGMENT INFORMATION (Continued)

A summary of operations and balance sheet information by reportable segments for the years ended 31 December were as follows:

In millions ($)	2018	2017
Americas		
Turnover	1,988.6	1,767.5
Segment operating profit	544.5	508.5
Segment operating margin	27.4%	28.8%
Depreciation and amortization	42.2	26.4
Capital expenditures	22.5	26.1
Total segment assets	1,175.8	872.4
EMEIA		
Turnover	589.9	523.5
Segment operating profit	49.3	44.1
Segment operating margin	8.4%	8.4%
Depreciation and amortization	32.0	28.6
Capital expenditures	16.2	17.1
Total segment assets	1,052.1	1,027.7
Asia Pacific		
Turnover	153.2	117.2
Segment operating profit	6.9	9.5
Segment operating margin	4.5%	8.1%
Depreciation and amortization	3.9	2.5
Capital expenditures	4.2	1.5
Total segment assets	286.6	196.3
Total Turnover	2,731.7	2,408.2
Reconciliation to Profit on ordinary activities before taxation		
Segment operating profit from reportable segments	600.7	562.1
Unallocated corporate expense	74.9	69.6
Interest payable and similar charges	54.0	105.7
Other operating income	(3.4)	(8.9)
Total Profit on ordinary activities before taxation	475.2	395.7
Depreciation and amortization from reportable segments	78.1	57.5
Unallocated depreciation and amortization	4.2	4.1
Total depreciation and amortization	82.3	61.6
Capital expenditures from reportable segments	42.9	44.7
Corporate capital expenditures	6.2	4.6
Total capital expenditures	49.1	49.3
Assets from reportable segments	2,514.5	2,096.4
Unallocated assets (a)	295.7	445.6
Total assets	2,810.2	2,542.0

(a) Unallocated assets consists of investments in unconsolidated affiliates, tangible assets, deferred income taxes and Cash at bank and in hand.

3. BUSINESS SEGMENT INFORMATION (Continued)

Turnover by destination and product as well as long-lived assets by geographic area for the years ended 31 December were as follows:

In millions ($)	2018	2017
Turnover - by destination		
U.S.	1,852.8	1,645.6
Non-U.S.	878.9	762.6
Total	2,731.7	2,408.2

In millions ($)	2018	2017
Turnover - by product		
Mechanical products	2,155.2	1,906.4
All other	576.5	501.8
Total	2,731.7	2,408.2

In fiscal year 2018 and 2017, no customer exceeded 10% of consolidated Turnover.

At 31 December, long-lived assets by geographic area were as follows:

In millions ($)	2018	2017
Long-lived assets		
U.S.	245.1	131.0
Non-U.S.	448.1	440.1
Total	693.2	571.1

4. TURNOVER

Turnover is recognized based on the satisfaction of performance obligations under the terms of a contract. A performance obligation is a promise in a contract to transfer control of a distinct product or to provide a service, or a bundle of products or services, to a customer, and is the unit of account under ASC 606. The Group has two principal turnover streams, tangible product sales and services. Approximately 99% of consolidated Turnover involve contracts with a single performance obligation, which is the transfer of control of a product or bundle of products to a customer. Transfer of control typically occurs when goods are shipped from the Company's facilities or at other predetermined control transfer points (for instance, destination terms). Turnover is measured as the amount of consideration expected to be received in exchange for transferring control of the products and takes into account variable consideration, such as sales incentive programs including discounts and volume rebates. The existence of these programs does not preclude revenue recognition but does require the Group's best estimate of the variable consideration to be made based on expected activity, as these items are reserved for as a deduction to Turnover over time based on the Group's historical rates of providing these incentives and annual forecasted sales volumes. The Group also offers a standard warranty with most product sales and the value of such warranty is included in the contractual price. The corresponding cost of the warranty obligation is accrued as a liability (see Note 30).

The Group's remaining Turnover involve services, including installation and consulting. Unlike the single performance obligation to ship a product or bundle of products, the service turnover stream delays revenue recognition until the service performance obligations are satisfied. In some instances, customer acceptance provisions are included in sales arrangements to give the buyer the ability to ensure the service meets the criteria established in the order. In these instances, revenue recognition is deferred until the performance obligations are satisfied, which could include acceptance terms specified in the arrangement being fulfilled through customer acceptance or a demonstration that established criteria have been satisfied. During the year ended 31 December 2018, no adjustments related to performance obligations satisfied in previous periods were recorded.

Upon adoption of ASC 606, the Group used the practical expedients to omit the disclosure of remaining performance obligations for contracts with an original expected duration of one year or less and for contracts where the Group has the right to invoice for performance completed to date. The transaction price is not adjusted for the effects of a significant financing component, as the time period between control transfer of goods and services is less than one year. Sales, value-added and other similar taxes collected by the Group are excluded from Turnover. The Group has also elected to account for shipping and handling activities that occur after control of the related goods transfers as fulfillment activities instead of performance obligations. These activities are included in Cost of sales in the Consolidated Profit and Loss Account. The Group’s payment terms are generally consistent with the industries in which their businesses operate.

4. TURNOVER (Continued)

The following table shows the Group's Turnover for the years ended 31 December, based on the two principal turnover streams, tangible product sales and services, disaggregated by business segment. Turnover is shown by tangible product sales and services, as contract terms, conditions and economic factors affecting the nature, amount, timing and uncertainty around revenue recognition and cash flows are substantially similar within each of the two principal turnover streams:

In millions ($)		2018		
Turnover	**Americas**	**EMEIA**	**Asia Pacific**	**Consolidated**
Products	1,988.6	567.8	148.9	2,705.3
Services	—	22.1	4.3	26.4
Total turnover	1,988.6	589.9	153.2	2,731.7

In millions ($)		2017[(a)]		
Turnover	**Americas**	**EMEIA**	**Asia Pacific**	**Consolidated**
Products	1,767.5	501.9	117.2	2,386.6
Services	—	21.6	—	21.6
Total turnover	1,767.5	523.5	117.2	2,408.2

(a) The Group adopted ASU 2014-09 and related updates as of 1 January 2018, on a modified retrospective basis, and as such, amounts presented for year ended 31 December 2017 is based on ASC 605.

As of 31 December 2018, neither the contract assets related to the Group's right to consideration for work completed but not billed nor the contract liabilities associated with contract turnover are material. As a practical expedient, the Group recognizes incremental costs of obtaining a contract, if any, as an expense when incurred if the amortization period of the asset would have been one year or less. The Group does not have any costs to obtain or fulfill a contract that are capitalized under ASC 606.

5. OTHER OPERATING EXPENSES

In millions ($)	2018	2017
Net foreign exchange loss	0.3	0.7
Other operating expenses	0.3	0.7

6. INCOME FROM OTHER FINANCIAL ASSETS

During the years ended 31 December, the Group recorded Income from other financial assets as follows:

In millions ($)	2018	2017
Earnings from and gains on the sale of equity investments	(0.4)	(5.4)
Net periodic pension and postretirement benefit (income) cost, less service cost	(2.8)	4.3
Other	0.3	(7.3)
Income from other financial assets	(2.9)	(8.4)

Income from other financial assets for the year ended 31 December 2018, was primarily related to net periodic pension and postretirement benefit income, less service cost.

Income from other financial assets for the year ended 31 December 2017, included a gain of $5.4 million from the sale of iDevices, LLC, which is included within the earnings from and gains on the sale of equity investments in the table above. Income from other financial assets for the year ended 31 December 2017 also included gains of $7.3 million related to legal entity liquidations in the Asia Pacific segment, of which $2.2 million was attributed to non-controlling interests. These gains are included within other in the table above. These gains were partially offset by net periodic pension and postretirement benefit cost, less service cost.

7. OTHER INTEREST RECEIVABLE AND SIMILAR INCOME

In millions ($)	2018	2017
Interest income	(0.8)	(1.2)
Other interest receivable and similar income	(0.8)	(1.2)

8. INTEREST PAYABLE AND SIMILAR CHARGES

In millions ($)	2018	2017
Interest on bank debt	23.5	31.5
Interest on Senior Notes	26.9	24.7
Debt refinancing and issuance costs	—	44.7
Amortization of debt issuance costs	3.6	4.8
Interest payable and similar charges	54.0	105.7

Interest payable and similar charges for the year ended 31 December 2018 decreased by $51.7 million compared to the year ended 31 December 2017 primarily due to $44.7 million of costs incurred in the prior year associated with the refinancing of our Credit Facilities, issuance of our 3.200% and 3.550% Senior Notes and redemption of our previously outstanding Senior notes due 2021 and 2023 in the third and fourth quarters of 2017. Lower interest rates on our outstanding indebtedness also contributed to the decrease in Interest payable and similar charges.

9. PROFIT ON ORDINARY ACTIVITIES BEFORE TAXATION

In millions ($)	2018	2017
Profit on ordinary activities before taxation has been arrived at after charging:		
Staff costs:		
Wages and salaries	600.2	531.4
Social welfare	145.7	130.7
Other pension costs	6.7	12.0
Depreciation (Note 17)	46.2	40.0
Amortization of intangible assets (Note 16)	36.3	22.1
Auditors' remuneration	4.9	5.5
Restructuring costs (Note 13)	4.9	12.3
Research and development	54.4	48.3

In millions ($)	2018	2017
Audit of the group and statutory accounts	4.0	3.9
Other assurance services	0.2	0.9
Tax advisory services	0.7	0.7
Auditors' remuneration	4.9	5.5

10. EMPLOYEE COSTS

The average number of persons employed in the Group, including executive directors, during the year was as follows:

Numbers	2018	2017
Americas	6,792	6,470
EMEIA	3,173	2,765
Asia Pacific	600	452
Average number of persons employed	10,565	9,687

10. EMPLOYEE COSTS (Continued)

In millions ($)	**2018**	**2017**
Wages and salaries *	600.2	531.4
Social welfare and other pension costs	152.4	142.7
Employee costs	752.6	674.1

*The cost of labor capitalized within the Stock balance as of 31 December was approximately $15.8 million (2017: $13.4 million).

In millions ($)	**2018**	**2017**
Emoluments	4.3	4.0
Benefits under long-term incentive schemes	1.0	9.3
Contributions to retirement benefits schemes: Defined contribution	0.1	0.2
Directors' remuneration	5.4	13.5

11. TAX ON PROFIT ON ORDINARY ACTIVITIES

Profit on ordinary activities before taxation for the years ended 31 December were taxed within the following jurisdictions:

In millions ($)	**2018**	**2017**
U.S.	151.4	166.5
Non-U.S.	323.8	229.2
Total	475.2	395.7

The components of the Tax on profit on ordinary activities for the years ended 31 December were as follows:

In millions ($)	**2018**	**2017**
Current tax expense:		
U.S.	86.4	78.8
Non-U.S.	18.1	15.0
Total:	104.5	93.8
Deferred tax (benefit) expense:		
U.S.	(56.1)	41.2
Non-U.S.	(8.6)	(16.0)
Total:	(64.7)	25.2
Total tax expense (benefit):		
U.S.	30.3	120.0
Non-U.S.	9.5	(1.0)
Total	39.8	119.0

11. TAX ON PROFIT ON ORDINARY ACTIVITIES (Continued)

The Tax on profit on ordinary activities differs from the amount of income taxes determined by applying the applicable U.S. statutory income tax rate to pretax income, as a result of the following differences:

	Percent of pretax income	
	2018	2017
Statutory U.S. rate	21.0%	35.0%
Increase (decrease) in rates resulting from:		
Non-U.S. tax rate differential (1)	(11.9)	(20.0)
State and local income taxes (1)	2.1	1.8
Reserves for uncertain tax positions	2.1	0.8
Tax on unremitted earnings	(1.2)	0.8
Tax Reform Act	(4.6)	13.5
Trade incentives	0.6	—
Production incentives	—	(0.9)
Other adjustments	0.3	(0.9)
Effective tax rate	8.4%	30.1%

(1) Net of changes in valuation allowances

On December 22, 2017, the Tax Reform Act became law, resulting in broad and complex changes to the U.S. tax code. The impact to the Group's Consolidated Financial Statements during the year ended 31 December 2017, included, but were not limited to a (1) reduced U.S. federal corporate tax rate from 35.0% to 21.0%, effective 1 January 2018, (2) required a one-time transition tax on certain unrepatriated earnings of non-U.S. subsidiaries and (3) required review of the future realizability of deferred tax balances.

The Tax Reform Act also put in place new tax laws which include, but are not limited to, a (1) Base Erosion Anti-abuse Tax (BEAT), which is a new minimum tax, (2) general elimination of U.S. federal income taxes on dividends from foreign subsidiaries, (3) provision designed to tax currently global intangible low taxed income (GILTI), (4) provision that may limit the amount of currently deductible interest expense, (5) repeal of certain domestic production incentives, (6) limitation on the deductibility of certain executive compensation and (7) limitation on the utilization of foreign tax credits to reduce the U.S. income tax liability.

Shortly after the Tax Reform Act was enacted, the SEC staff issued Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act (SAB 118) which provided guidance on accounting for the Tax Reform Act’s impact. SAB 118 provided a measurement period, which in no case was to extend beyond one year from the Tax Reform Act enactment date, during which a company acting in good faith could complete the accounting for the impacts of the Tax Reform Act under ASC Topic 740. In accordance with SAB 118, the Group must reflect the income tax effects of the Tax Reform Act in the reporting period in which the accounting under ASC 740 is complete. The Group recorded a provisional discrete net tax charge of $53.5 million related to the Tax Reform Act during the year ended 31 December 2017. This net charge primarily consists of a net charge of $24.5 million due to the remeasurement of deferred tax accounts to reflect the corporate rate reduction impact to the Group's net deferred tax balances, a net charge of $22.8 million due to the future realizability of certain deferred tax balances and a net charge for the transition tax of $5.0 million.

In accordance with the expiration of the one-year SAB 118 measurement period, the Group completed the assessment of the income tax effects of the Tax Reform Act in the fourth quarter of 2018. In finalizing the net tax charge resulting from the Tax Reform Act, the Group reversed $22.8 million of previous charges and recorded an additional $0.9 million of transition tax, each of which is described more fully below.

During 2018, the U.S. Internal Revenue Service and Treasury Department released interpretative guidance and accordingly, the Group reversed the $22.8 million of valuation allowance during the year ended 31 December 2018, primarily related to the deductibility of interest limitation carryforward balances and certain executive compensation.

Also during 2018, U.S. Internal Revenue Service and Treasury Department released interpretive guidance and draft regulations which resulted in the $0.9 million increase in the transition tax charge. The Group elected to pay the full liability for the deemed repatriation of foreign earnings during the year ended 31 December 2018. On 15 January 2019, the U.S. Internal Revenue Service and Treasury Department released final regulations related to the Transition Tax that clarifies the required treatment of certain items. The Group is in the process of evaluating the impact of these regulations on its related tax positions but does not believe such final regulations will materially impact the transition tax recorded.

11. TAX ON PROFIT ON ORDINARY ACTIVITIES (Continued)

The majority of the Group's earnings are considered permanently reinvested. The transition tax resulted in certain previously untaxed non-U.S. earnings being included in the U.S. federal and state 2017 taxable income. As a result of the Tax Reform Act, the Group analyzed its global working capital requirements and the potential tax liabilities that would be incurred if certain non-U.S. subsidiaries made distributions, which include local country withholding tax and potential U.S. state taxation. Based on this analysis, the Group made no changes to its permanent reinvestment assertions to reinvest the earnings in its non-U.S. subsidiaries outside of the U.S. Thus, the Group has not recorded any incremental withholding or income tax liabilities on its investment in its non-U.S. subsidiaries.

