NL INDUSTRIES/TARACORP SUPERFUND SITE GROUP
Leed Environmental, Inc.
Van Reed Office Plaza
2209 Quarry Drive, Suite C-35
Reading, PA 19609
Telephone: (610) 670-7310
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December 29, 2017

By Electronic Mail and First Class Mail

Ms. Sheri L. Bianchin
Remedial Project Manager
Institutional Controls Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, IL 60604

Re: NL Industries/Taracorp Superfund Site; Granite City, Illinois
Financial Assurance

Dear Ms. Bianchin:

As you know, the NL Industries/Taracorp Superfund Site Group has been providing Johnson Controls International, PLC's (JCI) financial statements to the U.S. Environmental Protection Agency on an annual basis to satisfy the financial assurance requirements of the Consent Decree for the NL Industries/Taracorp Superfund Site. Enclosed is a copy, printed from the Internet at http://otp.investis.com/clients/us/johnson_controls/SEC/sec-show.aspx?Type=html&FilingId=12395090&CIK=0000833444&Index=10000, of JCI's Form 10-K, as filed with the U.S. Securities and Exchange Commission, for the fiscal year ending September 30, 2017.

Please let me know if additional information or clarification is needed.

Very truly yours,

LEED ENVIRONMENTAL, INC.

Jeffrey A. Leed
Project Coordinator

enclosure

cc: Mr. Brian Conrath/Mr. Tom Miller – Illinois EPA (with enclosure, by electronic mail)
Technical Committee, NL Industries/Taracorp Superfund Site Group
(with enclosure, by electronic mail)

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10–K

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

For the Fiscal Year Ended September 30, 2017

OR

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

For The Transition Period From _____ To

Commission File Number 001-13836

JOHNSON CONTROLS INTERNATIONAL PLC

(Exact name of registrant as specified in its charter)

Ireland	**98-0390500**
(Jurisdiction of Incorporation)	(I.R.S. Employer Identification No.)

One Albert Quay

Cork, Ireland

(Address of principal executive offices)

353-21-423-5000

(Registrant's telephone number)

Securities Registered Pursuant to Section 12(b) of the Exchange Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Ordinary Shares, Par Value $0.01	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Exchange Act: **None**

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes R No ☐

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

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

Large accelerated filer	R	Accelerated filer	☐
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	
Emerging growth company	☐	Smaller reporting company	☐

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

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

As of March 31, 2017, the aggregate market value of Johnson Controls International plc Common Stock held by non-affiliates of the registrant was approximately $39.5 billion based on the closing sales price as reported on the New York Stock Exchange. As of October 31, 2017, 925,435,012 ordinary shares, par value $0.01 per share, were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement to be delivered to shareholders in connection with the annual general meeting of shareholders to be held on March 7, 2018 are incorporated by reference into Part III.

JOHNSON CONTROLS INTERNATIONAL PLC

Index to Annual Report on Form 10-K

Year Ended September 30, 2017

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CAUTIONARY STATEMENTS FOR FORWARD-LOOKING INFORMATION

Unless otherwise indicated, references to "Johnson Controls," the "Company," "we," "our" and "us" in this Annual Report on Form 10-K refer to Johnson Controls International plc and its consolidated subsidiaries.

The Company has made statements in this document that are forward-looking and therefore are subject to risks and uncertainties. All statements in this document other than statements of historical fact are, or could be, "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In this document, statements regarding Johnson Controls' future financial position, sales, costs, earnings, cash flows, other measures of results of operations, synergies and integration opportunities, capital expenditures and debt levels are forward-looking statements. Words such as "may," "will," "expect," "intend," "estimate," "anticipate," "believe," "should," "forecast," "project" or "plan" and terms of similar meaning are also generally intended to identify forward-looking statements. However, the absence of these words does not mean that a statement is not forward-looking. Johnson Controls cautions that these statements are subject to numerous important risks, uncertainties, assumptions and other factors, some of which are beyond Johnson Controls' control, that could cause Johnson Controls' actual results to differ materially from those expressed or implied by such forward-looking statements, including, among others, risks related to: any delay or inability of Johnson Controls to realize the expected benefits and synergies of recent portfolio transactions such as the merger with Tyco International plc ("Tyco"), the spin-off of Adient, changes in tax laws, regulations, rates, policies or interpretations, the loss of key senior management, the tax treatment of recent portfolio transactions, significant transaction costs and/or unknown liabilities associated with such transactions, the outcome of actual or potential litigation relating to such transactions, the risk that disruptions from recent transactions will harm Johnson Controls' business, the strength of the U.S. or other economies, automotive vehicle production levels, mix and schedules, energy and commodity prices, the availability of raw materials and component products, currency exchange rates, and cancellation of or changes to commercial arrangements. A detailed discussion of risks related to Johnson Controls' business is included in the section entitled "Risk Factors" (refer to Part I, Item 1A, of this Annual Report on Form 10-K). The forward-looking statements included in this document are only made as of the date of this document, unless otherwise specified, and, except as required by law, Johnson Controls assumes no obligation, and disclaims any obligation, to update such statements to reflect events or circumstances occurring after the date of this document.

PART I

ITEM 1 BUSINESS

General

Johnson Controls International plc, headquartered in Cork, Ireland, is a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. The Company creates intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. The Company is committed to helping our customers win and creating greater value for all of its stakeholders through strategic focus on our buildings and energy growth platforms.

Johnson Controls was originally incorporated in the state of Wisconsin in 1885 as Johnson Electric Service Company to manufacture, install and service automatic temperature regulation systems for buildings. The Company was renamed to Johnson Controls, Inc. in 1974. In 1978, the Company acquired Globe-Union, Inc., a Wisconsin-based manufacturer of automotive batteries for both the replacement and original equipment markets. The Company entered the automotive seating industry in 1985 with the acquisition of Michigan-based Hoover Universal, Inc. In 2005, the Company acquired York International, a global supplier of heating, ventilating, air-conditioning ("HVAC") and refrigeration equipment and services. In 2014, the Company acquired Air Distribution Technologies, Inc. ("ADTi"), one of the largest independent providers of air distribution and ventilation products in North America. On October 1, 2015, the Company formed a joint venture with Hitachi to expand its building related product offerings.

In the fourth quarter of fiscal 2016, Johnson Controls, Inc. ("JCI Inc.") and Tyco completed their combination with JCI Inc. merging with a wholly owned, indirect subsidiary of Tyco (the "Merger"). Following the Merger, Tyco changed its name to "Johnson Controls International plc" and JCI Inc. is a wholly-owned subsidiary of Johnson Controls International plc. The Merger was accounted for as a reverse acquisition using the acquisition method of accounting in accordance with Accounting Standards Codification ("ASC") 805, "Business Combinations." JCI Inc. was the accounting acquirer for financial reporting purposes. Accordingly, the historical consolidated financial statements of JCI Inc. for periods prior to this transaction are considered to be the historic financial statements of the Company. Refer to Note 2, "Merger Transaction," of the notes to consolidated financial statements for additional information.

The acquisition of Tyco brings together best-in-class product, technology and service capabilities across controls, fire, security, HVAC, power solutions and energy storage, to serve various end-markets including large institutions, commercial buildings, retail,

industrial, small business and residential. The combination of the Tyco and Johnson Controls buildings platforms creates opportunities for near-term growth through cross-selling, complementary branch and channel networks, and expanded global reach for established businesses. The new Company benefits by combining innovation capabilities and pipelines involving new products, advanced solutions for smart buildings and cities, value-added services driven by advanced data and analytics and connectivity between buildings and energy storage through infrastructure integration.

On October 31, 2016, the Company completed the spin-off of its Automotive Experience business by way of the transfer of the Automotive Experience Business from Johnson Controls to Adient plc ("Adient") and the issuance of ordinary shares of Adient directly to holders of Johnson Controls ordinary shares on a pro rata basis. Prior to the open of business on October 31, 2016, each of the Company's shareholders received one ordinary share of Adient plc for every 10 ordinary shares of Johnson Controls held as of the close of business on October 19, 2016, the record date for the distribution. Company shareholders received cash in lieu of fractional shares of Adient, if any. Following the separation and distribution, Adient plc is now an independent public company trading on the New York Stock Exchange ("NYSE") under the symbol "ADNT". The Company did not retain any equity interest in Adient plc. Adient's historical financial statements are reflected in the Company's consolidated financial statements as a discontinued operation.

The Building Technologies & Solutions ("Buildings") business is a global market leader in engineering, developing, manufacturing and installing building products and systems around the world, including HVAC equipment, HVAC controls, energy-management systems, security systems, fire detection systems and fire suppression solutions. The Buildings business further serves customers by providing technical services (in the HVAC, security and fire-protection space), energy-management consulting and data-driven solutions via its recently launch data-enabled business. Finally, the Company is a North American market leader in residential air conditioning and heating systems and a global market leader in industrial refrigeration products.

The Power Solutions business is a leading global supplier of lead-acid automotive batteries for virtually every type of passenger car, light truck and utility vehicle. The Company serves both automotive original equipment manufacturers ("OEMs") and the general vehicle battery aftermarket. The Company also supplies advanced battery technologies to power start-stop, hybrid and electric vehicles.

Financial Information About Business Segments

ASC 280, "Segment Reporting," establishes the standards for reporting information about segments in financial statements. In applying the criteria set forth in ASC 280, the Company has determined, effective with the segment reorganization described below, that it has five reportable segments for financial reporting purposes. The Company’s five reportable segments are presented in the context of its two primary businesses - Building Technologies & Solutions and Power Solutions. Refer to Note 19, "Segment Information," of the notes to consolidated financial statements for financial information about business segments. For the purpose of the following discussion of the Company’s businesses, the four Building Technologies & Solutions reportable segments are presented together due to their similar customers and the similar nature of their products, production processes and distribution channels.

Effective July 1, 2017, the Company reorganized the reportable segments within its Building Technologies & Solutions business to align with its new management reporting structure and business activities. Prior to this reorganization, Building Technologies & Solutions was comprised of five reportable segments for financial reporting purposes: Systems and Service North America, Products North America, Asia, Rest of World and Tyco. As a result of this change, Building Technologies & Solutions is now comprised of four reportable segments for financial reporting purposes: Building Solutions North America, Building Solutions EMEA/LA, Building Solutions Asia Pacific and Global Products. Refer to Note 7, “Goodwill and Other Intangible Assets,” and Note 19, “Segment Information,” of the notes to consolidated financial statements for further information.

Products/Systems and Services

Building Technologies & Solutions

Building Technologies & Solutions sells its integrated control systems, security systems, fire-detection systems, equipment and services primarily through the Company’s extensive global network of sales and service offices, with operations in approximately 60 countries. Significant sales are also generated through global third-party channels, such as distributors of air-conditioning, security, fire-detection and commercial HVAC systems. The Company’s large base of current customers leads to significant repeat business for the retrofit and replacement markets. In addition, the new commercial construction market is also important. Trusted Buildings brands, such as YORK®, Hitachi Air Conditioning, *Metasys* ®, Ansul, *Ruskin*® , Titus®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell® give the Company the most diverse portfolio in the building technology industry.

In fiscal 2017 , approximately 27% of its sales originated from its service offerings. In fiscal 2017 , Building Technologies & Solutions accounted for 76% of the Company's consolidated net sales.

Power Solutions

Power Solutions services both automotive OEMs and the battery aftermarket by providing advanced battery technology, coupled with systems engineering, marketing and service expertise. The Company is the largest producer of lead-acid automotive batteries in the world, producing and distributing approximately 154 million lead-acid batteries annually in approximately 68 wholly- and majority-owned manufacturing or assembly plants, distribution centers and sales offices in 17 countries worldwide. Investments in new product and process technology have expanded product offerings to absorbent glass mat ("AGM") and enhanced flooded battery ("EFB") technologies that power start-stop vehicles, as well as lithium-ion battery technology for certain hybrid and electric vehicles. The business has also invested to develop sustainable lead and poly recycling operations in the North American and European markets. Approximately 76% of unit sales worldwide in fiscal 2017 were to the automotive replacement market, with the remaining sales to the OEM market.

Power Solutions accounted for 24% of the Company's fiscal 2017 consolidated net sales. Batteries and key components are manufactured at wholly- and majority-owned plants in North America, South America, Asia and Europe.

Competition

Building Technologies & Solutions

The Building Technologies & Solutions business conducts its operations through thousands of individual contracts that are either negotiated or awarded on a competitive basis. Key factors in the award of contracts include system and service performance, quality, price, design, reputation, technology, application engineering capability and construction or project management expertise. Competitors for HVAC equipment, security, fire-detection, fire suppression and controls in the residential and non-residential marketplace include many regional, national and international providers; larger competitors include Honeywell International, Inc.; Siemens Building Technologies, an operating group of Siemens AG; Schneider Electric SA; Carrier Corporation, a subsidiary of United Technologies Corporation; Trane Incorporated, a subsidiary of Ingersoll-Rand Company Limited; Daikin Industries, Ltd.; Lennox International, Inc.; GC Midea Holding Co, Ltd. and Gree Electric Appliances, Inc. In addition to HVAC equipment, Building Technologies & Solutions competes in a highly fragmented HVAC services market, which is dominated by local providers. The loss of any individual contract would not have a material adverse effect on the Company.

Power Solutions

Power Solutions is the principal supplier of batteries to many of the largest merchants in the battery aftermarket, including Advance Auto Parts, AutoZone, Robert Bosch GmbH, DAISA S.A., Costco, NAPA, O'Reilly/CSK, Interstate Battery System of America and Wal-Mart stores. Automotive batteries are sold throughout the world under private labels and under the Company's brand names (Optima®, Varta®, LTH® and Heliar®) to automotive replacement battery retailers and distributors and to automobile manufacturers as original equipment. The Power Solutions business competes with a number of major U.S. and non-U.S. manufacturers and distributors of lead-acid batteries, as well as a large number of smaller, regional competitors. The Power Solutions business primarily competes in the battery market with Exide Technologies, GS Yuasa Corporation, Camel Group Company Limited, East Penn Manufacturing Company and Banner Batteries GB Limited. The North American, European and Asian lead-acid battery markets are highly competitive. The manufacturers in these markets compete on price, quality, technical innovation, service and warranty.

Backlog

The Company's backlog relating to the Building Technologies & Solutions business is applicable to its sales of systems and services. At September 30, 2017 , the backlog was $8.5 billion. The majority of the backlog relates to fiscal 2018. At September 30, 2016, the backlog was $8.2 billion. The backlog amount outstanding at any given time is not necessarily indicative of the amount of revenue to be earned in the upcoming fiscal year.

Raw Materials

Raw materials used by the businesses in connection with their operations, including lead, steel, tin, aluminum, urethane chemicals, brass, copper, sulfuric acid, polypropylene and certain flurochemicals used in our fire suppression agents, were readily available during fiscal 2017 , and the Company expects such availability to continue. In fiscal 2018, commodity prices could fluctuate throughout the year and could significantly affect the results of operations.

Intellectual Property

Generally, the Company seeks statutory protection for strategic or financially important intellectual property developed in connection with its business. Certain intellectual property, where appropriate, is protected by contracts, licenses, confidentiality or other agreements.

The Company owns numerous U.S. and non-U.S. patents (and their respective counterparts), the more important of which cover those technologies and inventions embodied in current products or which are used in the manufacture of those products. While the Company believes patents are important to its business operations and in the aggregate constitute a valuable asset, no single patent, or group of patents, is critical to the success of the business. The Company, from time to time, grants licenses under its patents and technology and receives licenses under patents and technology of others.

The Company's trademarks, certain of which are material to its business, are registered or otherwise legally protected in the U.S. and many non-U.S. countries where products and services of the Company are sold. The Company, from time to time, becomes involved in trademark licensing transactions.

Most works of authorship produced for the Company, such as computer programs, catalogs and sales literature, carry appropriate notices indicating the Company's claim to copyright protection under U.S. law and appropriate international treaties.

Environmental, Health and Safety Matters

Laws addressing the protection of the environment (environmental laws) and workers' safety and health (worker safety laws) govern the Company's ongoing global operations. They generally provide for civil and criminal penalties, as well as injunctive and remedial relief, for noncompliance or require remediation of sites where Company-related materials have been released into the environment.

The Company has expended substantial resources globally, both financial and managerial, to comply with environmental laws and worker safety laws and maintains procedures designed to foster and ensure compliance. Certain of the Company's businesses are, or have been, engaged in the handling or use of substances that may impact workplace health and safety or the environment. The Company is committed to protecting its workers and the environment against the risks associated with these substances.

The Company's operations and facilities have been, and in the future may become, the subject of formal or informal enforcement actions or proceedings for noncompliance with environmental laws and worker safety laws or for the remediation of Company-related substances released into the environment. Such matters typically are resolved with regulatory authorities through commitments to compliance, abatement or remediation programs and, in some cases, payment of penalties. See Item 3, "Legal Proceedings," of this report for a discussion of the Company's potential environmental liabilities.

Environmental Capital Expenditures

The Company's ongoing environmental compliance program often results in capital expenditures. Environmental considerations are a part of all significant capital expenditure decisions; however, expenditures in fiscal 2017 related solely to environmental compliance were not material. It is management's opinion that the amount of any future capital expenditures related solely to environmental compliance will not have a material adverse effect on the Company's financial results or competitive position in any one year.