At 31 December a summary of the deferred tax accounts is as follows:

In millions ($)	2018	2017
Deferred tax assets:		
Stock and debtors	15.3	17.0
Fixed assets and intangible	2.2	2.6
Post-employment and other benefit liabilities	29.1	29.9
Other reserves and accruals	12.8	12.5
Net operating losses, tax credits and other carryforwards	419.9	309.5
Other	0.7	4.2
Gross deferred tax assets	480.0	375.7
Less: deferred tax valuation allowances	(357.1)	(312.9)
Deferred tax assets net of valuation allowances	122.9	62.8
Deferred tax liabilities:		
Fixed assets and intangibles	(104.9)	(101.7)
Postemployment and other benefit liabilities	(3.5)	(4.7)
Unremitted earnings of non-U.S. subsidiaries	(0.5)	(6.0)
Other	(6.3)	(7.4)
Gross deferred tax liabilities	(115.2)	(119.8)
Net deferred tax assets (liabilities)	7.7	(57.0)

At 31 December 2018, $0.5 million of deferred tax was recorded for certain undistributed earnings of non-U.S. subsidiaries. Historically, no deferred taxes have been provided for any portion of the remaining undistributed earnings of the Group's subsidiaries since these earnings have been, and will continue to be, permanently reinvested in these subsidiaries. For many reasons, including the number of legal entities and jurisdictions involved, the complexity of the Group's legal entity structure, the complexity of tax laws in the relevant jurisdictions and the impact of projections of income for future years to any calculations, the Group believes it is not practicable to estimate, within any reasonable range, the amount of additional taxes which may be payable upon the distribution of earnings.

At 31 December 2018, the Group had the following tax losses and tax credit carryforwards available to offset taxable income in prior and future years:

In millions ($)	Amount	Expiration Period
U.S. Federal tax loss carryforwards	20.4	2027-2037
U.S. Federal and State credit carryforwards	22.0	2020-2037
U.S. State tax loss carryforwards	25.5	2019-2037
Non-U.S. tax loss carryforwards	1,286.6	2019-Unlimited

The U.S. state loss carryforwards were incurred in various jurisdictions. The non-U.S. loss carryforwards were incurred in various jurisdictions, predominantly in China, Ireland, Italy, Luxembourg and the United Kingdom.

The Group evaluates its deferred income tax assets to determine if valuation allowances are required or should be adjusted. U.S. GAAP requires that companies assess whether valuation allowances should be established against their deferred tax assets based on consideration of all available evidence, both positive and negative, using a "more likely than not" standard. This assessment considers the nature, frequency and amount of recent losses, the duration of statutory carryforward periods and tax planning strategies. In making such judgments, significant weight is given to evidence that can be objectively verified.

11. TAX ON PROFIT ON ORDINARY ACTIVITIES (Continued)

Activity associated with the Group's valuation allowance is as follows:

In millions ($)	2018	2017
Beginning balance	312.9	225.5
Increase to valuation allowance	70.9	96.9
Decrease to valuation allowance	(25.0)	(11.9)
Foreign exchange translation	(1.7)	2.4
Ending balance	357.1	312.9

During the year ended 31 December 2018, the valuation allowance increased by $44.2 million. This increase is the result of changes in jurisdictional profitability, country specific tax laws and changes in judgment and facts regarding the realizability of deferred tax assets.

The Group has total unrecognized tax benefits of $42.0 million and $29.0 million as of 31 December 2018 and 31 December 2017, respectively. The amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is $38.5 million as of 31 December 2018. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

In millions ($)	2018	2017
Beginning balance	29.0	32.0
Additions based on tax positions related to the current year	9.5	6.4
Additions based on tax positions related to prior years	8.2	1.6
Reductions based on tax positions related to prior years	(1.4)	(5.0)
Reductions related to settlements with tax authorities	(1.5)	(7.1)
Reductions related to lapses of statute of limitations	(1.1)	(1.2)
Translation (gain) loss	(0.7)	2.3
Ending balance	42.0	29.0

The Group records interest and penalties associated with the uncertain tax positions within its Tax on profit on ordinary activities. The Group had reserves associated with interest and penalties, net of tax, of $5.7 million and $4.9 million at 31 December 2018 and 2017, respectively. For the years ended 31 December 2018 and 2017, the Group recognized $0.8 million and $0.0 million in net interest and penalties, net of tax, related to these uncertain tax positions.

The total amount of unrecognized tax benefits relating to the Group's tax positions is subject to change based on future events including, but not limited to, the settlements of ongoing audits and/or the expiration of applicable statutes of limitations. Although the outcomes and timing of such events are highly uncertain, it is reasonably possible that the balance of gross unrecognized tax benefits, excluding interest and penalties, could potentially be reduced by up to approximately $11.5 million during the next 12 months.

Tax on profits on ordinary activities involves a significant amount of management judgment regarding interpretation of relevant facts and laws in the jurisdictions in which the Group operates. Future changes in applicable laws, projected levels of taxable income and tax planning could change the effective tax rate and tax balances recorded by the Group. In addition, tax authorities periodically review income tax returns filed by the Group and can raise issues regarding its filing positions, timing and amount of income or deductions and the allocation of income among the jurisdictions in which the Group operates. A significant period of time may elapse between the filing of an income tax return and the ultimate resolution of an issue raised by a tax authority with respect to that return. In the normal course of business, the Group is subject to examination by taxing authorities throughout the world, including such major jurisdictions as Australia, Canada, France, Germany, Italy, Mexico, the Netherlands and the U.S. In general, the examination of the material tax returns of subsidiaries of the Group is complete for the years prior to 2003, with certain matters being resolved through appeals and litigation.

The Group had indemnity receivables in the amount of $5.4 million and $5.7 million included in Debtors: amounts falling due after more than one year at 31 December 2018 and 2017, respectively, primarily related to additional competent authority relief filings.

12. ACQUISITIONS

During the year ended 31 December 2018, the Group completed six acquisitions:

Business	Month
Technical Glass Products, Inc. ("TGP")	January 2018
Hammond Enterprises, Inc. ("Hammond")	January 2018
Qatar Metal Industries LLC ("QMI")	February 2018
AD Systems, Inc. ("AD Systems")	March 2018
Gainsborough Hardware and API Locksmiths ("Door and Access Systems")	July 2018
ISONAS Security Systems, Inc. ("ISONAS")	July 2018

In January 2018, the Group acquired 100% of TGP through one of its subsidiaries. TGP provides fire-rated architectural glass and framing solutions for commercial buildings, as well as non-fire rated architectural glass and framing, including channel glass systems and curtain walls throughout the U.S., Canada and select markets in the Middle East. TGP has been integrated into the Group's Americas and EMEIA segments.

In January 2018, the Group acquired 100% of the machinery, equipment and intellectual property of a division of Hammond through one of its subsidiaries. The assets acquired have been integrated into the Group's existing production facilities and are specific to the Group's Schlage-branded products.

In February 2018, the Group acquired 100% of QMI through one of its subsidiaries. QMI specializes in fire rated and non-fire rated steel and wooden doors, acoustic doors, wooden cabinets and access panels in the Middle East and Africa. QMI has been integrated into the Group's EMEIA segment.

In March 2018, the Group acquired 100% of AD Systems through one of its subsidiaries. AD Systems designs and manufactures high-performance interior and storefront door systems, specializing in sliding and acoustic solutions. AD Systems' portfolio includes sliding and swinging doors, perimeter frames, door hardware, gasketing, seals and sidelite panels. AD Systems has been integrated into the Group's Americas segment.

In July 2018, the Group acquired Door and Access Systems, based in Australia, through one of its subsidiaries. This business includes the brands Gainsborough Hardware, the market-leading residential door hardware brand in Australia, and API Locksmiths, which serves the Australian market with its keying, installation and access control services. Door and Access Systems has been integrated into the Group's Asia Pacific segment.

In July 2018, the Group acquired 100% of ISONAS through one of its subsidiaries. ISONAS designs and manufactures edge-computing technology that produces Power over Ethernet access control solutions for non-residential end-markets. ISONAS has been integrated into the Group's Americas segment.

Total consideration paid for these six acquisitions to date was approximately $368 million (net of cash acquired). The Group estimates the fair value of future consideration to be paid, including contingent consideration, to be approximately $6 million. Cash on hand and $75 million of borrowings on the Revolving Facility, which has since been repaid, were utilized to fund these acquisitions. The allocation of the aggregate purchase price to assets acquired and liabilities assumed is complete as of 31 December 2018 for the Group's acquisitions of TGP, Hammond, QMI and AD Systems; however, such allocation is still preliminary as of 31 December 2018, for the acquisitions of Door and Access Systems and ISONAS pending completion of final valuations. The preliminary allocation of the aggregate purchase price to assets acquired and liabilities assumed for all six acquisitions described above is as follows:

In millions ($)	
Debtors	30.2
Stock	28.5
Tangible assets	27.6
Goodwill	141.8
Intangible assets	204.3
Creditors: amounts falling due within one year	(46.8)
Provision for liabilities	(11.1)
Total consideration	374.5

12. ACQUISITIONS (Continued)

Intangible assets are primarily comprised of approximately $59 million of indefinite-lived trade names, $112 million of customer relationships and $33 million of completed technologies and other intangibles, which includes approximately $6 million of acquired backlog turnover. The customer relationships have a 17-year weighted-average useful life, while the completed technologies and other intangibles, excluding the backlog turnover, have a 16-year weighted-average useful life. The backlog turnover was fully amortized as of 30 June 2018.

Goodwill results from several factors including Allegion-specific synergies that were excluded from the cash flow projections used in the valuation of Intangible assets and Intangible assets that do not qualify for separate recognition, for example, assembled workforce. The majority of the goodwill is expected to be deductible for tax purposes. All of the six acquisitions discussed above are accounted for as business combinations.

The following unaudited pro forma financial information for the years ended 31 December 2018 and 2017 reflects the consolidated results of operations of the Group as if these acquisitions had taken place on 1 January 2017:

In millions ($), except per share amounts	2018	2017
Turnover	2,774.2	2,612.1
Profit for the financial year	446.8	256.9
Basic net earnings per share	4.70	2.70
Diluted net earnings per share	4.67	2.68

The unaudited pro forma financial information is presented for informational purposes only and does not purport to be indicative of results of operations that would have occurred had the pro forma events taken place on the date indicated or the future consolidated results of operations of the combined company. The unaudited pro forma financial information has been calculated after applying the Group's accounting policies and adjusting the historical financial results to reflect additional items directly attributable to the acquisitions that would have been incurred assuming the acquisitions had occurred on 1 January 2017. Adjustments to historical financial information include additional amortization of approximately $9.7 million (net of tax) included in the year ended 31 December 2017, in the pro forma table above. Approximately $3.9 million (net of tax) of this additional amortization relates to backlog turnover acquired by the Group, which was recorded in Cost of sales.

The following financial information reflects Turnover and the loss on ordinary activities before taxation of the acquisitions for the year ended 31 December 2018 since their respective acquisition dates included in the Consolidated Profit and Loss Account:

In millions ($)	2018
Turnover	160.2
Loss on ordinary activities before taxation	(3.2)

During the year ended 31 December 2018, the Group incurred $10.0 million of acquisition and integration related expenses, which are included in Distribution costs and Administrative expenses in the Consolidated Profit and Loss Account.

During the year ended 31 December 2018, the Group also made $8 million of equity method investments in three entities, Yonomi Inc., a U.S. based mobile application and cloud platform provider for connected living, Nuki GmbH, a European retrofit residential smart lock innovator, and Conneqtech, a European based IoT platform developer specializing in connected mobility and tracking features for bicycles and healthcare.

In January 2017, the Group acquired Republic Doors & Frames, LLC ("Republic") through one of its subsidiaries. During the year ended 31 December 2017 the Group incurred $4.7 million of acquisition and integration related costs, which are included in Distribution costs and Administrative expenses in the Consolidated Profit and Loss Account.

13. RESTRUCTURING ACTIVITIES

During 2018 and 2017, the Group recorded $4.9 million and $12.3 million, respectively, of expenses associated with restructuring activities. These expenses are included within Cost of sales, Distribution costs and Administrative expenses within the Consolidated Profit and Loss Account.

13. RESTRUCTURING ACTIVITIES (Continued)

The changes in the restructuring reserve during the years ended 31 December 2018 and 2017, were as follows:

In millions ($)	Total
At 31 December 2016	3.5
Additions	12.3
Cash and non-cash uses	(11.8)
Currency translation	0.2
At 31 December 2017	4.2
Additions	4.9
Cash and non-cash uses	(6.9)
Currency translation	(0.1)
At 31 December 2018	2.1

The majority of the costs accrued as of 31 December 2018, will be paid within one year.

The Group also incurred other non-qualified restructuring charges of $1.6 million and $1.5 million during the years ended 31 December 2018 and 2017, respectively, in conjunction with the other restructuring plans, which represent costs that are directly attributable to restructuring activities, but do not fall into the severance, exit or disposal category.

14. NON-CONTROLLING INTERESTS

The changes in Non-controlling interests during the years ended 31 December 2018 and 2017, were as follows:

In millions ($)	2018	2017
At 1 January	3.9	3.1
Share of profit for the financial year	0.5	3.4
Dividends to Non-controlling interests	(1.8)	(1.8)
Other comprehensive income	0.4	(0.8)
At 31 December	3.0	3.9

15. EARNINGS PER SHARE (EPS)

Basic EPS is calculated by dividing Profit for the financial year attributable to Allegion plc by the weighted-average number of ordinary shares outstanding for the applicable year. Diluted EPS is calculated after adjusting the denominator of the basic EPS calculation for the effect of all potentially dilutive ordinary shares, which in the Group's case, includes shares issuable under share-based compensation plans.

The following table summarizes the weighted-average number of ordinary shares outstanding for basic and diluted earnings per share calculations:

In millions	2018	2017
Weighted-average number of basic shares	95.0	95.1
Shares issuable under incentive stock plans	0.7	0.9
Weighted-average number of diluted shares	95.7	96.0

At 31 December 2018, 0.1 million (2017: 0.1 million) stock options were excluded from the computation of weighted-average diluted shares outstanding because the effect of including these shares would have been anti-dilutive.

16. INTANGIBLE ASSETS

The following table sets forth the gross amount and related accumulated amortization of the Group's Intangible assets at 31 December:

In millions ($)	Goodwill	Trade names	Customer relationships	Completed technologies/ Patents	Other	Total
Cost						
At 31 December 2017	761.2	164.4	324.5	32.6	7.9	1,290.6
Additions	141.8	58.8	112.0	27.6	8.4	348.6
Acquisitions	—	0.1	—	—	—	0.1
Exchange differences	(20.0)	(7.8)	(15.8)	(1.6)	(0.4)	(45.6)
Other	—	—	(1.4)	0.8	(6.4)	(7.0)
At 31 December 2018	883.0	215.5	419.3	59.4	9.5	1,586.7
Accumulated amortization						
At 31 December 2017	—	46.1	74.1	10.0	4.9	135.1
Charge for the year	—	3.6	20.2	4.8	7.7	36.3
Exchange differences	—	(2.3)	(3.7)	(0.5)	(0.3)	(6.8)
Other	—	—	(2.1)	(0.1)	(5.8)	(8.0)
At 31 December 2018	—	47.4	88.5	14.2	6.5	156.6
Net book amount						
At 31 December 2017	761.2	118.3	250.4	22.6	3.0	1,155.5
At 31 December 2018	883.0	168.1	330.8	45.2	3.0	1,430.1

The Group amortizes intangible assets with finite useful lives on a straight-line basis over their estimated economic lives in accordance with U.S. GAAP. Indefinite-lived intangible assets are not subject to amortization, but instead are tested for impairment at least annually (more frequently if certain indicators are present).