Government Regulation and Supervision

The Company's operations are subject to numerous federal, state and local laws and regulations, both within and outside the U.S., in areas such as: consumer protection, government contracts, international trade, environmental protection, labor and employment, tax, licensing and others. For example, most U.S. states and non-U.S. jurisdictions in which the Company operates have licensing laws directed specifically toward the alarm and fire suppression industries. The Company's security businesses currently rely extensively upon the use of wireline and wireless telephone service to communicate signals. Wireline and wireless telephone companies in the U.S. are regulated by the federal and state governments. In addition, government regulation of fire safety codes can impact the Company's fire businesses. These and other laws and regulations impact the manner in which the Company conducts its business, and changes in legislation or government policies can affect the Company's worldwide operations, both favorably and unfavorably. For a more detailed description of the various laws and regulations that affect the Company's business, see Item 1A. Risk Factors.

Employees

As of September 30, 2017 , the Company employed approximately 121,000 people worldwide, of which approximately 44,000 were employed in the United States and approximately 77,000 were outside the United States. Approximately 25,000 employees are covered by collective bargaining agreements or works councils and we believe that our relations with the labor unions are generally good.

Seasonal Factors

Certain of Building Technologies & Solutions sales are seasonal as the demand for residential air conditioning equipment generally increases in the summer months. This seasonality is mitigated by the other products and services provided by the Building Technologies & Solutions business that have no material seasonal effect.

Financial Information About Geographic Areas

Refer to Note 19, "Segment Information," of the notes to consolidated financial statements for financial information about geographic areas.

Research and Development Expenditures

Refer to Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements for research and development expenditures.

Available Information

The Company's filings with the U.S. Securities and Exchange Commission ("SEC"), including annual reports on Form 10-K, quarterly reports on Form 10-Q, definitive proxy statements on Schedule 14A, current reports on Form 8-K, and any amendments to those reports filed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, are made available free of charge through the Investor Relations section of the Company's Internet website at http://www.johnsoncontrols.com as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the SEC. Copies of any materials the Company files with the SEC can also be obtained free of charge through the SEC's website at http://www.sec.gov, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549, or by calling the SEC's Office of Investor Education and Advocacy at 1-800-732-0330. The Company also makes available, free of charge, its Ethics Policy, Corporate Governance Guidelines, Board of Directors committee charters and other information related to the Company on the Company's Internet website or in printed form upon request. The Company is not including the information contained on the Company's website as a part of, or incorporating it by reference into, this Annual Report on Form 10-K.

ITEM 1A RISK FACTORS

Risks Relating to Business Operations

General economic, credit and capital market conditions could adversely affect our financial performance, our ability to grow or sustain our businesses and our ability to access the capital markets.

We compete around the world in various geographic regions and product markets. Global economic conditions affect each of our primary businesses. As we discuss in greater detail in the specific risk factors for each of our businesses that appear below, any future financial distress in the industries and/or markets where we compete could negatively affect our revenues and financial performance in future periods, result in future restructuring charges, and adversely impact our ability to grow or sustain our businesses.

The capital and credit markets provide us with liquidity to operate and grow our businesses beyond the liquidity that operating cash flows provide. A worldwide economic downturn and/or disruption of the credit markets could reduce our access to capital necessary for our operations and executing our strategic plan. If our access to capital were to become significantly constrained, or if costs of capital increased significantly due to lowered credit ratings, prevailing industry conditions, the volatility of the capital markets or other factors; then our financial condition, results of operations and cash flows could be adversely affected.

Some of the industries in which we operate are cyclical and, accordingly, demand for our products and services could be adversely affected by downturns in these industries.

Much of the demand for installation of HVAC, security products, and fire detection and suppression solutions is driven by commercial and residential construction and industrial facility expansion and maintenance projects. Commercial and residential construction projects are heavily dependent on general economic conditions, localized demand for commercial and residential real estate and availability of credit. Commercial and residential real estate markets are prone to significant fluctuations in supply and demand. In addition, most commercial and residential real estate developers rely heavily on project financing in order to initiate and complete projects. Declines in real estate values could lead to significant reductions in the availability of project financing, even in markets where demand may otherwise be sufficient to support new construction. These factors could in turn hamper demand for new HVAC, fire detection and suppression and security installations.

Levels of industrial capital expenditures for facility expansions and maintenance turn on general economic conditions, economic conditions within specific industries we serve, expectations of future market behavior and available financing. Additionally, volatility in commodity prices can negatively affect the level of these activities and can result in postponement of capital spending decisions or the delay or cancellation of existing orders.

The businesses of many of our industrial customers, particularly oil and gas companies, chemical and petrochemical companies, mining and general industrial companies, are to varying degrees cyclical and have experienced periodic downturns. During such economic downturns, customers in these industries historically have tended to delay major capital projects, including greenfield construction, maintenance projects and upgrades. Additionally, demand for our products and services may be affected by volatility in energy and commodity prices and fluctuating demand forecasts, as our customers may be more conservative in their capital planning, which may reduce demand for our products and services. Although our industrial customers tend to be less dependent on project financing than real estate developers, disruptions in financial markets and banking systems could make credit and capital markets difficult for our customers to access, and could significantly raise the cost of new debt for our customers. Any difficulty in accessing these markets and the increased associated costs can have a negative effect on investment in large capital projects, including necessary maintenance and upgrades, even during periods of favorable end-market conditions.

Many of our customers outside of the industrial and commercial sectors, including governmental and institutional customers, have experienced budgetary constraints as sources of revenue have been negatively impacted by adverse economic conditions. These budgetary constraints have in the past and may in the future reduce demand for our products and services among governmental and institutional customers.

Reduced demand for our products and services could result in the delay or cancellation of existing orders or lead to excess capacity, which unfavorably impacts our absorption of fixed costs. This reduced demand may also erode average selling prices in the industries we serve. Any of these results could materially and adversely affect our business, financial condition, results of operations and cash flows.

Decreased demand from our customers in the automotive industry may adversely affect our results of operations.

Our financial performance in the Power Solutions business depends, in part, on conditions in the automotive industry. Sales to OEMs accounted for approximately 24% of the total sales of the Power Solutions business in fiscal 2017. Declines in the North American, European and Asian automotive production levels could reduce our sales and adversely affect our results of operations. In addition, if any OEMs reach a point where they cannot fund their operations, we may incur write-offs of accounts receivable, incur impairment charges or require additional restructuring actions beyond our current restructuring plans, which, if significant, would have a material adverse effect on our business and results of operations.

An inability to successfully respond to competition and pricing pressure from other companies in the Power Solutions business may adversely impact our business.

Our Power Solutions business competes with a number of major U.S. and non-U.S. manufacturers and distributors of lead-acid batteries, as well as a large number of smaller, regional competitors. The North American, European and Asian lead-acid battery markets are highly competitive. The manufacturers in these markets compete on price, quality, technical innovation, service and warranty. If we are unable to remain competitive and maintain market share in the regions and markets we serve, our business, financial condition and results of operations may be adversely affected.

Volatility in commodity prices may adversely affect our results of operations.

Increases in commodity costs can negatively impact the profitability of orders in backlog as prices on such orders are typically fixed; therefore, in the short-term we cannot adjust for changes in certain commodity prices. In these cases, if we are not able to recover commodity cost increases through price increases to our customers on new orders, then such increases will have an adverse effect on our results of operations. In cases where commodity price risk cannot be naturally offset or hedged through supply based fixed price contracts, we use commodity hedge contracts to minimize overall price risk associated with our anticipated commodity purchases. Unfavorability in our hedging programs during a period of declining commodity prices could result in lower margins as we reduce prices to match the market on a fixed commodity cost level. Additionally, to the extent we do not or are unable to hedge certain commodities and the commodity prices substantially increase, such increases will have an adverse effect on our results of operations.

In our Power Solutions business, lead is a major component of lead-acid batteries, and the price of lead may be highly volatile. We attempt to manage the impact of changing lead prices through the recycling of used batteries returned to us by our aftermarket customers, commercial terms and commodity hedging programs. Our ability to mitigate the impact of lead price changes can be impacted by many factors, including customer negotiations, inventory level fluctuations and sales volume/mix changes, any of which could have an adverse effect on our results of operations.

We rely on our global direct installation channel for a significant portion of our revenue. Failure to maintain and grow the installed base resulting from direct channel sales could adversely affect our business.

Unlike many of our competitors, the Company relies on a direct sales channel for a substantial portion of our revenue. The direct channel provides for the installation of fire and security solutions, and HVAC equipment manufactured by the Company. This represents a significant distribution channel for our products, creates a large installed base of our fire and security solutions, and HVAC equipment, and creates opportunities for longer term service and monitoring revenue. If we are unable to maintain or grow this installation business, whether due to changes in economic conditions, a failure to anticipate changing customer needs, a failure to introduce innovative or technologically advanced solutions, or for any other reason, our installation revenue could decline, which could in turn adversely impact our product pull through and our ability to grow service and monitoring revenue.

Our future growth is dependent upon our ability to develop or acquire new technologies that achieve market acceptance with acceptable margins.