Intangible asset amortization expense for 2018 and 2017 was $36.3 million and $22.1 million, respectively. As discussed further in Note 12, intangible asset amortization expense for 2018 included the amortization of approximately $6 million of backlog turnover that was acquired during a business combination in the first quarter of 2018. This acquired backlog turnover was fully amortized as of 30 June 2018. Future estimated amortization expense on existing Intangible assets in each of the next five years amounts to approximately $28.4 million for 2019, $28.4 million for 2020, $28.4 million for 2021, $28.4 million for 2022 and $28.2 million for 2023.

In accordance with the Group's indefinite-lived intangible asset impairment testing policy outlined in Note 2, the Group performs its annual impairment test in the fourth quarter of each year. In each of the past three years, the Group determined the fair value of all indefinite-lived intangible assets exceeded their respective carrying values. Therefore, no impairment charges were recorded during 2018 or 2017. The Group records as goodwill the excess of the purchase price over the fair value of the net assets acquired. Once the final valuation has been performed for each acquisition, adjustments may be recorded. The changes in the carrying amount of goodwill are as follows:

In millions ($)	Americas	EMEIA	Asia Pacific	Total
At 31 December 2016 (net)	372.9	257.5	86.4	716.8
Acquisitions and settlements	2.3	(1.6)	1.3	2.0
Currency translation	—	35.3	7.1	42.4
At 31 December 2017 (net)	375.2	291.2	94.8	761.2
Acquisitions and settlements	111.1	10.2	20.5	141.8
Currency translation	(0.2)	(12.9)	(6.9)	(20.0)
At 31 December 2018 (net)	486.1	288.5	108.4	883.0

17. TANGIBLE ASSETS

At 31 December the major classes of tangible assets were as follows:

In millions ($)	Land and buildings	Machinery and equipment	Vehicles	Fixtures and fittings	Software	Construction in progress	Total
Cost							
At 31 December 2017	158.2	339.5	0.9	43.5	141.4	24.4	707.9
Additions	11.0	42.2	0.4	6.6	8.7	35.2	104.1
Transfers	—	—	—	—	—	(26.9)	(26.9)
Exchange differences	(3.7)	(6.6)	—	(1.2)	(1.4)	(0.6)	(13.5)
Disposals	(1.5)	(16.3)	(0.1)	(1.2)	(2.7)	—	(21.8)
Other	—	(0.1)	—	0.1	—	(1.0)	(1.0)
At 31 December 2018	164.0	358.7	1.2	47.8	146.0	31.1	748.8
Accumulated depreciation							
At 31 December 2017	78.5	256.1	0.6	33.7	86.8	—	455.7
Charge for the year	4.9	22.7	0.2	3.0	15.4	—	46.2
Exchange differences	(1.4)	(5.1)	—	(0.8)	(0.7)	—	(8.0)
Disposals	(1.4)	(15.9)	(0.1)	(1.2)	(2.7)	—	(21.3)
Other	—	(0.3)	—	0.1	(0.3)	—	(0.5)
At 31 December 2018	80.6	257.5	0.7	34.8	98.5	—	472.1
Net book amount							
At 31 December 2017	79.7	83.4	0.3	9.8	54.6	24.4	252.2
At 31 December 2018	83.4	101.2	0.5	13.0	47.5	31.1	276.7

During the financial year, tangible assets with a carrying amount of $0.5 million were disposed of. The assets had a cost of $21.8 million and accumulated depreciation of $21.3 million. The loss on the disposal of these tangible assets was $0.4 million (2017: gain of $0.1 million).

18. FINANCIAL ASSETS

At 31 December, the Group's financial assets were comprised of:

In millions ($)	2018	2017
Investment in associates	21.4	10.0
Capital investments	19.0	4.7
Deposits	3.2	1.5
At 31 December	43.6	16.2

19. STOCK

Stock is stated at the lower of cost and net realizable value using the first-in, first-out (FIFO) method.

At 31 December the major classes of stock were as follows:

In millions ($)	2018	2017
Raw materials and consumables	117.2	66.6
Work-in-process	34.4	29.8
Finished goods and goods for resale	128.7	143.4
At 31 December	280.3	239.8

The estimated replacement cost of stock did not differ significantly from the figures shown above.

20. DEBTORS

In millions ($)	2018	2017
Amounts falling due within one year:		
Trade debtors	345.2	318.0
Less: Allowance for doubtful debtors	(3.3)	(2.8)
Less: Reserve for customer claims	(31.6)	(32.5)
Trade debtors - net	310.3	282.7
Trade notes receivable	2.7	3.3
Other debtors	12.5	10.5
Prepayments and accrued income	19.0	17.1
Income tax receivables	15.4	12.2
At 31 December	359.9	325.8

21. CASH AT BANK AND IN HAND

In millions ($)	2018	2017
Cash at bank and in hand	283.8	466.2
Restricted cash	6.8	—
At 31 December	290.6	466.2

22. DEBTORS – AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

In millions ($)	2018	2017
Other debtors	12.8	11.1
Interest rate swaps (Note 26)	5.7	5.3
Defined benefit plans (Note 27)	21.1	28.5
Deferred tax asset	84.6	35.4
Debt issue costs	4.0	5.1
At 31 December	128.2	85.4

23. CREDITORS – AMOUNTS FALLING DUE WITHIN ONE YEAR

In millions ($)	2018	2017
Current portion of long-term debt (Note 25)	35.3	35.0
Payments received on account	5.6	1.5
Trade creditors	235.0	188.2
Other creditors	105.4	94.9
Irish dividend withholding tax	0.7	0.4
Income tax	13.0	14.6
Other taxes	6.3	7.0
Value added tax	7.6	5.1
Salary/Payroll taxes	6.4	7.0
Irish PAYE/PRSI	0.1	0.1
Currency derivatives payable (Note 26)	0.1	0.7
Freight and Excise duty	10.7	9.3
Accruals	55.2	52.0
At 31 December	481.4	415.8

23. CREDITORS – AMOUNTS FALLING DUE WITHIN ONE YEAR (Continued)

Other creditors and accruals principally comprise amounts outstanding for trade purchases and ongoing costs. Trade creditors principally comprise amounts outstanding for day to day purchases and ongoing costs and are payable at various dates in the next three months in accordance with the suppliers' usual and customary credit terms. The directors consider that the carrying amount of trade creditors approximates to their fair value.

24. CREDITORS – AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

In millions ($)	2018	2017
Long-term debt (Note 25)	1,409.5	1,442.3
At 31 December	1,409.5	1,442.3

25. DEBT AND CREDIT FACILITIES

At 31 December long-term debt and other borrowings consisted of the following:

In millions ($)	2018	2017
Term Facility	656.3	691.3
Revolving Facility	—	—
3.200% Senior Notes due 2024	400.0	400.0
3.550% Senior Notes due 2027	400.0	400.0
Other debt	1.2	1.0
Total borrowings outstanding	1,457.5	1,492.3
Less discounts and debt issuance costs, net	(12.7)	(15.0)
Total debt	1,444.8	1,477.3
Less current portion of long-term debt	35.3	35.0
Total long-term debt	1,409.5	1,442.3

Unsecured Credit Facilities

As of 31 December 2018, the Group has an unsecured Credit Agreement in place that provides for up to $1,200.0 million in unsecured financing, consisting of a $700.0 million term loan facility (the "Term Facility") and a $500.0 million revolving credit facility (the "Revolving Facility" and, together with the Term Facility, the "Credit Facilities"). The Credit Facilities mature on 12 September 2022 and are unconditionally guaranteed jointly and severally on an unsecured basis by the Group and Allegion US Holding Company Inc. ("Allegion US Hold Co"), the Group's wholly-owned subsidiary.

The Term Facility amortizes in quarterly installments at the following rates: 1.25% per quarter starting 31 December 2017 through 31 December 2020, 2.5% per quarter from 31 March 2021 through 30 June 2022, with the balance due on 12 September 2022. The Group may voluntarily prepay outstanding amounts under the Term Facility at any time without premium or penalty, subject to customary breakage costs. Amounts borrowed under the Term Facility that are repaid may not be reborrowed. The Group repaid $35.0 million of principal on its Term Facility during 2018.

The Revolving Facility provides aggregate commitments of up to $500.0 million, which includes up to $100.0 million for the issuance of letters of credit. At 31 December 2018, there were no borrowings outstanding on the Revolving Facility and the Group had $17.1 million of letters of credit outstanding. Commitments under the Revolving Facility may be reduced at any time without premium or penalty, and amounts repaid may be reborrowed. The Group pays certain fees with respect to the Revolving Facility, including an unused commitment fee on the undrawn portion of the Revolving Facility of between 0.125% and 0.200% per year, depending on the Group's credit rating, as well as certain other fees.

Outstanding borrowings under the Credit Facilities accrue interest at the option of the Group of (i) a LIBOR rate plus the applicable margin or (ii) a base rate plus the applicable margin. The applicable margin ranges from 1.125% to 1.500% depending on the Group's credit ratings. At 31 December 2018, the outstanding borrowings under the Term Facility accrue interest at LIBOR plus a margin of 1.250%. To manage the Group's exposure to fluctuations in LIBOR rates, the Group has interest rate swaps to fix the interest rate for $250.0 million of the outstanding borrowings (see Note 26).

The Credit Facilities contain negative and affirmative covenants and events of default that, among other things, limit or restrict the Group's ability to enter into certain transactions. In addition, the Credit Facilities require the Group to comply with a maximum leverage ratio and a minimum interest expense coverage ratio, as defined within the agreement. As of 31 December 2018, the Group was in compliance with all covenants.

25. DEBT AND CREDIT FACILITIES (Continued)

Senior Notes

As of 31 December 2018, Allegion US Hold Co has $400.0 million outstanding of its 3.200% Senior Notes due 2024 (the “3.200% Senior Notes”) and $400.0 million outstanding of its 3.550% Senior Notes due 2027 (the “3.550% Senior Notes” and, together with the 3.200% Senior Notes, the “Notes”), both of which were issued on 2 October 2017. The Notes require semi-annual interest payments on 1 April and 1 October of each year and will mature on 1 October 2024 and 1 October 2027, respectively.

The Notes are senior unsecured obligations of Allegion US Hold Co and rank equally with all of Allegion US Hold Co’s existing and future senior unsecured and unsubordinated indebtedness. The guarantee of the Notes is the senior unsecured obligation of the Group and ranks equally with all of the Group's existing and future senior unsecured and unsubordinated indebtedness.

2017 Refinancing

The Group entered into the Credit Agreement on 12 September 2017. The initial proceeds of $700.0 million from the Term Facility, along with initial borrowings of $165.0 million under the Revolving Facility, were used primarily to repay in full the outstanding borrowing under the Group’s previously outstanding secured credit facility, the Second Amended and Restated Credit Agreement, dated as of 30 September 2015. All obligations under the Second Amended and Restated Credit Agreement were satisfied, all commitments thereunder were terminated, and all guarantees and security interests that had been granted in connection therewith were released.

On 3 October 2017, Allegion US Hold Co used the net proceeds from the Notes to redeem in full the previously outstanding $300.0 million Senior Notes due 2021 and $300.0 million Senior Notes due 2023, as well as to repay in full the borrowings under the Revolving Facility and other costs associated with the refinancing.

Related to the 2017 refinancing activities, the Group recorded a $33.2 million charge for the redemption premiums associated with the Senior Notes due 2021 and 2023, non-cash charges of $9.9 million related to the write-off of previously deferred financing costs, and $1.6 million of third party costs. These charges were all recorded within Interest payable and similar charges on the Consolidated Profit and Loss Account for the year ended 31 December 2017. The Group also incurred and deferred $10.8 million of discounts and financing costs associated with the new debt, which will be amortized to Interest payable and similar charges over the terms of the respective debt.

At 31 December 2018, scheduled principal repayments on indebtedness are as follows:

In millions ($)	
2019	35.3
2020	35.0
2021	70.0
2022	516.3
2023	—
Thereafter	800.9
Total	1,457.5

At 31 December 2018, the weighted-average interest rate for borrowings was 3.50% under the Term Facility (including the effect of interest rate swaps), 3.200% under the 3.200% Senior Notes and 3.550% under the 3.550% Senior Notes. Cash paid for interest for the years ended 31 December 2018 and 2017 was $52.0 million and $58.4 million, respectively.

26. FINANCIAL INSTRUMENTS

In the normal course of business, the Group uses various financial instruments, including derivative instruments, to manage the risks associated with interest and currency rate exposures. These financial instruments are not used for trading or speculative purposes.

When a derivative contract is entered into, the Group designates the derivative instrument as a cash flow hedge of a forecasted transaction, a cash flow hedge of a recognized asset or liability or as an undesignated derivative. The Group formally documents its hedge relationships, including identification of the derivative instruments and the hedged items, as well as its risk management objectives and strategies for undertaking the hedge transaction. This process includes linking derivative instruments that are designated as hedges to specific assets, liabilities or forecasted transactions.

The fair market value of derivative instruments is determined through market-based valuations and may not be representative of the actual gains or losses that will be recorded when these instruments mature due to future fluctuations in the markets in which they are traded.

26. FINANCIAL INSTRUMENTS (Continued)

The Group assesses at inception and at least quarterly thereafter, whether the derivatives used in cash flow hedging transactions are effective in offsetting the changes in the cash flows of the hedged item. To the extent the derivative is deemed to be an effective hedge, the fair market value changes of the instrument are recorded in Other reserves, while changes in the fair market value of derivatives not deemed to be an effective hedge are recorded in Profit on ordinary activities after taxation in the period of change. If the hedging relationship ceases to be effective subsequent to inception, or it becomes probable that a forecasted transaction is no longer expected to occur, the hedging relationship will be undesignated and any future gains or losses on the derivative instrument will be recorded in Profit on ordinary activities after taxation.

Currency Hedging Instruments

The gross notional amount of the Group’s currency derivatives was $81.8 million and $57.7 million at 31 December 2018 and 2017, respectively. At 31 December 2018 and 2017, gains of $1.8 million and $0.3 million, net of tax, were included in Other reserves related to the fair value of the Group’s currency derivatives designated as cash flow hedges. The amount expected to be reclassified into Profit on ordinary activities after taxation over the next twelve months is a gain of $1.8 million. The actual amounts that will be reclassified to Profit on ordinary activities after taxation may vary from this amount as a result of changes in market conditions. Gains and losses associated with the Group’s currency derivatives not designated as hedges are recorded in Profit on ordinary activities after taxation as changes in fair value occur. At 31 December 2018, the maximum term of the Group’s currency derivatives was less than one year.

Interest Rate Swaps

The Group has interest rate swaps to fix the interest rate paid during the contract period for $250.0 million of the Group's variable rate Term Facility. These interest rate swaps expire in September 2020 and met the criteria to be accounted for as cash flow hedges of variable rate interest payments. Consequently, the changes in fair value of the interest rate swaps are recognized in Other reserves. At 31 December 2018 and 2017, $4.3 million and $3.5 million of gains, net of tax, were recorded in Other reserves related to these interest rate swaps. The approximate amount expected to be reclassified into Profit on ordinary activities after taxation over the next twelve months is a gain of approximately $3 million. The actual amounts that will be reclassified to Profit on ordinary activities after taxation may vary from this amount as a result of changes in market conditions.

The fair values of derivative instruments included within the Consolidated Balance Sheet as of 31 December were as follows:

	Asset derivatives		Liability derivatives	
In millions ($)	**2018**	**2017**	**2018**	**2017**
Derivatives designated as hedges:				
Currency derivatives	1.7	0.2	—	0.3
Interest rate swaps	5.7	5.3	—	—
Derivatives not designated as hedges:				
Currency derivatives	0.4	—	0.1	0.4
Total derivatives	7.8	5.5	0.1	0.7

Asset and liability currency derivatives included in the table above are recorded within Debtors and Creditors: amounts falling due within one year, respectively. Interest rate swap derivatives included in the table above are recorded within Debtors: amounts falling due after more than one year.

The amounts associated with derivatives designated as hedges affecting the Profit on ordinary activities after taxation and Other reserves for the years ended 31 December were as follows:

	Amount of gain recognized in Other reserves		Location of gain (loss) reclassified from Other reserves and recognized into the Profit and loss account	Amount of gain (loss) reclassified from Other reserves and recognized into the Profit and loss account	
In millions ($)	**2018**	**2017**		**2018**	**2017**
Currency derivatives	4.3	4.0	Cost of sales	2.3	4.7
Interest rate swaps	2.5	1.2	Interest payable and similar charges	2.2	(0.3)
Total	6.8	5.2		4.5	4.4

The gains and losses associated with the Group's non-designated currency derivatives, which are offset by changes in the fair value of the underlying transactions, are included within Income from other financial assets in the Consolidated Profit and Loss Account.

26. FINANCIAL INSTRUMENTS (Continued)

Concentration of Credit Risk

The counterparties to the Group's forward contracts and swaps consist of a number of investment grade major international financial institutions. The Group could be exposed to losses in the event of nonperformance by the counterparties. However, the credit ratings and the concentration of risk in these financial institutions are monitored on a continuous basis and present no significant credit risk to the Group.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

The Group sponsors several U.S. defined benefit and defined contribution plans covering substantially all U.S. employees. Additionally, the Group has non-U.S. defined benefit and defined contribution plans covering eligible non-U.S. employees. Postretirement benefits, other than pensions, provide healthcare benefits, and in some instances, life insurance benefits for certain eligible employees.

Pension Plans

The noncontributory defined benefit pension plans covering non-collectively bargained U.S. employees provide benefits on an average pay formula while most plans for collectively bargained U.S. employees provide benefits on a flat dollar benefit formula. The non-U.S. pension plans generally provide benefits based on earnings and years of service. The Group also maintains additional other supplemental plans for officers and other key employees.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

The following table details information regarding the Group's pension plans at 31 December:

	U.S.		NON-U.S.	
In millions ($)	2018	2017	2018	2017
Change in benefit obligations:				
Benefit obligation at beginning of year	317.5	286.9	396.3	380.5
Service cost	8.6	8.7	3.3	3.3
Interest cost	10.4	10.5	8.4	8.9
Employee contributions	—	—	0.3	0.3
Amendments		—	5.0	—
Actuarial (gains) losses	(25.4)	17.5	(14.9)	(15.4)
Benefits paid	(16.5)	(12.4)	(19.4)	(13.7)
Foreign exchange rate changes	—	—	(21.1)	34.3
Curtailments and settlements	—	—	(0.2)	(0.9)
Acquisitions	—	7.3	0.5	—
Other, including expenses paid	(1.3)	(1.0)	(1.4)	(1.0)
Benefit obligation at end of year	293.3	317.5	356.8	396.3
Change in plan assets:				
Fair value at beginning of year	283.2	202.4	398.4	353.4
Actual return on plan assets	(12.1)	31.9	(9.8)	22.3
Company contributions	6.1	55.7	5.4	5.2
Employee contributions	—	—	0.3	0.3
Benefits paid	(16.5)	(12.4)	(19.4)	(13.7)
Foreign exchange rate changes	—	—	(20.8)	33.7
Settlements	—	—	(0.2)	(0.9)
Acquisitions	—	6.5	—	—
Other, including expenses paid	(1.3)	(0.9)	(1.7)	(1.9)
Fair value of assets at end of year	259.4	283.2	352.2	398.4
Funded status:				
Plan assets (less than) over benefit obligations	(33.9)	(34.3)	(4.6)	2.1
Amounts included in the balance sheet:				
Financial assets and debtors	—	—	21.1	28.5
Accrued compensation and benefits	(0.3)	(0.2)	(1.1)	(1.3)
Post employment and other benefit liabilities	(33.6)	(34.1)	(24.6)	(25.1)
Net amount recognized	(33.9)	(34.3)	(4.6)	2.1

It is the Group's objective to contribute to the pension plans to ensure adequate funds are available in the plans to make benefit payments to plan participants and beneficiaries when required. However, certain plans are not funded due to either legal, accounting, or tax requirements in certain jurisdictions. As of 31 December 2018, approximately 5% of the Group's projected benefit obligation relates to plans that are not funded of which the majority are Non-U.S. plans.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

The pretax amounts recognized in Other reserves were as follows:

	U.S.		
In millions ($)	Prior service cost	Net actuarial losses	Total
At 31 December 2016	(2.1)	(79.7)	(81.8)
Current year changes recorded to Other reserves	—	2.4	2.4
Amortization reclassified to profit and loss account	0.3	4.8	5.1
At 31 December 2017	(1.8)	(72.5)	(74.3)
Current year changes recorded to Other reserves	—	(1.1)	(1.1)
Amortization reclassified to profit and loss account	0.3	4.0	4.3
At 31 December 2018	(1.5)	(69.6)	(71.1)

	NON-U.S.		
In millions ($)	Prior service cost	Net actuarial losses	Total
At 31 December 2016	—	(79.6)	(79.6)
Current year changes recorded to Other reserves	—	23.3	23.3
Amortization reclassified to profit and loss account	—	1.8	1.8
Settlements/curtailments reclassified to profit and loss account	—	0.1	0.1
Currency translation and other	0.1	(6.2)	(6.1)
At 31 December 2017	0.1	(60.6)	(60.5)
Current year changes recorded to Other reserves	(5.0)	(10.4)	(15.4)
Amortization reclassified to profit and loss account	—	0.9	0.9
Currency translation and other	0.2	3.9	4.1
At 31 December 2018	(4.7)	(66.2)	(70.9)

Weighted-average assumptions used:

Benefit obligations at 31 December:	2018	2017
Discount rate:		
U.S. plans	4.3%	3.6%
Non-U.S. plans	2.8%	2.5%
Rate of compensation increase:		
U.S. plans	3.0%	3.0%
Non-U.S. plans	3.3%	3.2%

The accumulated benefit obligation for all U.S. defined benefit pension plans was $284.8 million and $304.9 million at 31 December 2018 and 2017, respectively. The accumulated benefit obligation for all non-U.S. defined benefit pension plans was $349.1 million and $388.3 million at 31 December 2018 and 2017, respectively.

The Group estimates the service and interest cost components of net periodic benefit cost utilizing a full yield-curve approach. Under this approach, the Group applies discounting using the applicable spot rates derived from the yield curve to discount the cash flows used to measure the benefit obligation. These spot rates align to each of the projected benefit obligations and service cost cash flows.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

Information regarding pension plans with accumulated benefit obligations more than plan assets were:

	U.S.		NON-U.S.	
In millions ($)	2018	2017	2018	2017
Projected benefit obligation	293.3	317.5	34.5	34.4
Accumulated benefit obligation	284.8	304.9	29.6	29.5
Fair value of plan assets	259.4	283.2	8.8	7.9

Future pension benefit payments are expected to be paid as follows:

In millions ($)	U.S.	NON-U.S.
2019	17.0	16.9
2020	24.2	17.4
2021	17.8	18.3
2022	18.4	19.1
2023	20.3	19.6
2024 - 2028	103.2	110.4

The components of the Group's net periodic pension benefit costs for the years ended 31 December include the following:

	U.S.	
In millions ($)	2018	2017
Service cost	6.8	7.1
Interest cost	10.5	10.5
Expected return on plan assets	(14.4)	(12.0)
Administrative costs and other	1.6	1.6
Net amortization of:		
Prior service costs	0.3	0.3
Plan net actuarial losses	4.1	4.8
Net periodic pension benefit cost	8.9	12.3

	NON-U.S.	
In millions ($)	2018	2017
Service cost	1.7	1.5
Interest cost	8.4	8.9
Expected return on plan assets	(15.4)	(14.3)
Administrative costs and other	1.8	2.5
Net amortization of:		
Plan net actuarial losses	0.9	1.9
Net periodic pension benefit (income) cost	(2.6)	0.5
Net curtailment and settlement losses	—	0.1
Net periodic pension benefit (income) cost after net curtailment and settlement losses	(2.6)	0.6

The service cost component of net periodic pension benefit (income) cost is recorded in Cost of sales, Distribution costs and Administrative expenses within the Consolidated Profit and Loss Account. The remaining components of net periodic pension benefit (income) cost, including administrative costs and other, are recorded within Other interest receivable and similar income within the Consolidated Profit and Loss Account.

Pension expense for 2019 is projected to be approximately $11.4 million, utilizing the assumptions for calculating the pension benefit obligations at the end of 2018.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

Weighted-average assumptions used:

Net periodic pension cost for the year ended 31 December	2018	2017
Discount rate:		
U.S. plans	3.6%	4.1%
Non-U.S. plans	2.5%	2.6%
Rate of compensation increase:		
U.S. plans	3.0%	3.5%
Non-U.S. plans	3.3%	3.2%
Expected return on plan assets:		
U.S. plans	5.3%	4.8%
Non-U.S. plans	4.0%	4.0%

The expected long-term rate of return on plan assets reflects the average rate of returns expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. The expected long-term rate of return on plan assets is based on what is achievable given the plan's investment policy, the types of assets held and target asset allocations. The expected long-term rate of return is determined as of the measurement date. Each plan is reviewed, along with its historical returns and target asset allocations, to determine the appropriate expected long-term rate of return on plan assets to be used.

The Group's overall objective in managing defined benefit plan assets is to ensure that all present and future benefit obligations are met as they come due. The goal is to achieve this while trying to mitigate volatility in plan funded status, contributions and expense by better matching the characteristics of the plan assets to that of the plan liabilities. Each plan's funded status and asset allocation is monitored regularly in addition to investment manager performance.

The fair values of the Group's U.S. pension plan assets at 31 December 2018, by asset category are as follows:

	Fair value measurements				
In millions ($)	Level 1	Level 2	Level 3	Assets measured at NAV	Total fair value
Cash at bank and in hand and short-term investments	—	3.1	—	—	3.1
Equity mutual funds	—	—	—	53.7	53.7
Fixed income investments:					—
U.S. government and agency obligations	—	—	—	94.0	94.0
Corporate and non-U.S. bonds[(a)]	—	—	—	89.9	89.9
	—	—	—	183.9	183.9
Other[(b)]	—	—	—	18.7	18.7
Total assets at fair value	—	3.1	—	256.3	259.4

(a) Includes state and municipal bonds.

(b) Includes group trust diversified credit fund.

No material transfers in or out of Level 3 occurred during the year ended 31 December 2018.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

The fair values of the Group's U.S. pension plan assets at 31 December 2017, by asset category are as follows:

	Fair value measurements				
In millions ($)	Level 1	Level 2	Level 3	Assets measured at NAV	Total fair value
Cash at bank and in hand and short-term investments	—	3.2	—	—	3.2
Equity mutual funds	—	—	—	70.9	70.9
Fixed income investments:					
U.S. government and agency obligations	—	83.6	—	—	83.6
Corporate and non-U.S. bonds[a]	—	111.3	—	12.8	124.1
	—	194.9	—	12.8	207.7
Total assets at fair value	—	198.1	—	83.7	281.8
Receivables and payables, net					1.4
Net assets available for benefits					283.2

(a) Includes state and municipal bonds.

No material transfers in or out of Level 3 occurred during the year ended 31 December 2017.

The Group determines the fair value of its U.S. plan assets using the following methodologies:

- *Cash at bank and in hand and short-term investments* - Short-term investments are valued at the closing price or amount held on deposit by the custodian bank or at fair value by discounting the related cash flows based on current yields of similar instruments with comparable durations considering the credit-worthiness of the issuer. As these investments are not traded on active markets, they are classified as Level 2.
- *Equity mutual funds* - Equity mutual funds are valued at their daily net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient. NAV is calculated by the investment manager or sponsor of the fund.
- *U.S. government and agency obligations* - Quoted market prices are not available for these securities. Fair values are either estimated using pricing models and/or quoted prices of securities with similar characteristics or discounted cash flows, in which instances such securities are classified as Level 2, or valued at their net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient and are calculated by the investment manager or sponsor of the fund.
- *Corporate and non-U.S. bonds* - Quoted market prices are not available for these securities. Fair values are either estimated using pricing models and/or quoted prices of securities with similar characteristics or discounted cash flows, in which instances such securities are classified as Level 2 or valued at their net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient and are calculated by the investment manager or sponsor of the fund.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

The fair values of the Group's Non-U.S. pension plan assets at 31 December 2018 by asset category are as follows:

	Fair value measurements				
In millions ($)	Level 1	Level 2	Level 3	Assets measured at NAV	Total fair value
Cash at bank and in hand and short-term investments	1.3	36.1	—	—	37.4
Equity mutual funds	—	2.6	—	88.7	91.3
U.S. government and agency obligations	—	—	—	—	—
Corporate and non-U.S. bonds	—	109.4	—	31.7	141.1
Other[(a)]	—	41.3	3.2	37.9	82.4
Total assets at fair value	1.3	189.4	3.2	158.3	352.2

(a) Primarily includes insurance contracts, mortgage-backed securities, real estate and derivative contracts.

No material transfers in or out of Level 3 occurred during the year ended 31 December 2018.

The fair values of the Group's Non-U.S. pension plan assets at 31 December 2017, by asset category are as follows:

	Fair value measurements				
In millions ($)	Level 1	Level 2	Level 3	Assets measured at NAV	Total fair value
Cash at bank and in hand	36.7	—	—	—	36.7
Equity mutual funds	—	2.0	—	103.1	105.1
Corporate and non-U.S. bonds	—	176.9	—	—	176.9
Real estate	—	—	0.8	—	0.8
Other[(a)]	—	46.7	2.3	29.9	78.9
Total assets at fair value	36.7	225.6	3.1	133.0	398.4

(a) Primarily includes insurance contracts, mortgage-backed securities, and derivative contracts.

No material transfers in or out of Level 3 occurred during the year ended 31 December 2017.

The Group determines the fair value of its non-U.S. plan assets using the following methodologies:

- *Cash at bank and in hand and short-term investments* - Cash at bank and in hand are valued using a market approach with inputs including quoted market prices for either identical or similar instruments. Short-term investments are valued at the closing price or amount held on deposit by the custodian bank or at fair value by discounting the related cash flows based on current yields of similar instruments with comparable durations considering the credit-worthiness of the issuer. As these investments are not traded on active markets, these investments are classified as Level 2.
- *Equity mutual funds* - Equity mutual funds are primarily valued at their daily net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient. NAV is calculated by the investment manager or sponsor of the fund.
- *Corporate and non-U.S. bonds* - Quoted market prices are not available for these securities. Fair values are either estimated using pricing models and/or quoted prices of securities with similar characteristics or discounted cash flows, in which instances such securities are classified as Level 2 or valued at their net asset value (NAV) per share or the equivalent. NAV per share or the equivalent is used for fair value purposes as a practical expedient and are calculated by the investment manager or sponsor of the fund.

The Group made employer contributions of $6.1 million to the U.S. pension plans in 2018 and $55.7 million in 2017 (of which $50.0 million was discretionary). The Group made required and discretionary contributions to its non-U.S. pension plans of $5.4 million in 2018 and $5.2 million in 2017.

27. PENSIONS AND POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (Continued)

The Group currently projects that approximately $11.6 million will be contributed to its U.S and non-U.S. plans in 2019. The Group's policy allows it to fund an amount, which could be in excess of or less than the pension cost expensed, subject to the limitations imposed by current tax regulations. The Group anticipates funding the plans in 2019 in accordance with contributions required by funding regulations or the laws of each jurisdiction.