Our future success depends on our ability to develop or acquire, manufacture and bring competitive, and increasingly complex, products and services to market quickly and cost-effectively. Our ability to develop or acquire new products and services requires the investment of significant resources. These acquisitions and development efforts divert resources from other potential investments in our businesses, and they may not lead to the development of new technologies, products or services on a timely basis. Moreover, as we introduce new products, we may be unable to detect and correct defects in the design of a product or in its application to a specified use, which could result in loss of sales or delays in market acceptance. Even after introduction, new or enhanced products may not satisfy customer preferences and product failures may cause customers to reject our products. As a result, these products may not achieve market acceptance and our brand image could suffer. In addition, the markets for our products and services may not develop or grow as we anticipate. As a result, the failure of our technology, products or services to gain market acceptance, the potential for product defects, product quality issues, or the obsolescence of our products and services could significantly reduce our revenues, increase our operating costs or otherwise materially and adversely affect our business, financial condition, results of operations and cash flows.

Risks associated with our non-U.S. operations could adversely affect our business, financial condition and results of operations.

We have significant operations in a number of countries outside the U.S., some of which are located in emerging markets. Long-term economic uncertainty in some of the regions of the world in which we operate, such as Asia, South America, the Middle East, Europe and emerging markets, could result in the disruption of markets and negatively affect cash flows from our operations to cover our capital needs and debt service requirements.

In addition, as a result of our global presence, a significant portion of our revenues and expenses is denominated in currencies other than the U.S. dollar. We are therefore subject to non-U.S. currency risks and non-U.S. exchange exposure. While we employ financial instruments to hedge some of our transactional foreign exchange exposure, these activities do not insulate us completely from those exposures. Exchange rates can be volatile and a substantial weakening of foreign currencies against the U.S. dollar could reduce our profit margin in various locations outside of the U.S. and adversely impact the comparability of results from period to period.

There are other risks that are inherent in our non-U.S. operations, including the potential for changes in socio-economic conditions, laws and regulations, including anti-trust, import, export, labor and environmental laws, and monetary and fiscal policies; protectionist measures that may prohibit acquisitions or joint ventures, or impact trade volumes; unsettled political conditions; government-imposed plant or other operational shutdowns; backlash from foreign labor organizations related to our restructuring actions; corruption; natural and man-made disasters, hazards and losses; violence, civil and labor unrest, and possible terrorist attacks.

These and other factors may have a material adverse effect on our non-U.S. operations and therefore on our business and results of operations.

Our businesses operate in regulated industries and are subject to a variety of complex and continually changing laws and regulations.

Our operations and employees are subject to various U.S. federal, state and local licensing laws, codes and standards and similar foreign laws, codes, standards and regulations. Changes in laws or regulations could require us to change the way we operate or to utilize resources to maintain compliance, which could increase costs or otherwise disrupt operations. In addition, failure to comply with any applicable laws or regulations could result in substantial fines or revocation of our operating permits and licenses. For example, we were subject to investigation by the European Commission related to European lead recyclers' procurement practices from 2012 to 2017. Although we were not fined in connection with such investigation, competition or other regulatory investigations can continue for several years, be costly to defend and can result in substantial fines. If laws and regulations were to change or if we or our products failed to comply, our business, financial condition and results of operations could be adversely affected.

Due to the international scope of our operations, the system of laws and regulations to which we are subject is complex and includes regulations issued by the U.S. Customs and Border Protection, the U.S. Department of Commerce's Bureau of Industry and Security, the U.S. Treasury Department's Office of Foreign Assets Control and various non U.S. governmental agencies, including applicable export controls, anti-trust, customs, currency exchange control and transfer pricing regulations, and laws regulating the foreign ownership of assets. No assurances can be made that we will continue to be found to be operating in compliance with, or be able to detect violations of, any such laws or regulations. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and similar anti-bribery laws around the world.

The U.S. Foreign Corrupt Practices Act (the "FCPA"), the U.K. Bribery Act and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials or other persons for the purpose of obtaining or retaining business. Recent years have seen a substantial increase in anti-bribery law enforcement activity, with more frequent and aggressive investigations and enforcement proceedings by both U.S. and non-U.S. regulators, and increases in criminal and civil proceedings brought against companies and individuals. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that are recognized as having governmental and commercial corruption and local customs and practices that can be inconsistent with anti-bribery laws. We cannot assure you that our internal control policies and procedures will always protect us from reckless or criminal acts committed by our employees or third party intermediaries. In the event that we believe or have reason to believe that our employees or agents have or may have violated applicable anti-corruption laws, or if we are subject to allegations of any such violations, we may be required to investigate or have outside counsel investigate the relevant facts and circumstances, which can be expensive and require significant time and attention from senior management. Violations of these laws may result in criminal or civil sanctions, which could disrupt our business and result in a material adverse effect on our reputation, business, results of operations or financial condition. In addition, we could be subject to commercial impacts such as lost revenue from customers who decline to do business with us as a result of such compliance matters, or we could be subject to lawsuits brought by private litigants, each of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We are subject to risks arising from regulations applicable to companies doing business with the U.S. government.

Our customers include many U.S. federal, state and local government authorities. Doing business with the U.S. government and state and local authorities subjects us to unusual risks, including dependence on the level of government spending and compliance with and changes in governmental procurement and security regulations. Agreements relating to the sale of products to government entities may be subject to termination, reduction or modification, either at the convenience of the government or for failure to

perform under the applicable contract. We are subject to potential government investigations of business practices and compliance with government procurement and security regulations, which can be expensive and burdensome. If we were charged with wrongdoing as a result of an investigation, we could be suspended from bidding on or receiving awards of new government contracts, which could have a material adverse effect on the Company's results of operations. In addition, various U.S. federal and state legislative proposals have been made that would deny governmental contracts to U.S. companies that have moved their corporate location abroad. We are unable to predict the likelihood that, or final form in which, any such proposed legislation might become law, the nature of regulations that may be promulgated under any future legislative enactments, or the effect such enactments and increased regulatory scrutiny may have on our business.

Infringement or expiration of our intellectual property rights, or allegations that we have infringed the intellectual property rights of third parties, could negatively affect us.

We rely on a combination of trademarks, trade secrets, patents, copyrights, know-how, confidentiality provisions and licensing arrangements to establish and protect our proprietary rights. We cannot guarantee, however, that the steps we have taken to protect our intellectual property will be adequate to prevent infringement of our rights or misappropriation of our technology, trade secrets or know-how. For example, effective patent, trademark, copyright and trade secret protection may be unavailable or limited in some of the countries in which we operate. In addition, while we generally enter into confidentiality agreements with our employees and third parties to protect our trade secrets, know-how, business strategy and other proprietary information, such confidentiality agreements could be breached or otherwise may not provide meaningful protection for our trade secrets and know-how related to the design, manufacture or operation of our products. If it became necessary for us to resort to litigation to protect our intellectual property rights, any proceedings could be burdensome and costly, and we may not prevail. Further, adequate remedies may not be available in the event of an unauthorized use or disclosure of our trade secrets and manufacturing expertise. Finally, for those products in our portfolio that rely on patent protection, once a patent has expired, the product is generally open to competition. Products under patent protection usually generate significantly higher revenues than those not protected by patents. If we fail to successfully enforce our intellectual property rights, our competitive position could suffer, which could harm our business, financial condition, results of operations and cash flows.

In addition, we are, from time to time, subject to claims of intellectual property infringement by third parties, including practicing entities and non-practicing entities. Regardless of the merit of such claims, responding to infringement claims can be expensive and time-consuming, and the litigation process is subject to inherent uncertainties, and we may not prevail in litigation matters regardless of the merits of our position. Intellectual property lawsuits or claims may become extremely disruptive if the plaintiffs succeed in blocking the trade of our products and services and they may have a material adverse effect on our business, financial condition, results of operations and cash flows.

Global climate change could negatively affect our business.

Increased public awareness and concern regarding global climate change may result in more regional and/or federal requirements to reduce or mitigate the effects of greenhouse gas emissions. There continues to be a lack of consistent climate legislation, which creates economic and regulatory uncertainty. Such regulatory uncertainty extends to incentives, that if discontinued, could adversely impact the demand for energy efficient buildings and batteries for energy efficient vehicles, and could increase costs of compliance. These factors may impact the demand for our products, obsolescence of our products and our results of operations.

There is a growing consensus that greenhouse gas emissions are linked to global climate changes. Climate changes, such as extreme weather conditions, create financial risk to our business. For example, the demand for our products and services, such as residential air conditioning equipment and automotive replacement batteries, may be affected by unseasonable weather conditions. Climate changes could also disrupt our operations by impacting the availability and cost of materials needed for manufacturing and could increase insurance and other operating costs. These factors may impact our decisions to construct new facilities or maintain existing facilities in areas most prone to physical climate risks. The Company could also face indirect financial risks passed through the supply chain, and process disruptions due to physical climate changes could result in price modifications for our products and the resources needed to produce them.