Most of the Group's U.S. employees are covered by defined contribution plans. Employer contributions are determined based on criteria specific to the individual plans and amounted to approximately $14.4 million and $14.0 million in 2018 and 2017, respectively. The Group's contributions relating to non-U.S. defined contribution plans and other non-U.S. benefit plans were $8.0 million and $7.0 million in 2018 and 2017, respectively.

Deferred Compensation Plan

The Group maintains an Executive Deferred Compensation Plan ("EDCP"), which is an unfunded, nonqualified plan that permits certain employees to defer receipt of up to 50% of their annual salary and up to 100% of their annual bonus awards, performance share plan awards and restricted stock units received upon commencement of employment. As of 31 December 2018 the deferred compensation liability balance was $15.1 million, which was recorded within Creditors: amounts falling due within one year in the Consolidated Balance Sheet.

Postretirement Benefits Other Than Pensions

The Group sponsors a postretirement ("OPEB") plan that provides for healthcare benefits, and in some instances, life insurance benefits, that cover certain eligible retired employees. The Group funds postretirement benefit obligations principally on a pay-as-you- go basis. Generally, postretirement health benefits are contributory with contributions adjusted annually. Life insurance plans for retirees are primarily noncontributory. Net periodic postretirement benefit income is included within Other interest receivable and similar income within the Consolidated Profit and Loss Account.

The benefit obligation related to the Group's postretirement plans as of 31 December 2018 and 2017 was $7.6 million and $9.3 million, respectively, and is classified as Creditors: amounts falling due within one year within the Consolidated Balance Sheet. Net periodic postretirement benefit income was $0.5 million and $1.4 million, for the years ended 31 December 2018 and 2017, respectively. Net period postretirement benefit income (expense) for 2019 is not projected to be material. Benefit payments for postretirement benefits, which are net of expected plan participant contributions and Medicare Part D subsidies, are expected to be less than $1 million per year for the foreseeable future.

28. FAIR VALUE MEASUREMENTS

Fair value is defined as the exchange price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Fair value measurements are based on a framework that utilizes the inputs market participants use to determine the fair value of an asset or liability and establishes a fair value hierarchy to prioritize those inputs. The fair value hierarchy is comprised of the three levels described below:

- Level 1 - Inputs based on quoted prices in active markets for identical assets or liabilities.
- Level 2 - Inputs other than Level 1 quoted prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the asset or liability.
- Level 3 - Unobservable inputs based on little or no market activity and that are significant to the fair value of the assets and liabilities.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Observable inputs are obtained from independent sources and can be validated by a third party, whereas unobservable inputs reflect assumptions regarding what a third party would use in pricing an asset or liability based on the best information available under the circumstances. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

28. FAIR VALUE MEASUREMENTS (Continued)

Assets and liabilities measured at fair value at 31 December 2018 are as follows:

	Fair value measurements			
In millions ($)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total fair value
Recurring fair value measurements				
Assets:				
Investments	—	14.3	—	14.3
Interest rate swap	—	5.7	—	5.7
Foreign currency contracts	—	2.1	—	2.1
Total asset recurring fair value measurements	—	22.1	—	22.1
Liabilities:				
Foreign currency contracts	—	0.1	—	0.1
Deferred compensation and other retirement plans	—	19.1	—	19.1
Total liability recurring fair value measurements	—	19.2	—	19.2
Financial instruments not carried at fair value:				
Total debt	—	1,403.2	—	1,403.2
Total financial instruments not carried at fair value	—	1,403.2	—	1,403.2

Assets and liabilities measured at fair value at 31 December 2017 are as follows:

	Fair value measurements			
In millions ($)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total fair value
Recurring fair value measurements				
Assets:				
Interest rate swap	—	5.3	—	5.3
Foreign currency contracts	—	0.2	—	0.2
Total asset recurring fair value measurements	—	5.5	—	5.5
Liabilities:				
Foreign currency contracts	—	0.7	—	0.7
Deferred compensation and other retirement plans	—	20.9	—	20.9
Total liability recurring fair value measurements	—	21.6	—	21.6
Financial instruments not carried at fair value:				
Total debt	—	1,485.2	—	1,485.2
Total financial instruments not carried at fair value	—	1,485.2	—	1,485.2

The Group determines the fair value of its financial assets and liabilities using the following methodologies:

- *Investments* - These instruments include equity mutual funds and corporate bond funds. The fair value is obtained based on observable market prices quoted on public exchanges for similar instruments.

28. FAIR VALUE MEASUREMENTS (Continued)

- *Interest rate swaps* - These instruments include forward-starting interest rate swap contracts for $250.0 million of the Company's variable rate debt. The fair value of the derivative instruments is determined based on quoted prices for the Company's swaps, which are not considered an active market.
- *Foreign currency contracts* - These instruments include foreign currency contracts for non-functional currency balance sheet exposures. The fair value of the foreign currency contracts is determined based on a pricing model that uses spot rates and forward prices from actively quoted currency markets that are readily accessible and observable.
- *Deferred compensation and other retirement plans* - These include obligations related to deferred compensation and other retirement plans adjusted for market performance. The fair value is obtained based on observable market prices quoted on public exchanges for similar instruments.
- *Debt* - These instruments are recorded at cost and include senior notes maturing through 2027. The fair value of the long-term debt instruments is obtained based on observable market prices quoted on public exchanges for similar instruments.

The carrying values of Cash at bank and in hand, Debtors and Creditors: amounts falling due within one year are a reasonable estimate of their fair value due to the short-term nature of these instruments.

The methodology used by the Group to determine the fair value of its financial assets and liabilities at 31 December 2018 are the same as those used at 31 December 2017.

29. PROVISIONS FOR LIABILITIES

In millions ($)	2018	2017
Pensions and similar obligations (Note 27)	88.6	93.5
Taxation including deferred taxation (Note 11)	123.1	127.2
Other provisions for liabilities	53.6	57.7
At 31 December	265.3	278.4

The movement on other provisions for liabilities is as follows:

In millions ($)	Warranty	Environmental	Restructuring	Other	Total
At 31 December 2017	14.1	28.9	4.2	10.5	57.7
Arising during the year	7.8	—	4.9	—	12.7
Utilized in the year	(7.9)	(8.3)	(6.9)	(0.6)	(23.7)
Changes in preexisting accruals	0.2	2.4	—	2.0	4.6
Acquisitions	0.5	—	—	2.4	2.9
Currency translation	(0.2)	(0.4)	(0.1)	0.1	(0.6)
At 31 December 2018	14.5	22.6	2.1	14.4	53.6
					—
Current	14.5	5.6	2.1	2.7	24.9
Non-current	—	17.0	—	11.7	28.7
At 31 December 2018	14.5	22.6	2.1	14.4	53.6

Refer to Note 13 and Note 30 for a detailed description of these other provisions for liabilities.

30. COMMITMENTS AND CONTINGENCIES

The Group is involved in various litigation, claims and administrative proceedings, including those related to environmental and product warranty matters. Amounts recorded for identified contingent liabilities are estimates, which are reviewed periodically and adjusted to reflect additional information when it becomes available. Subject to the uncertainties inherent in estimating future costs for contingent liabilities, except as expressly set forth in this note, management believes that any liability which may result from these legal matters would not have a material adverse effect on the financial condition, results of operations, liquidity or cash flows of the Group.

30. COMMITMENTS AND CONTINGENCIES (Continued)

Environmental Matters

The Group is dedicated to an environmental program to reduce the utilization and generation of hazardous materials during the manufacturing process and to remediate identified environmental concerns. As to the latter, the Group is currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former production facilities. The Group regularly evaluates its remediation programs and considers alternative remediation methods that are in addition to, or in replacement of, those currently utilized by the Group based upon enhanced technology and regulatory changes. Changes to the Group's remediation programs may result in increased expenses and increased environmental reserves.

The Group is sometimes a party to environmental lawsuits and claims and has received notices of potential violations of environmental laws and regulations from the U.S. Environmental Protection Agency and similar state authorities. It has also been identified as a potentially responsible party ("PRP") for cleanup costs associated with off-site waste disposal at federal Superfund and state remediation sites. For all such sites, there are other PRPs and, in most instances, the Group's involvement is minimal.

In estimating its liability, the Group has assumed it will not bear the entire cost of remediation of any site to the exclusion of other PRPs who may be jointly and severally liable. The ability of other PRPs to participate has been taken into account, based on the Group's understanding of the parties' financial condition and probable contributions on a per site basis. Additional lawsuits and claims involving environmental matters are likely to arise from time to time in the future.

The Group incurred $2.4 million and $3.2 million of expenses during the years ended 31 December 2018 and 2017, respectively, for environmental remediation at sites presently or formerly owned or leased by the Group. Environmental remediation costs are recorded in Cost of sales within the Consolidated Profit and Loss Account.

As of 31 December 2018 and 2017, the Group has recorded reserves for environmental matters of $22.6 million and $28.9 million, respectively. The total reserve at 31 December 2018 and 2017 included $6.3 million and $8.9 million, respectively, related to remediation of sites previously disposed by the Group. Environmental reserves are classified as Creditors: amounts falling due within one year or provision for liabilities within the Consolidated Balance Sheet based on their expected term. The Group's total current environmental reserve at 31 December 2018 and 2017 was $5.6 million and $12.6 million, respectively, and the remainder is classified as noncurrent. Given the evolving nature of environmental laws, regulations and technology, the ultimate cost of future compliance is uncertain.

Warranty Liability

Standard product warranty accruals are recorded at the time of sale and are estimated based upon product warranty terms and historical experience. The Group assesses the adequacy of its liabilities and will make adjustments as necessary based on known or anticipated warranty claims, or as new information becomes available.

The changes in the standard product warranty liability for the year ended 31 December were as follows:

In millions ($)	2018	2017
At 1 January	14.1	13.3
Reductions for payments	(7.9)	(7.8)
Accruals for warranties issued during the current year	7.8	9.0
Changes to accruals related to preexisting warranties	0.2	(0.8)
Acquisitions	0.5	—
Translation	(0.2)	0.4
At 31 December	14.5	14.1

Standard product warranty liabilities are classified as Provisions for liabilities within the Consolidated Balance Sheet.

Other Commitments and Contingencies

Certain office and warehouse facilities, transportation vehicles and data processing equipment are leased by the Group. Total rental expense was $42.5 million in 2018 and $35.5 million in 2017. Minimum lease payments required under non-cancellable operating leases with terms in excess of one year for the next five years are as follows: $30.3 million in 2019, $21.5 million in 2020, $14.1 million in 2021, $9.3 million in 2022 and $5.5 million in 2023.

31. SHARE-BASED COMPENSATION

The Group records share-based compensation awards using a fair value method and recognizes compensation expense for an amount equal to the fair value of the share-based payment issued in its financial statements. The Group's share-based compensation plans include programs for stock options, restricted stock units ("RSUs"), performance share units ("PSUs"), and deferred compensation.

Under the Group's incentive stock plan, the total number of ordinary shares authorized by the shareholders is 8.0 million, of which 3.4 million remains available as of 31 December 2018 for future incentive awards.

Compensation Expense

Share-based compensation expense is included in Cost of sales, Distribution costs and Administrative expenses within the Consolidated Profit and Loss ccount. The following table summarizes the expenses recognized for the years ended 31 December:

In millions ($)	2018	2017
Stock options	4.3	3.3
RSUs	9.6	7.0
PSUs	5.7	5.8
Deferred compensation	(0.8)	2.8
Pretax expense	18.8	18.9
Tax benefit	(1.9)	(6.4)
Total	16.9	12.5

Stock Options / RSUs

Eligible participants may receive (i) stock options, (ii) RSUs or (iii) a combination of both stock options and RSUs. The fair value of each of the Group's stock option and RSU awards is expensed on a straight-line basis over the required service period, which is generally the 3-year vesting period. However, for stock options and RSUs granted to retirement eligible employees, the Group recognizes expense for the fair value at the grant date.

The average fair value of the stock options granted for the year ended 31 December 2018 and 2017 was estimated to be $21.29 and $18.22 per share, respectively, using the Black-Scholes option-pricing model. The weighted-average assumptions used were the following:

	2018	2017
Dividend yield	0.97%	0.89%
Volatility	22.38%	24.93%
Risk-free rate of return	2.75%	2.08%
Expected life	6.0 years	6.0 years

Expected volatility is based on the weighted-average of the implied volatility of a group of the Group's peers. The risk-free rate of return is based on the yield curve of a zero-coupon U.S. Treasury bond on the date the award is granted with a maturity equal to the expected term of the award. Historical peer data is used to estimate forfeitures within the Group's valuation model. The expected life of the Group's stock option awards granted post separation is derived from the simplified approach based on the weighted-average time to vest and the remaining contractual term, and represents the period of time that awards are expected to be outstanding.

31. SHARE-BASED COMPENSATION (Continued)

Changes in options outstanding under the plans for the years ended 31 December 2018 and 2017 are as follows:

	Shares subject to option	Weighted-average exercise price(a)($)	Aggregate intrinsic value ($m)	Weighted-average remaining life (years)
At 31 December 2016	1,313,070	39.87		
Granted	165,113	71.84		
Exercised	(410,397)	31.54		
Canceled	(15,906)	60.84		
At 31 December 2017	1,051,880	47.80		
Granted	160,849	86.92		
Exercised	(239,427)	36.50		
Canceled	(16,104)	74.23		
Outstanding 31 December 2018	957,198	56.71	23.1	6.1
Exercisable 31 December 2018	638,441	46.94	20.9	5.0

(a) The weighted-average exercise price of awards represents the exercise price of the awards on the grant date converted to ordinary shares of the Group.

The following table summarizes information concerning currently outstanding and exercisable options:

			Options outstanding			Options exercisable		
Range of exercise price ($)			Number outstanding at 31 December 2018	Weighted-average remaining life (years)	Weighted-average exercise price ($)	Number outstanding at 31 December 2018	Weighted-average remaining life (years)	Weighted-average exercise price ($)
10.01	—	20.00	43,401	0.7	16.18	43,401	0.7	16.18
20.01	—	30.00	84,921	2.6	26.73	84,921	2.6	26.73
30.01	—	40.00	51,823	4.0	32.33	51,823	4.0	32.33
40.01	—	50.00	102,403	5.0	43.37	102,403	5.0	43.37
50.01	—	60.00	373,873	6.2	56.90	309,915	6.0	56.70
60.01	—	70.00	421	7.8	63.93	210	7.8	63.93
70.01	—	80.00	146,698	8.0	71.84	45,514	8.0	71.84
80.01	—	90.00	153,658	9.1	86.92	254	2.9	86.93
			957,198	6.1	56.71	638,441	5.0	46.94

At 31 December 2018, there was $1.4 million of total unrecognized compensation cost from stock option arrangements granted under the plan, which is primarily related to unvested shares of non-retirement eligible employees. The aggregate intrinsic value of the Group's options exercised during the year ended 31 December 2018 and 2017 was $11.5 million and $17.5 million, respectively. Generally, stock options expire ten years from their date of grant.

31. SHARE-BASED COMPENSATION (Continued)

The following table summarizes RSU activity for the year ended 31 December 2018 and 2017:

	RSUs	Weighted-average grant date fair value (a)($)
Outstanding and unvested at 31 December 2016	205,634	58.99
Granted	124,933	73.76
Vested	(90,523)	58.78
Canceled	(10,038)	60.47
Outstanding and unvested at 31 December 2017	230,006	66.83
Granted	132,865	84.65
Vested	(104,065)	65.42
Canceled	(14,459)	76.25
Outstanding and unvested at 31 December 2018	244,347	76.51

(a) The weighted-average grant date fair value represents the fair value of the awards on the grant date converted to ordinary shares of the Group.

At 31 December 2018, there was $7.0 million of total unrecognized compensation cost from RSU arrangements granted under the plan, which is related to unvested shares of non-retirement eligible employees.

Performance Shares

The Group has a Performance Share Program ("PSP") for key employees which provides awards in the form of PSUs based on performance against pre-established objectives. The annual target award level is expressed as a number of the Group's ordinary shares. All PSUs are settled in the form of ordinary shares unless deferred.

In February 2017 and 2018, the Group's Compensation Committee granted PSUs that were earned based 50% upon a performance condition, measured at each reporting period by earnings per share ("EPS") performance in relation to pre-established targets set by the Compensation Committee, and 50% upon a market condition, measured by the Group’s relative total shareholder return ("TSR") against the S&P 400 Capital Goods Index over a three-year performance period. The fair values of the market conditions are estimated using a Monte Carlo simulation approach in a risk-neutral framework to model future stock price movements based upon historical volatility, risk-free rates of return, and correlation matrix.

The following table summarizes PSU activity for the maximum number of shares that may be issued for the year ended 31 December 2018 and 2017:

	PSUs	Weighted-average grant date fair value (a)($)
Outstanding and unvested at 31 December 2016	209,604	56.02
Granted	99,832	78.13
Vested	(146,830)	72.01
Forfeited	(1,783)	67.10
Outstanding and unvested at 31 December 2017	160,823	55.02
Granted	93,018	86.46
Vested	(90,967)	68.05
Forfeited	(6,833)	79.93
Outstanding and unvested at 31 December 2018	156,041	65.07

(a) The weighted-average grant date fair value represents the fair value of the awards on the grant date converted to ordinary shares of the Group.

At 31 December 2018, there was $4.9 million (2017: $4.2 million) of total unrecognized compensation cost from the PSP based on current performance, which is related to unvested shares. This compensation will be recognized over the required service period, which is generally the three-year vesting period.

31. SHARE-BASED COMPENSATION (Continued)

Deferred Compensation

The Group allows key employees to defer a portion of their eligible compensation into a number of investment choices, including its ordinary share equivalents. Any amounts invested in ordinary share equivalents will be settled in ordinary shares of the Group at the time of distribution.

32. CALLED UP SHARE CAPITAL PRESENTED AS EQUITY

The authorized share capital of Allegion is as follows;

In millions ($)	2018	2017
Authorized:		
40,000 ordinary shares of €1 par value	—	—
400,000,000 ordinary shares of $0.01 par value	4.0	4.0
10,000,000 preferred shares of $0.001 par value	—	—
At 31 December	4.0	4.0

Allegion had 400.0 million ordinary shares authorized and 10.0 million $0.001 par value preferred shares authorized (with none outstanding) at 31 December 2018.

A reconciliation of ordinary shares is as follows:

Allotted, called up and fully paid equity: **Ordinary shares of $0.01 each**	Number(m)	$m
At 31 December 2017	95.1	1.0
Shares issued under incentive plans	0.4	—
Repurchase of ordinary shares	(0.9)	(0.1)
At 31 December 2018	94.6	0.9

Share repurchases

On 2 February 2017, the Group's Board of Directors approved a new stock repurchase authorization of up to $500 million of the Group's ordinary shares. This new stock repurchase authorization replaced the authorization previously established in 2014. During the year ended 31 December 2018, the Group paid $67.3 million to repurchase 0.9 million ordinary shares on the open market under this new repurchase authorization.

33. MOVEMENT ON RESERVES

In millions ($)	Share premium	Other reserves	Profit and loss account	Total
At 31 December 2016	55.0	(219.6)	276.9	112.3
Cumulative effect of change in accounting principle	—	—	(5.0)	(5.0)
Profit for the year	—	—	273.3	273.3
Pension and OPEB items	—	19.3	—	19.3
Foreign currency items	—	98.1	—	98.1
Cash flow hedges and marketable securities	—	0.4	—	0.4
Shares issued under incentive stock plans	7.2	—	—	7.2
Share-based compensation	—	15.8	—	15.8
Repurchase of ordinary shares	—	—	(60.0)	(60.0)
Cash dividends declared ($0.64 per share)	—	—	(60.9)	(60.9)
Other	—	(6.4)	6.5	0.1
At 31 December 2017	62.2	(92.4)	430.8	400.6
Profit for the year	—	—	434.9	434.9
Pension and OPEB items	—	(5.4)	—	(5.4)
Foreign currency items	—	(57.3)	—	(57.3)
Cash flow hedges and marketable securities	—	1.8	—	1.8
Shares issued under incentive stock plans	3.2	—	—	3.2
Share-based compensation	—	19.2	—	19.2
Repurchase of ordinary shares	—	—	(67.2)	(67.2)
Cash dividends declared ($0.84 per share)	—	—	(79.7)	(79.7)
Reclassification to Profit and loss account upon adoption of ASU 2018-02 (see Note 2)	—	(9.7)	9.7	—
At 31 December 2018	65.4	(143.8)	728.5	650.1

Dividends declared and paid during the year

In millions ($)	2018	2017
Equity dividends on ordinary shares:		
First interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.2
Second interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.2
Third interim dividend for 2018 of $0.21c (2017: $0.16c)	20.0	15.2
Fourth interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.3
At 31 December	79.7	60.9

Future dividends

Future dividends on our ordinary shares, if any, will be at the discretion of our Board of Directors and will depend on, among other things, our results of operations, cash requirements and surplus, financial condition, contractual restrictions and other factors that the Board of Directors may deem relevant, as well as our ability to pay dividends in compliance with the Irish Companies Act. Under the Irish Companies Act, dividends and distributions may only be made from distributable reserves. Distributable reserves, broadly, means the accumulated realized profits of Allegion plc (ALLE-Ireland). In addition, no distribution or dividend may be made unless the net assets of ALLE-Ireland are equal to, or in excess of, the aggregate of ALLE-Ireland's called up share capital plus undistributable reserves and the distribution does not reduce ALLE-Ireland's net assets below such aggregate.

34. LOANS TO DIRECTORS

Irish company law prohibits the Group from making a loan or a quasi-loan to a director of the Group unless certain conditions are met. No loans or quasi-loans have been made to any director of the Group during the financial year.

35. CAPITAL EXPENDITURE COMMITMENTS

In millions ($)	2018	2017
Capital expenditures that have been authorized by the Directors but not yet been contracted	20.3	19.3

36. RELATED PARTY DISCLOSURES

The principal related party relationships requiring disclosure in the Consolidated Financial Statements pertain to the existence of subsidiaries and associates and transactions with these entities entered into by the Group and the identification of key management personnel as addressed in greater detail below.

Subsidiaries and Associates

The Consolidated Financial Statements include the results of operations, financial positions and cash flows of the Group and its subsidiaries and associates over which the Group has control or which otherwise qualify for consolidation or equity accounting. A listing of the principal subsidiaries and associates is provided in Note 37. Associates not consolidated or accounted for under the equity method are included in Note 18 to the Consolidated Financial Statements.

Trading Transactions

There were no transactions requiring disclosure under Sch. 3, Section 67 (1) of the Irish Companies Act 2014.

Compensation of Key Management Personnel of the Group

Key management personnel are the Group's executive and non-executive directors and the following is the aggregate compensation of these directors.

In millions ($)	2018	2017
Emoluments	4.3	4.0
Benefits under long term incentive schemes	1.0	9.3
Contributions to retirement benefits schemes: Defined contribution	0.1	0.2
At 31 December	5.4	13.5

37. PRINCIPAL SUBSIDIARIES AND ASSOCIATES

The subsidiary and associate undertakings at 31 December 2018 are listed below:

Name	Nature of business	Registered office	Country of Incorporation	Percentage of ownership
A.B.S. - R.I.C.A.	Non-Operating	1, Rue Paul-Henri Spaak, Saint Thibault de Vignes, 77463	France	100%
AD Solutions, Inc.	Manufacturing & Distribution	2201 100th Street SW, Everett WA 98201	US	100%
Allegion B.V.	Trading Company	Witboom 1, Vianen, 4131PL	Netherlands	100%
Allegion LLC	Holding Company	c/o The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801	US	100%
Allegion NV	Trading Company	Pontbeekstraat 2, 1702 Groot-Bijgaarden	Belgium	100%
Allegion S.A.	Non-Operating	Av. Principal de Boleita con calle Maraima,Galpon Trane Nros. S/N, Urb. Boleita Norte, Municipo Sucre del Estado Miranda	Venezuela	100%
Allegion (Australia) Pty Limited	Trading Company	16-20 Third Avenue, Sunshine, Victoria 3020	Australia	100%
Allegion Canada Inc.	Trading Company	2900-550 Burrard Street, Vancouver, BC, V6C 0A3	Canada	100%
Allegion Chile SpA	Non-Operating	Calle Huerfanos 770, Piso 4, Comuna de Santiago	Chile	100%
Allegion Colombia S.A.S.	Manufacturing & Distribution	Carrera 26 #12A-20, Bogota	Colombia	100%

Allegion de Mexico, S. de R.L. de C.V.	Non-Operating	Los Olivos 698 S/N, Chavez Tecate, 21440	Mexico	100%
Allegion Deutsche Holding GmbH	Holding Company	Schwarzwaldstrasse 15, 77871 Renchen	Germany	100%
Allegion EMEA BVBA	Non-Operating	Bloomz Building - Lambroekstraat 5A,B-1831	Belgium	100%
Allegion Emniyet ve Guvenlik Sistemleri Sanayi AS	Manufacturing & Distribution	No: 45 Kar Plaza Kat 12, Kayisdagi Cad. Karaman Ciftlik Yolu, Icerenkoy, Istanbul, 34752	Turkey	100%
Allegion Fu Hsing Limited	Trading Company	29th Floor, Fortis Tower, No. 77-79, Gloucester Road, Wanchai	Hong Kong	51%
Allegion German Financing GmbH & Co. KG	Holding Company	Zettachring 16, 70567 Stuttgart	Germany	100%
Allegion German Holding I GmbH	Holding Company	Zettachring 16, 70567 Stuttgart	Germany	100%
Allegion German Holding II GmbH	Holding Company	Zettachring 16, 70567 Stuttgart	Germany	100%
Allegion (Gibraltar) Holding Limited	Holding Company	57/63, Line Wall Road	Gibraltar	100%
Allegion Gulf Trading WLL	Trading Company	1st Floor, Regus Building, Office 109, D Ring Road, PO BOX 32522, Doha	Qatar	49%
Allegion (Hong Kong) Limited	Trading Company	29th Floor, Fortis Tower, No. 77-79 Gloucester Road, Wanchai	Hong Kong	100%
Allegion Immobilien GmbH	Non-Operating	Interflex Datensysteme GmbH, Zettachring 16, D-70567, Stuttgart	Germany	100%
Allegion India Private Limited	Trading Company	10th floor Tower C, IBC Knowledge Park, 4/1 Bannerghatta Main Road, Bangalore - 560029	India	100%
Allegion International AG	Trading Company	Tafernhof, Mellingerstrasse 207, Baden-Dattwil, CH-5405	Switzerland	100%
Allegion Investments (UK) Limited	Holding Company	35 Rocky Lane, Aston, Birmingham, B6 5RQ	United Kingdom	100%
Allegion Investments Holding LLC	Holding Company	c/o The Corporation Trust Company, Corporate Trust Centre, 1209 Orange St., Wilmington, DE, 19801	US	100%
Allegion Irish Holding Company III Limited	Holding Company	Block D, Iveagh Court, Harcourt Road, Dublin 2	Ireland	100%
Allegion Irish Holding Company II Ltd	Holding Company	Block D, Iveagh Court, Harcourt Road, Dublin 2	Ireland	100%
Allegion Irish Holding Company Limited	Holding Company	Block D, Iveagh Court, Harcourt Road, Dublin 2	Ireland	100%
Allegion (Ireland) Finance Designated Activity Company	Dormant Company	Block D, Iveagh Court, Harcourt Road, Dublin 2	Ireland	100%
Allegion Korea Ltd.	Dormant Company	Chuneui-dong, Chuneui Techno Park 2cha) 9th floor, 201dong, 18, Bucheon-ro 198beon-gil, Wonmi-gu, Bucheon-si, Gyeonggi-do	Korea	100%
Allegion Luxembourg Holding and Financing S.à r.l.	Holding Company	26,boulevard Royal, L-2449	Luxembourg	100%
Allegion Luxembourg Holding II SCS	Holding Company	26,boulevard Royal, L-2449	Luxembourg	100%
Allegion Luxembourg Holding III S.á.r.l	Holding Company	26,boulevard Royal, L-2449	Luxembourg	100%
Allegion Lux Financing I S.à r.l	Holding Company	26,boulevard Royal, L-2449	Luxembourg	100%

Allegion Lux Financing III S.à r.l.	Holding Company	26,boulevard Royal, L-2449	Luxembourg	100%
Allegion (Malaysia) Sdn. Bhd.	Trading Company	1 & 1A, 2nd floor (room 2) Jalan Ipoh Kecil 50350 Kuala Lumpur	Malaysia	100%
Allegion (New Zealand) Limited	Manufacturing & Distribution	437 Rosebank Road, Avondale Box 19034, Avondale, Auckland	New Zealand	100%
Allegion (Southeast Asia) Pte. Ltd.	Trading Company	178 Paya Lebar Road, 04-10, Paya Lebar 178, Singapore (409030)	Singapore	100%
Allegion (Thailand) Limited	Trading Company	140/37 New ITF Tower, 17th Floor, Silom Rd, Bangrak 1500 Bankok	Thailand	100%
Allegion Panama, S. de R.L.	Trading Company	Avenida Samuel Lewis y Calle 54 St, Edificio AFRA, Panamá, República de Panamá	Panama	100%
Allegion S&S Lock Holding Company Inc.	Holding Company	c/o The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801	US	100%
Allegion Security Technologies (China) Co. Ltd.	Manufacturing & Distribution	Building No.10, No. 8158, Tingwei Road, Jinshan Industrial Zone, Shanghai	China	100%
Allegion (UK) Limited	Trading Company	35 Rocky Lane, Aston, Birmingham, B6 5RQ	United Kingdom	100%
Allegion US Holding Company Inc.	Holding Company	c/o The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801	US	100%
Allegion Ventures LLC	Holding Company	1209 Orange Street, Wilmington DE 19801, DE	US	100%
API Services and Solutions Pty Limited	Trading Company	7 Eagleview Place, Eagle Farm QLD 4009	Australia	100%
AXA Stenman Deutschland GmbH	Trading Company	An der Silberkuhle 1, D-58239, Schwerte	Germany	100%
AXA Stenman France S.A.S.	Manufacturing & Distribution	Usine de Beaulieu, 58500 Clamecy	France	100%
AXA Stenman Holding B.V.	Holding Company	Energiestraat 2, NL-3903 AV Veenendaal	Netherlands	100%
AXA Stenman Industries B.V.	Holding Company	Energiestraat 2, NL-3903 AV Veenendaal	Netherlands	100%
AXA Stenman Nederland B.V	Manufacturing & Distribution	Energiestraat 2, NL-3903 AV Veenendaal	Netherlands	100%
AXA Stenman Poland Sp Z.O.O	Manufacturing & Distribution	ul. Technologiczna 8, 42-400 Zawiercie	Poland	100%
BASTA Group A/S Denmark	Holding Company	c/o Accura Advokatpartnerselskab Tuborg Boulevard 1, 2900 Hellerup	Denmark	100%
Bricard S.A.S	Manufacturing & Distribution	1, Rue Paul-Henri Spaak, Saint Thibault de Vignes, 77463	France	100%
CISA Cerraduras S.A.	Trading Company	Poligono Industrial La Charluca, Calle F, parcela M16-17, 50300 Calatayud, Zaragoza	Spain	100%
CISA SpA	Manufacturing & Distribution	no 42, Via Oberdan, Faenza, 48018	Italy	100%
Conneqtech	Manufacturing & Distribution	Einsteinweg 35A, (3752 LW) Bunschoten-Spakenburg	Netherlands	20%
D. Purdue & Sons Ltd.	Trading Company	Elsies River, 7490	South Africa	25%
Dor-O-Matic (Illinois) LLC	Non-Operating	C T Corporation System, 208 S. LaSalle Street, Chicago, IL, 60604	US	100%
Dor-o-Matic of Mid Atlantic States, Inc.	Trading Company	6505 S. Crescent Blvd., Pennsauken, NJ, 08110	US	100%
Eco Schulte GmbH	Manufacturing & Distribution	Iserlohner Landstrasse 89, 58706 Menden	Germany	20%