Potential liability for environmental contamination could result in substantial costs

We have projects underway at multiple current and former manufacturing facilities to investigate and remediate environmental contamination resulting from past operations by us or by other businesses that previously owned or used the properties. These projects relate to a variety of activities, including solvent, oil, metal, lead and other hazardous substance contamination cleanup; and structure decontamination and demolition, including asbestos abatement. Because of uncertainties associated with environmental regulation and environmental remediation activities at sites where we may be liable, future expenses that we may

incur to remediate identified sites could be considerably higher than the current accrued liability on our consolidated statements of financial position, which could have a material adverse effect on our business and results of operations.

We are subject to requirements relating to environmental and safety regulations and environmental remediation matters, including those related to the manufacturing and recycling of lead-acid batteries, which could adversely affect our business, results of operation and reputation.

We are subject to numerous federal, state and local environmental laws and regulations governing, among other things, solid and hazardous waste storage, treatment and disposal, and remediation of releases of hazardous materials, including as it pertains to lead, the primary material used in the manufacture of lead-acid batteries. There are significant capital, operating and other costs associated with compliance with these environmental laws and regulations. Environmental laws and regulations may become more stringent in the future, which could increase costs of compliance or require us to manufacture with alternative technologies and materials.

Federal, state and local authorities also regulate a variety of matters, including, but not limited to, health, safety and permitting in addition to the environmental matters discussed above. New legislation and regulations may require the Company to make material changes to its operations, resulting in significant increases to the cost of production.

We are party to asbestos-related product litigation that could adversely affect our financial condition, results of operations and cash flows.

We and certain of our subsidiaries, along with numerous other third parties, are named as defendants in personal injury lawsuits based on alleged exposure to asbestos containing materials. These cases typically involve product liability claims based primarily on allegations of manufacture, sale or distribution of industrial products that either contained asbestos or were used with asbestos containing components. We cannot predict with certainty the extent to which we will be successful in litigating or otherwise resolving lawsuits in the future and we continue to evaluate different strategies related to asbestos claims filed against us including entity restructuring and judicial relief. Unfavorable rulings, judgments or settlement terms could have a material adverse impact on our business and financial condition, results of operations and cash flows.

The amounts we have recorded for asbestos-related liabilities and insurance-related assets in the consolidated statements of financial position are based on our current strategy for resolving asbestos claims, currently available information, and a number of variables, estimates and assumptions. Key variables and assumptions include the number and type of new claims that are filed each year, the average cost of resolution of claims, the identity of defendants and the resolution of coverage issues with insurance carriers, amount of insurance, and the solvency risk with respect to the Company's insurance carriers. Many of these factors are closely linked, such that a change in one variable or assumption will impact one or more of the others, and no single variable or assumption predominately influences the determination of the Company's asbestos-related liabilities and insurance-related assets. Furthermore, predictions with respect to these variables are subject to greater uncertainty in the later portion of the projection period. Other factors that may affect the Company's liability and cash payments for asbestos-related matters include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms of state or federal tort legislation and the applicability of insurance policies among subsidiaries. As a result, actual liabilities or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in our calculations vary significantly from actual results. If actual liabilities are significantly higher than those recorded, the cost of resolving such liabilities could have a material adverse effect on our financial position, results of operations or cash flows.

Risks related to our defined benefit retirement plans may adversely impact our results of operations and cash flow.

Significant changes in actual investment return on defined benefit plan assets, discount rates, mortality assumptions and other factors could adversely affect our results of operations and the amounts of contributions we must make to our defined benefit plans in future periods. Because we mark-to-market our defined benefit plan assets and liabilities on an annual basis, large non-cash gains or losses could be recorded in the fourth quarter of each fiscal year or when a remeasurement event occurs. Generally accepted accounting principles in the U.S. require that we calculate income or expense for the plans using actuarial valuations. These valuations reflect assumptions about financial markets and interest rates, which may change based on economic conditions. Funding requirements for our defined benefit plans are dependent upon, among other factors, interest rates, underlying asset returns and the impact of legislative or regulatory changes related to defined benefit funding obligations. For a discussion regarding the significant assumptions used to determine net periodic benefit cost, refer to "Critical Accounting Estimates and Policies" included in Item 7, "Management’s Discussion and Analysis of Financial Condition and Results of Operations."

We may be unable to realize the expected benefits of our restructuring actions, which could adversely affect our profitability and operations.

To align our resources with our growth strategies, operate more efficiently and control costs, we periodically announce restructuring plans, which may include workforce reductions, global plant closures and consolidations, asset impairments and other cost reduction initiatives. We may undertake additional restructuring actions and workforce reductions in the future. As these plans and actions are complex, unforeseen factors could result in expected savings and benefits to be delayed or not realized to the full extent planned, and our operations and business may be disrupted.

Negative or unexpected tax consequences could adversely affect our results of operations.

Adverse changes in the underlying profitability and financial outlook of our operations in several jurisdictions could lead to additional changes in our valuation allowances against deferred tax assets and other tax reserves on our statement of financial position, and the future sale of certain businesses could potentially result in the repatriation of accumulated foreign earnings that could materially and adversely affect our results of operations. Additionally, changes in tax laws in the U.S., Ireland or in other countries where we have significant operations could materially affect deferred tax assets and liabilities on our consolidated statements of financial position and our income tax provision in our consolidated statements of income.

We are also subject to tax audits by governmental authorities. Negative unexpected results from one or more such tax audits could adversely affect our results of operations.

Future changes in U.S. tax law could adversely affect us or our affiliates.

In November 2017, a bill entitled the "Tax Cuts and Jobs Act" was introduced before the U.S. House of Representatives (together with amendments and with markups produced by committees of the U.S. House of Representatives and the U.S. Senate, the "TCJA"). If enacted in its present form, the TCJA could have a significant adverse effect on the U.S. federal income taxation of our and our affiliates' operations, including by limiting or eliminating various deductions or credits (including interest expense deductions and deductions relating to employee compensation), imposing taxes on certain cross-border payments or transfers, imposing taxes on certain earnings of non-U.S. entities on a current basis, changing the timing of the recognition of income or its character, limiting asset basis under certain circumstances, and imposing additional corporate taxes under certain circumstances to combat perceived base erosion issues, among other changes.

The TCJA is subject to ongoing discussion and amendment and may or may not be enacted in its current form, or with retroactive or prospective effect. The TCJA, or any related, similar or amended legislation or other changes in U.S. federal income tax laws could adversely affect the U.S. federal income taxation of our and our affiliates' ongoing operations and may also adversely affect the integration efforts relating to, and potential synergies from, past strategic transactions, as described below. Any such changes and related consequences could have a material adverse impact on our financial results.

Legal proceedings in which we are, or may be, a party may adversely affect us.

We are currently, and may in the future, become subject to legal proceedings and commercial or contractual disputes. These are typically claims that arise in the normal course of business including, without limitation, commercial or contractual disputes with our suppliers, intellectual property matters, third party liability, including product liability claims and employment claims. We have also been named as a defendant in a number of actions where third party use of our products has allegedly resulted in contamination to groundwater and drinking water supplies. Plaintiffs in these cases are generally seeking damages for personal injuries, medical monitoring and diminution in property values, and are also seeking punitive damages and injunctive relief to address remediation of the alleged contamination. There is a possibility that such claims may have an adverse impact on our results of operations that is greater than we anticipate and/or negatively affect our reputation. See "Item 3. Legal Proceedings" in this Annual Report on Form 10-K a further discussion of these matters.

A downgrade in the ratings of our debt could restrict our ability to access the debt capital markets and increase our interest costs.

Unfavorable changes in the ratings that rating agencies assign to our debt may ultimately negatively impact our access to the debt capital markets and increase the costs we incur to borrow funds. If ratings for our debt fall below investment grade, our access to the debt capital markets would become restricted. Future tightening in the credit markets and a reduced level of liquidity in many financial markets due to turmoil in the financial and banking industries could affect our access to the debt capital markets or the price we pay to issue debt. Historically, we have relied on our ability to issue commercial paper rather than to draw on our credit

facility to support our daily operations, which means that a downgrade in our ratings or volatility in the financial markets causing limitations to the debt capital markets could have an adverse effect on our business or our ability to meet our liquidity needs.

Additionally, several of our credit agreements generally include an increase in interest rates if the ratings for our debt are downgraded. Further, an increase in the level of our indebtedness may increase our vulnerability to adverse general economic and industry conditions and may affect our ability to obtain additional financing.

The potential insolvency or financial distress of third parties could adversely impact our business and results of operations.