Electronic Technologies Corporation USA	Trading Company	11819 North Pennsylvania Street, Carmel, Indiana, 46032	US	100%
Fire and Security Hardware Pty Limited	Trading Company	16-20 Third Avenue, Sunshine, VIC, 3020	Australia	100%
Gainsborough Hardware Industries Limited	Trading Company	7 Eagleview Place, Eagle Farm QLD 4009	Australia	100%
Harrow Industries LLC	Manufacturing & Distribution	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, New Castle, DE, 19801	US	100%
Harrow Products (Delaware) LLC	Trading Company	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, New Castle, DE, 19801	US	100%
Harrow Products, LLC	Trading Company	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, New Castle, DE, 19801	US	100%
Interflex Datensysteme GesmbH	Trading Company	Geisselbergstrasse 19/3/6, Vienna, 1110	Austria	100%
Interflex Datensysteme GmbH	Manufacturing & Distribution	Zettachring 16, D-70567, Stuttgart	Germany	100%
Isonas, Inc.	Trading Company	4750 Walnut Street - Suite 110 Boulder, Colorado 80301 USA	US	100%
Milre Systek Co., Ltd	Manufacturing & Distribution	(Chun Eui Techno Park 2cha, Chuneui-dong) 9th floor, 201dong located at 18, Bucheon-ro 198beon-gil, Wonmi-gu, Bucheon-si, Gyeonggi-do	Korea	100%
Newman Tonks (Overseas Holdings) Limited	Non-Operating	35 Rocky Lane, Aston, Birmingham, B6 5RQ	United Kingdom	100%
Normbau France SAS	Trading Company	1 Rue De L'artisanat, 67240, Bischwiller	France	100%
Normbau GmbH	Manufacturing & Distribution	Schwarzwaldstrasse 15, Postfach 1261, Renchen, D-77871	Germany	100%
NT Group Properties Limited	Non-Operating	35 Rocky Lane, Aston, Birmingham, B6 5RQ	United Kingdom	100%
NT Leamington Limited	Non-Operating	35 Rocky Lane, Aston, Birmingham, B6 5RQ	United Kingdom	100%
Nuki Home Solutions GmbH	Trading Company	Muenzgrabenstrasse 92/4, 8010 Graz	Austria	23%
Qatar Metal Const. Ind. LLC	Manufacturing & Distribution	Industrial Area 13, Industrial St. 4, Span Number 2, Mohammed Abdullah Al Khajal Property, PO Box 70723, Sharjah	United Arab Emirates	100%
QMI Building Metal Products Manufacturing LLC	Manufacturing & Distribution	Storage Number M1,M2,M, Seih Shaeeb 2, PO Box 233895, Dubai Industrial City, Bur Dubai	United Arab Emirates	100%
Recognition Systems LLC	Manufacturing & Distribution	CT Corporation System, 818 West Seventh Street, Los Angeles, CA, 90017	US	100%
Republic Doors and Frames, LLC	Manufacturing & Distribution	11819 North Pennsylvania Street, Carmel, IN, 46032	US	100%
S&S Lock Indemnity (Barbados) Limited	Non-Operating	Ground Fl. Belleville Corporate Center, #38 Pine Rd., Belleville, St. Michael	Barbados	100%
S&S Lock Insurance (Arizona) Company	Non-Operating	c/o Aon Insurance Managers (USA) Inc., 2555 E. Camelback Road, Suite 700, Phoenix, AZ 85016	US	100%
Schlage de Mexico SA de CV	Manufacturing	Calle Los Olivos 698, Col. Chavez, Baja California, 21440 Tecate	Mexico	100%
Schlage Lock Company LLC	Manufacturing & Distribution	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, New Castle, DE, 19801	US	100%

SimonsVoss Technologies AB	Trading Company	Krejaren 2, Ostermalmstorg 1, 114 42 Stockholm	Sweden	100%
SimonsVoss Technologies BV	Trading Company	Evert van de Beekstraat 104, 118CN Schiphol	Netherlands	100%
SimonsVoss Technologies FZE	Trading Company	Office No. LB05118, Jebel Ali, Dubai	United Arab Emirates	100%
SimonsVoss Technologies GmbH	Manufacturing & Distribution	Feringstrasse 4, 85774, Unterfoehring	Germany	100%
SimonsVoss Technologies Limited (Hong Kong)	Trading Company	15F OTB Building 160, Gloucester Road	Hong Kong	100%
SimonsVoss Technologies Limited (UK)	Trading Company	c/o Pini Franco LLP, 22-24 Ely Place, London EC1N 6TE	United Kingdom	100%
SimonsVoss Technologies SAS	Trading Company	1-3 Rue des Remparts, F 93160 Noisy-le-Grand	France	100%
Technical Glass Products DMCC	Trading Company	Reef Tower, 29th Floor, Jumeirah Lakes Tower Area, 5003317	United Arab Emirates	100%
Technical Glass Products, Inc.	Manufacturing & Distribution	CT Corporation 711 Capital Way S. Suite 204, Olympia, WA 98501	US	100%
TGP Canada Enterprises, ULC	Trading Company	2900-550 Burrard Street, Vancouver, BC, V6C 0A3	Canada	100%
TGP International, Inc.	Holding Company	701 Fifth Avenue, Suite 4400 Seattle, WA 98104	US	100%
Trelock Asia Pacific Limited	Trading Company	36/F Tower Two, Times Square, 1 Matheson St, Causeway Bay	Hong Kong	100%
Trelock GmbH	Trading Company	Johann-Krane-Weg 37, 48149 Munster	Germany	100%
Trelock Production GmbH	Manufacturing & Distribution	Johann-Krane-Weg 38, 48419, Munster	Germany	100%
Trelock Trading (Shenzhen) Company Ltd.	Trading Company	No 110 store, Garden City Phase 1, South Sea Avenue, Shekou, Nanshan District, Shenzhen	China	100%
Zero Seal Systems Limited	Trading Company	43-45 Ladford Covert, Seighford, Stafford, Staffordshire, ST18 9QG	United Kingdom	51%

38. EVENTS SINCE YEAR END

Dividends declared and paid

On 5 February 2019, the Group's Board of Directors declared a quarterly dividend of $0.27 cents per ordinary share. The dividend was paid on 29 March 2019 to shareholders of record on 15 March 2019.

Share repurchases

As of 4 April 2019, the Group had repurchased and cancelled approximately 0.8 million ordinary shares of $0.01 each, at a weighted-average price of approximately $86 since the year ended 31 December 2018.

39. GENERAL INFORMATION

Allegion plc is a public limited company which is listed on the New York Stock Exchange and is incorporated and domiciled in the Republic of Ireland.

Registered Office
Block D
Iveagh Court
Harcourt Road
Dublin 2
Ireland

Registered Number 527370

Principal Bankers
JP Morgan Chase Bank
200 Capital Dock
79 Sir John Rogerson's Quay
Dublin 2, D02 RK57
Ireland

Solicitors
Arthur Cox
Earlsfort Centre
10 Earlsfort Terrace
Dublin 2
Ireland

Independent Auditors
PricewaterhouseCoopers
Chartered Accountants and Registered Auditors
One Spencer Dock
North Wall Quay
Dublin 1
Ireland

40. APPROVAL OF FINANCIAL STATEMENTS

The Consolidated Financial Statements were approved by the Board of Directors of the Group on 4 April 2019.

Allegion plc
Parent Company Balance Sheet
At 31 December 2018

In millions ($)	Note	2018	2017
Fixed assets			
Investments	7	5,246.7	5,233.9
		5,246.7	5,233.9
Current assets			
Debtors	8	31.3	3.8
Cash at bank and in hand		4.2	0.7
		35.5	4.5
Creditors: amounts falling due within one year	9	(35.7)	(35.5)
Net current liabilities		(0.2)	(31.0)
Total assets less current liabilities		5,246.5	5,202.9
Creditors: amounts falling due after more than one year	9	(617.0)	(650.5)
Net assets		4,629.5	4,552.4
Capital and reserves			
Called up share capital presented as equity	11	0.9	1.0
Share premium	12	64.2	55.4
Capital redemption reserve	12	—	—
Share based payment reserve	12	59.5	46.6
Profit and loss account	12	4,504.9	4,449.4
Shareholders' funds		4,629.5	4,552.4

The Company recorded a profit of $202.4 million for the year ended 31 December 2018 (2017: profit of $547.8 million).

Approved by the Board of Directors on 4 April 2019 and signed on its behalf by:

David D. Petratis	*Martin E. Welch III*
David D. Petratis	Martin E. Welch III
Director	Director

Allegion plc
Parent Company Statement of Changes in Equity
For the year ended 31 December 2018

In millions ($)	Called up share capital presented as equity	Capital redemption reserve	Share premium	Share based payment reserve	Profit and loss account	Total
Balance at 31 December 2016	1.0	—	42.5	36.8	4,022.5	4,102.8
Issuance of ordinary shares in respect of share-based payment plans	—	—	12.9	—	—	12.9
Share-based payment charge for the year	—	—	—	9.8	—	9.8
Profit for the financial year	—	—	—	—	547.8	547.8
Repurchase of ordinary shares	—	—	—	—	(60.0)	(60.0)
Dividends	—	—	—	—	(60.9)	(60.9)
Balance at 31 December 2017	1.0	—	55.4	46.6	4,449.4	4,552.4
Issuance of ordinary shares in respect of share-based payment plans	—	—	8.8	—	—	8.8
Share-based payment charge for the year	—	—	—	12.9	—	12.9
Profit for the financial year	—	—	—	—	202.4	202.4
Repurchase of ordinary shares	(0.1)	—	—	—	(67.2)	(67.2)
Dividends	—	—	—	—	(79.7)	(79.7)
Balance at 31 December 2018	0.9	—	64.2	59.5	4,504.9	4,629.5

1. BASIS OF PREPARATION

The Parent Company Financial Statements (the "Financial Statements") have been prepared on the going concern basis and in accordance with Generally Accepted Accounting Practice in Ireland (applicable accounting standards issued by the Financial Reporting Council and promulgated by the Institute of Chartered Accountants in Ireland and the Companies Act 2014). The Financial Statements comply with Financial Reporting Standard 102, 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' (FRS 102).

The Financial Statements present the Balance Sheet and the Statement of Changes in Equity on a stand-alone basis, including related party transactions.

The Financial Statements have been prepared under the historical cost convention.

The Company ("Allegion plc") is a qualifying entity for the purposes of FRS 102. As a qualifying entity, the Company has availed of a number of exemptions from the disclosure requirements of FRS 102 in the preparation of the Financial Statements. The Company has notified its shareholders in writing about, and they do not object to, the disclosure exemptions availed of by the Company in the Financial Statements.

In accordance with FRS 102, the Company has availed of an exemption from the following paragraphs of FRS 102:

- The requirements of Section 7 and paragraph 3.17(d) to present a statement of cash flows; and
- The requirement of Section 33 Related Party Disclosures paragraph 33.7 in relation to key management personnel compensation.

2. SIGNIFICANT ACCOUNTING POLICIES

Accounting convention: The Financial Statements have been prepared on a going concern basis under the historical cost convention.

Functional currencies: Items included in these Financial Statements are measured using the currency of the primary economic environment in which the Company operates (the "functional currency"). The Financial Statements are presented in United States dollars, which is the Company's functional and presentation currency.

Investments in subsidiaries: Allegion plc's investments in its subsidiaries are stated at cost less provision for any impairment in value. Cost represents the fair value on 1 December 2013, the date of the spin-off, based on the Company's market capitalization at that time plus subsequent capital contributions and acquisitions. The Company reviews investments for impairment if events or changes in circumstances indicate that the carrying value may be impaired. The Company assesses whether such indicators exist at each reporting date. Where the recoverable amount of the investment is less than the carrying amount, an impairment is recognized.

Dividends: Dividend income is recognized when the right to receive the payment is established. Interim dividends on ordinary shares to the Company's external shareholders are recognized in the Financial Statements when they are paid.

Foreign currencies: Transactions during the year denominated in foreign currencies have been translated at the rates of exchange ruling at the dates of the transactions. Assets and liabilities denominated in foreign currencies are translated to United States dollars at the rates of exchange at the balance sheet date. The resulting profits or losses are dealt with in the profit and loss account.

Taxation: Corporation tax is provided on taxable profits at current rates. Deferred taxation is accounted for in respect of all timing differences at tax rates enacted or substantially enacted at the balance sheet date. Timing differences arise from the inclusion of items of income and expenditure in tax computation in periods different from those in which they are included in the Financial Statements. A deferred tax asset is only recognized when it is more likely than not the asset will be recoverable in the foreseeable future out of suitable taxable profits from which the underlying timing differences can be recovered.

Cash flow statement: The Company has not presented a separate cash flow statement as it has availed of the exemption available under FRS 102 Section 1.12 (b). This exemption is available as 100% of the Company's voting rights are controlled within the Allegion plc Group and the Consolidated Financial Statements of Allegion plc (in which the Company is included) are publicly available.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Share-based payments: The Company and its subsidiaries operate various equity-settled share based compensation plans. The fair value of the employee services received in exchange for the grant of performance stock units has been valued using a Monte Carlo simulation based on the grant's performance criteria and forecasted earnings per share. The fair value of the employee services received in exchange for the grant of restricted stock units has been valued using the fair value of Allegion plc ordinary shares on the date of grant. The fair value of the employee services received in exchange for the grant of options has been valued using the Black-Scholes option-pricing model. In accordance with Section 26 of FRS 102 Section 'Share-based Payments', the resulting cost for the employees is charged to the profit and loss account over the vesting period. The value of the charge is adjusted to reflect expected and actual levels of awards vesting.

The cost for awards granted to the Company's subsidiaries' employees represents additional capital contributions by the Company to its subsidiaries. An additional investment in subsidiaries has been recorded in respect of those awards granted to the Company's subsidiaries' employees, with a corresponding increase in the Company's shareholders' equity. The additional capital contribution is based on the fair value at the grant date of the awards issued, allocated over the life of the underlying grant's vesting period. Proceeds received from employees, if any, for the exercise of share based instruments increase the share capital and share premium accounts of the Company. The difference between the proceeds received on issue of shares and the nominal value of the shares is credited to the share premium account. Note 31 of the Consolidated Financial Statements provides additional details of the Company's share-based compensation plans.

Contingencies: The Company has guaranteed certain liabilities and credit arrangements. The Company reviews the status of these guarantees at each reporting date and considers whether it is required to make a provision for payment on those guarantees based on the probability of the commitment being called.

Financial instruments: The Company has chosen to adopt Sections 11 and 12 of FRS 102 in respect of financial instruments.