We are exposed to the risk that third parties to various arrangements who owe us money or goods and services, or who purchase goods and services from us, will not be able to perform their obligations or continue to place orders due to insolvency or financial distress. If third parties fail to perform their obligations under arrangements with us, we may be forced to replace the underlying commitment at current or above market prices or on other terms that are less favorable to us. In such events, we may incur losses, or our results of operations, financial condition or liquidity could otherwise be adversely affected.

We may be unable to complete or integrate acquisitions or joint ventures effectively, which may adversely affect our growth, profitability and results of operations.

We expect acquisitions of businesses and assets, as well as joint ventures (or other strategic arrangements), to play a role in our future growth. We cannot be certain that we will be able to identify attractive acquisition or joint venture targets, obtain financing for acquisitions on satisfactory terms, successfully acquire identified targets or form joint ventures, or manage the timing of acquisitions with capital obligations across our businesses. Additionally, we may not be successful in integrating acquired businesses or joint ventures into our existing operations and achieving projected synergies which could result in impairment of assets, including goodwill and acquired intangible assets. Given the significance of the Company's recent acquisitions, the goodwill and intangible assets recorded were significant and impairment of such assets could result in a material adverse impact on our financial condition and results of operation. Competition for acquisition opportunities in the various industries in which we operate may rise, thereby increasing our costs of making acquisitions or causing us to refrain from making further acquisitions. If we were to use equity securities to finance a future acquisition, our then-current shareholders would experience dilution. We are also subject to applicable antitrust laws and must avoid anticompetitive behavior. These and other factors related to acquisitions and joint ventures may negatively and adversely impact our growth, profitability and results of operations.

Risks associated with joint venture investments may adversely affect our business and financial results.

We have entered into several joint ventures and we may enter into additional joint ventures in the future. Our joint venture partners may at any time have economic, business or legal interests or goals that are inconsistent with our goals or with the goals of the joint venture. In addition, we may compete against our joint venture partners in certain of our other markets. Disagreements with our business partners may impede our ability to maximize the benefits of our partnerships. Our joint venture arrangements may require us, among other matters, to pay certain costs or to make certain capital investments or to seek our joint venture partner’s consent to take certain actions. In addition, our joint venture partners may be unable or unwilling to meet their economic or other obligations under the operative documents, and we may be required to either fulfill those obligations alone to ensure the ongoing success of a joint venture or to dissolve and liquidate a joint venture. These risks could result in a material adverse effect on our business and financial results.

We are subject to business continuity risks associated with centralization of certain administrative functions.

We have been regionally centralizing certain administrative functions, primarily in North America, Europe and Asia, to improve efficiency and reduce costs. To the extent that these central locations are disrupted or disabled, key business processes, such as invoicing, payments and general management operations, could be interrupted, which could have an adverse impact on our business.

A failure of our information technology (IT) and data security infrastructure could adversely impact our business and operations.

We rely upon the capacity, reliability and security of our IT and data security infrastructure and our ability to expand and continually update this infrastructure in response to the changing needs of our business. As we implement new systems or integrate existing systems, they may not perform as expected. We also face the challenge of supporting our older systems and implementing necessary upgrades. If we experience a problem with the functioning of an important IT system or a security breach of our IT systems, including during system upgrades and/or new system implementations, the resulting disruptions could have an adverse effect on our business.

We and certain of our third-party vendors receive and store personal information in connection with our human resources operations and other aspects of our business. Despite our implementation of security measures, our IT systems, like those of other companies, are vulnerable to damages from computer viruses, natural disasters, unauthorized access, cyber attack and other similar disruptions. Any system failure, accident or security breach could result in disruptions to our operations. A material network breach in the security of our IT systems could include the theft of our intellectual property, trade secrets, customer information, human resources information or other confidential matter. To the extent that any disruptions or security breach results in a loss or damage to our data, or an inappropriate disclosure of confidential, proprietary or customer information, it could cause significant damage to our reputation, affect our relationships with our customers, lead to claims against the Company and ultimately harm our business. In addition, we may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

A material disruption of our operations, particularly at our monitoring and/or manufacturing facilities, could adversely affect our business.

If our operations, particularly at our monitoring facilities and/or manufacturing facilities, were to be disrupted as a result of significant equipment failures, natural disasters, power outages, fires, explosions, terrorism, sabotage, adverse weather conditions, public health crises, labor disputes or other reasons, we may be unable to effectively respond to alarm signals, fill customer orders and otherwise meet obligations to or demand from our customers, which could adversely affect our financial performance.

Interruptions in production could increase our costs and reduce our sales. Any interruption in production capability could require us to make substantial capital expenditures or purchase alternative material at higher costs to fill customer orders, which could negatively affect our profitability and financial condition. We maintain property damage insurance that we believe to be adequate to provide for reconstruction of facilities and equipment, as well as business interruption insurance to mitigate losses resulting from significant production interruption or shutdown caused by an insured loss. However, any recovery under our insurance policies may not offset the lost sales or increased costs that may be experienced during the disruption of operations, which could adversely affect our business, financial condition, results of operations and cash flow.

Our business success depends on attracting and retaining qualified personnel.

Our ability to sustain and grow our business requires us to hire, retain and develop a highly skilled and diverse management team and workforce. Failure to ensure that we have the leadership capacity with the necessary skill set and experience could impede our ability to deliver our growth objectives and execute our strategic plan. Organizational and reporting changes resulting from the Merger, or as a result of any future leadership transition or corporate initiatives could result in increased turnover. Additionally, any unplanned turnover or inability to attract and retain key employees could have a negative effect on our results of operations.

Our business may be adversely affected by work stoppages, union negotiations, labor disputes and other matters associated with our labor force.

We employ approximately 121,000 people worldwide. Approximately 20% of these employees are covered by collective bargaining agreements or works council. Although we believe that our relations with the labor unions and works councils that represent our employees are generally good and we have experienced no material strikes or work stoppages recently, no assurances can be made that we will not experience in the future these and other types of conflicts with labor unions, works council, other groups representing employees or our employees generally, or that any future negotiations with our labor unions will not result in significant increases in our cost of labor. Additionally, a work stoppage at one of our suppliers could materially and adversely affect our operations if an alternative source of supply were not readily available. Stoppages by employees of our customers could also result in reduced demand for our products.

Regulations related to conflict minerals could adversely impact our business.

The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve transparency and accountability concerning the supply of certain minerals, known as conflict minerals, originating from the Democratic Republic of Congo and adjoining countries. As a result, in August 2012, the SEC adopted annual disclosure and reporting requirements for those companies who use conflict minerals in their products. There are costs associated with complying with these disclosure requirements, including for diligence to determine the sources of conflict minerals used in our products and other potential changes to products, processes or sources of supply as a consequence of such verification activities. Our continued compliance with these disclosure rules could adversely affect the sourcing, supply and pricing of materials used in our products. As there may be only a limited number of suppliers offering "conflict free" conflict minerals, we cannot be sure that we will be able to obtain necessary conflict minerals from such suppliers in sufficient quantities or at competitive prices, or that we will be able to satisfy customers who require our products to be conflict free. Also, we may face reputational challenges if we determine that certain of our products contain minerals

not determined to be conflict free or if we are unable to sufficiently verify the origins for all conflict minerals used in our products through the procedures we may implement.

We are exposed to greater risks of liability for employee acts or omissions, or system failure, in our fire, security and life safety businesses than may be inherent in other businesses.

If a customer or third party believes that he or she has suffered harm to person or property due to an actual or alleged act or omission of one of our employees or a security or fire system failure, he or she may pursue legal action against us, and the cost of defending the legal action and of any judgment could be substantial. In particular, because many of our products and services are intended to protect lives and real and personal property, we may have greater exposure to litigation risks than businesses that provide other products and services. We could face liability for failure to respond adequately to alarm activations or failure of our fire protection to operate as expected. The nature of the services we provide exposes us to the risks that we may be held liable for employee acts or omissions or system failures. In an attempt to reduce this risk, our installation, service and monitoring agreements and other contracts contain provisions limiting our liability in such circumstances, and we typically maintain product liability insurance to mitigate the risk that our products and services fail to operate as expected. However, in the event of litigation, it is possible that contract limitations may be deemed not applicable or unenforceable, that our insurance coverage is not adequate, or that insurance carriers deny coverage of our claims. As a result, such employee acts or omissions or system failures could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We do not own the right to use the ADT® brand name in the U.S. and Canada.

We own the ADT® brand name in jurisdictions outside of the U.S. and Canada, and The ADT Corporation ("ADT") owns the brand name in the U.S. and Canada. Although Tyco has entered agreements with ADT designed to protect the value of the ADT® brand, we cannot assure you that actions taken by ADT will not negatively impact the value of the brand outside of the U.S. and Canada. These factors expose us to the risk that the ADT® brand name could suffer reputational damage or devaluation for reasons outside of our control, including ADT's business conduct in the U.S. and Canada. Any of these factors may adversely affect our business, financial condition, results of operations and cash flows.

Police departments could refuse to respond to calls from monitored security service companies.

Police departments in a limited number of jurisdictions do not respond to calls from monitored security service companies, either as a matter of policy or by local ordinance. We have offered affected customers the option of receiving responses from private guard companies, in most cases through contracts with us, which increases the overall cost to customers. If more police departments, whether inside or outside the U.S., were to refuse to respond or be prohibited from responding to calls from monitored security service companies, our ability to attract and retain customers could be negatively impacted and our results of operations and cash flow could be adversely affected.

A variety of other factors could adversely affect the results of operations of our Power Solutions business.

Any of the following could materially and adversely impact the results of operations of our Power Solutions business: loss of, or changes in, automobile battery supply contracts with our large original equipment and aftermarket customers; the increasing quality and useful life of batteries or use of alternative battery technologies, both of which may adversely impact the lead-acid battery market, including replacement cycle; delays or cancellations of new vehicle programs; market and financial consequences of any recalls that may be required on our products; delays or difficulties in new product development, including lithium-ion technology; impact of potential increases in lithium-ion battery volumes on established lead-acid battery volumes as lithium-ion battery technology grows and costs become more competitive; financial instability or market declines of our customers or suppliers; slower than projected market development in emerging markets; interruption of supply of certain single-source components; changing nature of our joint ventures and relationships with our strategic business partners; unseasonable weather conditions in various parts of the world; our ability to secure sufficient tolling capacity to recycle batteries; price and availability of battery cores used in recycling; and the lack of the development of a market for hybrid and electric vehicles.

A variety of other factors could adversely affect the results of operations of our Buildings business.

Any of the following could materially and adversely impact the results of operations of our Buildings business: loss of, changes in, or failure to perform under guaranteed performance contracts with our major customers; cancellation of, or significant delays in, projects in our backlog; delays or difficulties in new product development; the potential introduction of similar or superior technologies; financial instability or market declines of our major component suppliers; the unavailability of raw materials (primarily steel, copper and electronic components) necessary for production of our products; price increases of limited-source components, products and services that we are unable to pass on to the market; unseasonable weather conditions in various parts

of the world; changes in energy costs or governmental regulations that would decrease the incentive for customers to update or improve their building control systems; revisions to energy efficiency or refrigerant legislation; and natural or man-made disasters or losses that impact our ability to deliver products and services to our customers.

Risks Relating to Strategic Transactions

We may fail to realize the anticipated benefits of the business combination between Johnson Controls, Inc. and Tyco International plc.

The success of the Merger will depend on, among other things, our ability to combine the legacy businesses of Johnson Controls and Tyco in a manner that realizes anticipated synergies and facilitates growth opportunities, and achieves the projected stand-alone cost savings and revenue growth trends identified by us. We expect to benefit from operational and general and administrative cost synergies resulting from the consolidation of capabilities and branch optimization, as well as greater tax efficiencies from global management and global cash movement. We may also enjoy revenue synergies, including product and service cross-selling, a more diversified and expanded product offering and balance across geographic regions. However, we must successfully combine the legacy businesses of Johnson Controls and Tyco in a manner that permits these cost savings and synergies to be realized. In addition, we must achieve the anticipated savings and synergies without adversely affecting current revenues and investments in future growth. If we are not able to successfully achieve these objectives, we may not realize fully, or at all, the anticipated benefits of the Merger, or it may take longer to realize the benefits than expected.

Other factors may prevent us from realizing the anticipated benefits of the Merger or impact our future performance. These include, among other items, the possibility that the contingent liabilities of either party (including contingent tax liabilities) are larger than expected, the existence of unknown liabilities, adverse consequences and unforeseen increased expenses associated with the Merger and possible adverse tax consequences pursuant to changes in applicable tax laws, regulations or other administrative guidance. In addition, we may be subject to additional restrictions resulting from Tyco’s incurrence of debt in connection with the Merger and as a result of the Company's Irish domicile.

We may encounter significant difficulties in combining the legacy Johnson Controls and Tyco businesses.

The combination of two independent businesses is a complex, costly and time-consuming process. As a result, we will be required to devote significant management attention and resources to combining the business practices and operations of the legacy Johnson Controls and Tyco businesses. This process may disrupt the businesses. The failure to meet the challenges involved in combining the two businesses and to realize the anticipated benefits of the transactions could cause an interruption of, or a loss of momentum in, the activities of the combined company and could adversely affect our results of operations. The overall combination of legacy Johnson Controls and Tyco businesses may also result in material unanticipated problems, expenses, liabilities, competitive responses, loss of customer and other business relationships and diversion of management attention. The difficulties of combining the operations of the companies include, among others:

- the diversion of management attention to integration matters;
- difficulties in integrating operations and systems;
- challenges in conforming standards, controls, procedures and accounting and other policies, business cultures and compensation structures between the two companies;
- difficulties in assimilating employees and in attracting and retaining key personnel;
- challenges in keeping existing customers and obtaining new customers;
- difficulties in achieving anticipated cost savings, synergies, business opportunities and growth prospects from the combination;
- difficulties in managing the expanded operations of a significantly larger and more complex company;
- contingent liabilities (including contingent tax liabilities) that are larger than expected; and
- potential unknown liabilities, adverse consequences and unforeseen increased expenses associated with the Merger, including possible adverse tax consequences to the combined company pursuant to changes in applicable tax laws or regulations.

Many of these factors are outside of our control, and any one of them could result in increased costs, decreased expected revenues and diversion of management time and energy, which could materially impact the business, financial condition and results of operations of the combined company.

Divestitures of some of our businesses or product lines may materially adversely affect our financial condition, results of operations or cash flows.

We continually evaluate the performance and strategic fit of all of our businesses and may sell businesses or product lines. For example, on October 31, 2016, we completed the spin-off of our Automotive Experience business and in the second quarter of fiscal 2017 we announced that we had signed a definitive agreement to sell our Scott Safety business, which closed on October 4, 2017. Divestitures involve risks, including difficulties in the separation of operations, services, products and personnel, the diversion of management's attention from other business concerns, the disruption of our business, the potential loss of key employees and the retention of uncertain environmental or other contingent liabilities related to the divested business. In addition, divestitures may result in significant asset impairment charges, including those related to goodwill and other intangible assets, which could have a material adverse effect on our financial condition and results of operations. We cannot assure you that we will be successful in managing these or any other significant risks that we encounter in divesting a business or product line, and any divestiture we undertake could materially and adversely affect our business, financial condition, results of operations and cash flows, and may also result in a diversion of management attention, operational difficulties and losses.

The Internal Revenue Service may not agree that we should be treated as a non-U.S. corporation for U.S. federal tax purposes and may not agree that the our U.S. affiliates should not be subject to certain adverse U.S. federal income tax rules.

Under current U.S. federal tax law, a corporation is generally considered for U.S. federal tax purposes to be a tax resident in the jurisdiction of its organization or incorporation. Because Johnson Controls International plc is an Irish incorporated entity, it would generally be classified as a non-U.S. corporation (and, therefore, a non-U.S. tax resident) under these rules. However, Section 7874 of the Code ("Section 7874") provides an exception to this general rule under which a non-U.S. incorporated entity may, in certain circumstances, be treated as a U.S. corporation for U.S. federal tax purposes.

Under Section 7874, if (1) former Johnson Controls, Inc. shareholders owned (within the meaning of Section 7874) 80% or more (by vote or value) of our ordinary shares after the Merger by reason of holding Johnson Controls, Inc. common stock (the "80% ownership test," and such ownership percentage the "Section 7874 ownership percentage"), and (2) our "expanded affiliated group" did not have "substantial business activities" in Ireland ("the substantial business activities test"), we will be treated as a U.S. corporation for U.S. federal tax purposes. If the Section 7874 ownership percentage of the former Johnson Controls, Inc. shareholders after the Merger was less than 80% but at least 60% (the "60% ownership test"), and the substantial business activities test was not met, we and our U.S. affiliates (including the U.S. affiliates historically owned by Tyco) may, in some circumstances, be subject to certain adverse U.S. federal income tax rules (which, among other things, could limit their ability to utilize certain U.S. tax attributes to offset U.S. taxable income or gain resulting from certain transactions).

Based on the terms of the Merger, the rules for determining share ownership under Section 7874 and certain factual assumptions, we believe that former Johnson Controls, Inc. shareholders owned (within the meaning of Section 7874) less than 60% (by both vote and value) of our ordinary shares after the Merger by reason of holding shares of Johnson Controls, Inc. common stock. Therefore, under current law, we believe that we should not be treated as a U.S. corporation for U.S. federal tax purposes and that Section 7874 should otherwise not apply to us or our affiliates as a result of the Merger.