Financial assets

Basic financial assets, including trade and other receivables, loans to fellow Group companies and cash and bank balances, are initially recognized at transaction price, unless the arrangement constitutes a financing transaction, where the transaction is measured at the present value of the future receipts discounted at a market rate of interest. Such assets are subsequently carried at amortized cost using the effective interest method. At the end of each reporting period financial assets measured at amortized cost are assessed for objective evidence of impairment. If an asset is impaired the impairment loss is the difference between the carrying amount and the present value of the estimated cash flows discounted at the asset's original effective interest rate. The impairment loss is recognized in profit or loss. If there is decrease in the impairment loss arising from an event occurring after the impairment was recognized the impairment is reversed. The reversal is such that the current carrying amount does not exceed what the carrying amount would have been had the impairment not previously been recognized. The impairment reversal is recognized in profit or loss.

Financial assets are derecognized when (a) the contractual rights to the cash flows from the asset expire or are settled, or (b) substantially all the risks and rewards of the ownership of the asset are transferred to another party or (c) control of the asset has been transferred to another party who has the practical ability to unilaterally sell the asset to an unrelated third party without imposing additional restrictions.

Financial liabilities

Basic financial liabilities, including trade and other payables, bank loans, and loans from fellow Group companies, are initially recognized at transaction price, unless the arrangement constitutes a financing transaction, where the debt instrument is measured at the present value of the future receipts discounted at a market rate of interest. Debt instruments are subsequently carried at amortized cost, using the effective interest rate method. Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortized over the period of the facility to which it relates.

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Creditors: amounts falling due within one year are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognized initially at transaction price and subsequently measured at amortized cost using the effective interest method. Financial liabilities are derecognized when the liability is extinguished, that is when the contractual obligation is discharged, cancelled or expires.

2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

Derivative financial instruments

Derivatives, including forward foreign exchange contracts, are not basic financial instruments. Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. Changes in the fair value of derivatives are recognized in the Profit and loss account and in Debtors and Creditors: amounts falling due within one year. The Company periodically enters into foreign exchange contracts to hedge certain monetary liabilities. The forward contracts have maturities of no more than twelve months and are entered into for the sole purpose of hedging exposure arising from the normal course of business. The fair value of the forward contracts has been measured based on a valuation which used inputs other than quoted prices that are observable directly and indirectly.

Cash at bank and in hand: Cash at bank and in hand includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less. Bank overdrafts are shown within borrowings in current liabilities.

3. CRITICAL ACCOUNTING JUDGEMENTS AND ESTIMATION UNCERTAINTY

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The key risk identified by the directors relates to impairment of investments in relation to subsidiaries. Consequently the Company assesses at each reporting date whether there is any indication that an investment in subsidiary has been impaired. If such an indication exists, the Company is required to undertake a review for impairment and estimate the recoverable amount of the asset.

4. PROFIT FOR THE FINANCIAL YEAR

A profit of $202.4 million for the year ended 31 December 2018 (profit of $547.8 million for the prior year) has been dealt with in the profit and loss account of Allegion plc, which, as permitted by Section 304 of the Companies Act 2014, is not presented in these Financial Statements. The Company had no other recognized gains and losses, and accordingly, no statement of total recognized gains and losses is presented.

5. AUDITORS' REMUNERATION

In millions ($)	2018	2017
Audit of the Company's individual accounts (including expenses)	0.2	0.2
Auditors' remuneration	0.2	0.2

Note 9 of the Consolidated Financial Statements provides additional details of fees paid by the Group.

6. EMPLOYEE COSTS

The average number of persons employed in the Company, including executive directors, during 2018 was 4 (2017: 3).

In millions ($)	2018	2017
Wages and salaries	0.5	0.3
Social insurance costs	—	—
Other pension costs	—	—
Employee costs	0.5	0.3

7. INVESTMENTS - SHARES IN GROUP UNDERTAKINGS

In millions ($)	Total
At 31 December 2017	5,233.9
Capital contribution relating to share-based payments	12.8
At 31 December 2018	5,246.7

7. INVESTMENTS - SHARES IN GROUP UNDERTAKINGS (Continued)

Subsidiaries

Details of the Company's direct subsidiaries as at 31 December 2018 are as follows:

Subsidiary company and registered office	Country of Incorporation	Principal Activity	Holding %
Allegion Irish Holding Company Limited Iveagh Court, Harcourt Road, Dublin 2, Ireland	Ireland	Holding Company	100%
Allegion US Holding Company Inc. 11819 North Pennsylvania Street, Carmel, IN 46032, U.S.A	U.S.A	Holding Company	100%
Allegion (Ireland) Finance Designated Activity Company Block D, Iveagh Court, Harcourt Road, Dublin 2	Ireland	Dormant Company	100%

The Company indirectly owns all other subsidiaries in the Allegion Group. Details of indirect subsidiaries can be found in Note 37 of the Consolidated Financial Statements.

8. DEBTORS

In millions ($)	2018	2017
Amounts falling due within one year:		
Amounts owed by subsidiary undertakings	30.8	3.5
Prepayments	0.5	0.3
At 31 December	31.3	3.8

Amounts owed by subsidiary undertakings are unsecured, interest free and repayable upon demand. The directors consider that the carrying amount of Debtors approximates their fair value due to the short-term nature of these instruments.

Deferred tax

The Company has unrecognized deferred tax assets of $3.1 million related to unused tax losses as of 31 December 2018 ($2.0 million as of 31 December 2017). No deferred tax asset has been recognized in respect of these amounts on the basis that the directors do not consider that there is convincing evidence to conclude that it is probable that losses will be recovered against future taxable profits.

9. CREDITORS

In millions ($)	2018	2017
Amounts falling due within one year:		
Amounts due to subsidiary undertakings	0.3	0.2
Current portion of long-term debt (net of issuance costs) - Note 10	33.4	33.4
Accrued interest	0.1	0.2
Other payables	0.5	0.4
Other creditors	0.6	0.8
Income tax deducted under PAYE	0.1	0.1
Dividend withholding tax	0.7	0.4
At 31 December	35.7	35.5

Amounts due to subsidiary undertakings falling due within one year are unsecured and are repayable within 60 days. Tax and social insurance are repayable at various dates over the coming months in accordance with the applicable statutory provisions.

Other creditors principally comprise amounts outstanding for day to day purchases and ongoing costs and are payable at various dates in the next three months in accordance with the suppliers' usual and customary credit terms. The directors consider that the carrying amount of other creditors approximates to their fair value due to the short-term nature of these instruments.

9. CREDITORS (Continued)

In millions ($)	2018	2017
Amounts falling due after more than one year:		
Debt (net of issuance costs) - Note 10	617.0	650.5
At 31 December	617.0	650.5

10. LOANS AND BORROWINGS

Long-term debt consisted of the following:

In millions ($)	2018	2017
Term Facility	656.3	691.3
Revolving Facility	—	—
Total borrowings outstanding	656.3	691.3
Less current portion of long-term debt	35.0	35.0
Total long-term debt	621.3	656.3

Unsecured Credit Facilities

As of 31 December 2018, the Company has an unsecured Credit Agreement in place that provides for up to $1,200.0 million in unsecured financing, consisting of a $700.0 million term loan facility (the "Term Facility") and a $500.0 million revolving credit facility (the "Revolving Facility" and, together with the Term Facility, the "Credit Facilities"). The Credit Facilities mature on 12 September 2022 and are unconditionally guaranteed jointly and severally on an unsecured basis by the Company and Allegion US Holding Company Inc. ("Allegion US Hold Co"), the Company's wholly-owned subsidiary.

The Term Facility amortizes in quarterly installments at the following rates: 1.25% per quarter starting 31 December 2017 through 31 December 2020, 2.5% per quarter from 31 March 2021 through 30 June 2022, with the balance due on 12 September 2022. The Company may voluntarily prepay outstanding amounts under the Term Facility at any time without premium or penalty, subject to customary breakage costs. Amounts borrowed under the Term Facility that are repaid may not be reborrowed. The Company repaid $35.0 million of principal on its Term Facility during 2018.

The Revolving Facility provides aggregate commitments of up to $500.0 million, which includes up to $100.0 million for the issuance of letters of credit. At 31 December 2018, there were no borrowings outstanding on the Revolving Facility, and the Company had $17.1 million of letters of credit outstanding. Commitments under the Revolving Facility may be reduced at any time without premium or penalty, and amounts repaid may be reborrowed. The Company pays certain fees with respect to the Revolving Facility, including an unused commitment fee on the undrawn portion of the Revolving Facility of between 0.125% and 0.200% per year, depending on the Company's credit rating, as well as certain other fees.

Outstanding borrowings under the Credit Facilities accrue interest at the option of the Company of (i) a LIBOR rate plus the applicable margin or (ii) a base rate plus the applicable margin. The applicable margin ranges from 1.125% to 1.500% depending on the Company's credit ratings. At 31 December 2018, the outstanding borrowings under the Term Facility accrue interest at LIBOR plus a margin of 1.250%. To manage the Company's exposure to fluctuations in LIBOR rates, the Company has interest rate swaps to fix the interest rate for $250.0 million of the outstanding borrowings (see Note 10).

The Credit Facilities contain negative and affirmative covenants and events of default that, among other things, limit or restrict the Company's ability to enter into certain transactions. In addition, the Credit Facilities require the Company to comply with a maximum leverage ratio and a minimum interest expense coverage ratio, as defined within the agreement. As of 31 December 2018, the Company was in compliance with all covenants.

10. LOANS AND BORROWINGS (Continued)

Debt issuance costs

Debt issuance costs consisted of the following:

In millions ($)	2018	2017
At 1 January	7.4	11.9
Incurred during the year	—	2.7
Write off of unamortized debt issue costs from previous issuances	—	(4.8)
Amortization charge for the year	(1.5)	(2.4)
At 31 December	5.9	7.4
Less short-term portion	(1.6)	(1.6)
Long-term position	4.3	5.8

At 31 December 2018, future retirements for the amounts outstanding under the Term Facility are as follows:

In millions ($)	
2019	35.0
2020	35.0
2021	70.0
2022	516.3
2023	—
Total	656.3

At 31 December 2018, the weighted-average interest rate for borrowings was 3.50% under the Term Facility (including the effect of interest rate swaps). Cash paid for interest for the year ended 31 December 2018 was approximately $25.1 million (2017: $41.0 million). Note 25 of the Consolidated Financial Statements provides additional details of loans of borrowings in the Group.

11. CALLED UP SHARE CAPITAL PRESENTED AS EQUITY

In millions ($)	2018	2017
Authorized:		
40,000 ordinary shares of €1 par value	—	—
400,000,000 ordinary shares of $0.01 par value	4.0	4.0
10,000,000 preferred shares of $0.001 par value	—	—
At 31 December	4.0	4.0

Allotted, called up and fully paid equity: **Ordinary shares of $0.01 each**	Number(m)	$m
At 31 December 2017	95.1	1.0
Shares issued under incentive plans	0.4	—
Repurchase of ordinary shares	(0.9)	(0.1)
At 31 December 2018	94.6	0.9

Share repurchases

On 2 February 2017, the Company's Board of Directors approved a new stock repurchase authorization of up to $500 million of the Company's ordinary shares. This new stock repurchase authorization replaced the authorization previously established in 2014. During the year ended 31 December 2018, the Company paid $67.3 million to repurchase 0.9 million ordinary shares of $0.01 each, at a weighted-average price of $84.44 on the open market under this new repurchase authorization.

11. CALLED UP SHARE CAPITAL PRESENTED AS EQUITY (Continued)

Distributable reserves have been reduced by $67.3 million being the consideration, including expenses paid for these shares. The repurchase transactions were financed by internally generated funds. The shares repurchased were cancelled and an amount equivalent to their nominal value was transferred to the capital redemption reserve in accordance with the requirements of Section 106(4) of the Companies Act 2014. The transfer to capital redemption reserve and the premium paid on the shares repurchased were made out of retained profits.

During the year ended 31 December 2017, the Company repurchased and cancelled 0.8 million ordinary shares of $0.01 each, or 1% of issued shares, at a weighted-average price of $75.97.

12. RESERVES

In millions ($)	Capital redemption reserve	Share premium	Share based payment reserve	Profit and loss account	Total
At 31 December 2016	—	42.5	36.8	4,022.5	4,101.8
Issuance of ordinary shares in respect of share based payment plans	—	12.9	—	—	12.9
Share based payment charge for the year	—	—	9.8	—	9.8
Profit for the year	—	—	—	547.8	547.8
Repurchase of ordinary shares	—	—	—	(60.0)	(60.0)
Dividends	—	—	—	(60.9)	(60.9)
At 31 December 2017	—	55.4	46.6	4,449.4	4,551.4
Issuance of ordinary shares in respect of share based payment plans	—	8.8	—	—	8.8
Share based payment charge for the year	—	—	12.9	—	12.9
Profit for the year	—	—	—	202.4	202.4
Repurchase of ordinary shares	—	—	—	(67.2)	(67.2)
Dividends	—	—	—	(79.7)	(79.7)
At 31 December 2018	—	64.2	59.5	4,504.9	4,628.6

The Company's share premium, capital redemption reserve and share-based payment reserves are not available for distribution.

Dividends declared and paid during the year

In millions ($)	2018	2017
Equity dividends on ordinary shares:		
First interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.2
Second interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.2
Third interim dividend for 2018 of $0.21c (2017: $0.16c)	20.0	15.2
Fourth interim dividend for 2018 of $0.21c (2017: $0.16c)	19.9	15.3
At 31 December	79.7	60.9

Future dividends

Future dividends on our ordinary shares, if any, will be at the discretion of our Board of Directors and will depend on, among other things, our results of operations, cash requirements and surplus, financial condition, contractual restrictions and other factors that the Board of Directors may deem relevant, as well as our ability to pay dividends in compliance with the Irish Companies Act. Under the Irish Companies Act, dividends and distributions may only be made from distributable reserves. Distributable reserves, broadly, means the accumulated realized profits of Allegion plc (ALLE-Ireland). In addition, no distribution or dividend may be made unless the net assets of ALLE-Ireland are equal to, or in excess of, the aggregate of ALLE-Ireland's called up share capital plus undistributable reserves and the distribution does not reduce ALLE-Ireland's net assets below such aggregate.

13. GUARANTEES

On 2 October 2017, Allegion US Holding Company Inc. completed the offering of 3.20% Senior Notes and 3.55% Senior Notes in the aggregate principal amount of $800.0 million maturing in 2024 and 2027 respectively. As of 31 December 2018 and 2017, the full balance of $800.0 million remained outstanding.

The five-year Revolving Facility includes up to $100.0 million available for the issuance of letters of credit. As of 31 December 2018, letters of credit of $17.1 million (2017: $17.4 million) have been issued.

Allegion plc has guaranteed the above borrowings and letters of credit of Group undertakings, and the amounts total $817.1 million as of 31 December 2018 (2017: $817.4 million).

Note 25 of the Consolidated Financial Statements provides additional details of loans of borrowings in the Group.

14. RELATED PARTY TRANSACTIONS

The Company has not disclosed any other related party transactions as it has availed of the exemption available under the provisions of FRS 102 Section 33.1A “Related Party Disclosures” which exempts disclosure of transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by a member of that group.

15. SUBSEQUENT EVENTS

Dividends declared and paid

On 5 February 2019, the Company's Board of Directors declared a quarterly dividend of $0.27 cents per ordinary share. The dividend was paid on 29 March 2019 to shareholders of record on 15 March 2019.

Share repurchases

As of 4 April 2019, the Company had repurchased and cancelled approximately 0.8 million ordinary shares of $0.01 each, at a weighted-average price of approximately $86 since the year ended 31 December 2018.

Dividend income

During January 2019, the Company received dividends of $10.0 million from its direct subsidiary Allegion Irish Holding Company Limited.

16. APPROVAL OF FINANCIAL STATEMENTS

The Parent Company Financial Statements were approved by the Board of Directors of the Company on 4 April 2019.