However, the rules under Section 7874 are relatively new and complex and there is limited guidance regarding their application. In particular, ownership for purposes of Section 7874 is subject to various adjustments under the Code and the Treasury regulations promulgated thereunder, and there is limited guidance regarding Section 7874, including with respect to the application of the ownership tests described therein. As a result, the determination of the Section 7874 ownership percentage is complex and is subject to factual and legal uncertainties. Thus, there can be no assurance that the IRS will agree with the position that we should not be treated as a U.S. corporation for U.S. federal tax purposes or that Section 7874 does not otherwise apply as a result of the Merger.

In addition, on January 13, 2017, the U.S. Treasury and the IRS finalized certain Treasury regulations issued under Section 7874 and revised certain related temporary regulations (the "Section 7874 Regulations"), which, among other things, require certain adjustments that generally increase, for purposes of the Section 7874 ownership tests, the percentage of the stock of a foreign acquiring corporation deemed owned (within the meaning of Section 7874) by the former shareholders of an acquired U.S. corporation by reason of holding stock in such U.S. corporation. For example, these regulations disregard, for purposes of determining this ownership percentage, (1) any "non-ordinary course distributions" (within the meaning of the regulations) made by the acquired U.S. corporation (such as Johnson Controls, Inc.) during the 36 months preceding the acquisition, including certain dividends and share repurchases, (2) potentially any cash consideration received by the shareholders of such U.S. corporation in the acquisition to the extent such cash is, directly or indirectly, provided by the U.S. corporation, as well as (3) certain stock of the foreign acquiring corporation that was issued as consideration in a prior acquisition of another U.S. corporation (or U.S.

partnership) during the 36 months preceding the signing date of a binding contract for the acquisition being tested. Taking into account the effect of these regulations, we believe that the Section 7874 ownership percentage of former Johnson Controls, Inc. shareholders in us was less than 60%. However, these regulations are new and complex and there is limited guidance regarding their application. Accordingly, there can be no assurance that the IRS will not successfully assert that either the 80% ownership test or the 60% ownership test was met after the Merger.

If the 80% ownership test was met after the Merger and we were accordingly treated as a U.S. corporation for U.S. federal tax purposes under Section 7874, we would be subject to substantial additional U.S. tax liability. Additionally, in such case, our non-U.S. shareholders would be subject to U.S. withholding tax on the gross amount of any dividends we pay to such shareholders (subject to an exemption or reduced rate available under an applicable tax treaty). Regardless of any application of Section 7874, we are treated as an Irish tax resident for Irish tax purposes. Consequently, if we were to be treated as a U.S. corporation for U.S. federal tax purposes under Section 7874, we could be liable for both U.S. and Irish taxes, which could have a material adverse effect on our financial condition and results of operations.

If the 60% ownership test were met, several adverse U.S. federal income tax rules could apply to our U.S. affiliates. In particular, in such case, Section 7874 could limit the ability of such U.S. affiliates to utilize certain U.S. tax attributes (including net operating losses and certain tax credits) to offset any taxable income or gain resulting from certain transactions, including any transfers or licenses of property to a foreign related person during the 10-year period following the Merger. The Section 7874 Regulations generally expand the scope of these rules. If the 60% ownership test were met after the Merger, such current and future limitations would apply to our U.S. affiliates (including the U.S. affiliates historically owned by Tyco), and their application could limit their ability to utilize such U.S. tax attributes against any income or gain recognized in connection with the Adient spin-off. In such case, the application of such rules could result in significant additional U.S. tax liability. In addition, the Section 7874 Regulations (and certain related temporary regulations issued under other provisions of the Code) include new rules that would apply if the 60% ownership test were met, which, in such situation, may limit our ability to restructure or access cash earned by certain of our non-U.S. subsidiaries, in each case, without incurring substantial U.S. tax liabilities.

Future potential changes to the tax laws could result in our being treated as a U.S. corporation for U.S. federal tax purposes or in us and our U.S. affiliates (including the U.S. affiliates historically owned by Tyco) being subject to certain adverse U.S. federal income tax rules.

As discussed above, under current law, we believe that we should be treated as a non-U.S. corporation for U.S. federal tax purposes and that Section 7874 does not otherwise apply as a result of the Merger. However, changes to Section 7874, or the U.S. Treasury regulations promulgated thereunder, could affect our status as a non-U.S. corporation for U.S. federal tax purposes or could result in the application of certain adverse U.S. federal income tax rules to us and our U.S. affiliates (including the U.S. affiliates historically owned by Tyco). Any such changes could have prospective or retroactive application, and may apply even though the Merger has been consummated. If we were to be treated as a U.S. corporation for federal tax purposes or if we or our U.S. affiliates (including the U.S. affiliates historically owned by Tyco) were to become subject to such adverse U.S. federal income tax rules, we and our U.S. affiliates could be subject to substantially greater U.S. tax liability than currently contemplated.

Certain legislative and other proposals have aimed to expand the scope of U.S. corporate tax residence, including in such a way as would cause us to be treated as a U.S. corporation if our place of management and control or the place of management and control of our non-U.S. affiliates were determined to be located primarily in the United States. In addition, certain legislative and other proposals have aimed to expand the scope of Section 7874, or otherwise address certain perceived issues arising in connection with so-called inversion transactions. For example, multiple proposals introduced by certain Democratic members of both houses of Congress, which, if enacted in their present form, would be effective retroactively to certain transactions (including the Merger), would, among other things, treat a foreign acquiring corporation as a U.S. corporation for U.S. federal tax purposes under Section 7874 if the former shareholders of a U.S. corporation acquired by such foreign acquiring corporation own more than 50% of the shares of the foreign acquiring corporation after the acquisition. These proposals, if enacted in their present form and made retroactive to a date before the date of the closing of the Merger, would cause us to be treated as a U.S. corporation for U.S. federal tax purposes. In such case, we would be subject to substantially greater U.S. tax liability than currently contemplated. It is presently uncertain whether any such proposals or other legislative action relating to the scope of U.S. tax residence, Section 7874 or so-called inversion transactions and inverted groups will be enacted into law.

Any legislative and/or other proposals could cause us and our affiliates to be subject to certain intercompany financing limitations, including with respect to their ability to deduct certain interest expense, could limit or eliminate various other deductions or credits, could impose taxes on certain cross-border payments or transfers, could impose taxes on certain earnings of non-U.S. entities on a current basis, could change the timing of the recognition of income or its character, could limit asset basis under certain circumstances, could impose additional corporate taxes under certain circumstances to combat perceived base erosion issues, and could limit deductions relating to employee compensation, among other changes that could cause us or our affiliates to be subject

to additional U.S. federal income taxes. Any such proposals, regulations and any other relevant provisions could change on a prospective or retroactive basis and could have a significant adverse effect on us and our affiliates. It is presently uncertain whether legislative reform relating to the U.S. federal income taxation of corporations and other business entities, including the reforms described above, will be enacted into law and in what form. Any such changes could have a material impact on our future financial results.

We may be unable to achieve some or all of the benefits that we expect to achieve from the spin-off of Adient plc

On October 31, 2016, we completed the separation of our Automotive Experience business through the spin-off of Adient plc to shareholders. Following the spin-off, we are a smaller and less diversified company with a narrower business focus and, as a result, we may be more vulnerable to changing market conditions.

Although we believe that the spin-off of Adient plc will provide financial, operational, managerial and other benefits to us and shareholders, the spin-off may not provide such results on the scope or scale we anticipate, and we may not realize any or all of the intended benefits. In addition, we have and will continue to incur one-time costs and ongoing costs in connection with, or as a result of, the spin-off, including costs of operating as independent, publicly-traded companies that the two businesses are no longer able to share. Those costs may exceed our estimates or could negate some of the benefits we expect to realize. If we do not realize the intended benefits of the spin-off or if our costs exceed our estimates, we could suffer a material adverse effect on our business, financial condition, results of operations and cash flows.

Adient may fail to perform under various transaction agreements that we have executed as part of the Adient spin-off.

In connection with the spin-off of Adient, we and Adient have entered into a separation and distribution agreement and various other agreements, including a transition services agreement, a tax matters agreement, an employee matters agreement and a transitional trademark license agreement. Certain of these agreements provide for the performance of services by each company for the benefit of the other for a period of time after the spin-off. We will rely on Adient to satisfy its performance and payment obligations under these agreements. If Adient is unable to satisfy its obligations under these agreements, including its indemnification obligations, we could incur operational difficulties or losses.

Risks Relating to Our Jurisdiction of Incorporation

Legislative action in the U.S. could materially and adversely affect us.

Legislative action may be taken by the U.S. Congress which, if ultimately enacted, could limit the availability of tax benefits or deductions that we currently claim, override tax treaties upon which we rely, affect our status as a non-U.S. corporation for U.S. federal income tax purposes, impose additional taxes on payments made by our U.S. subsidiaries to non-U.S. affiliates, or otherwise affect the taxes that the U.S. imposes on our worldwide operations. Such changes could have retroactive effect and could have a material adverse effect on our effective tax rate and/or require us to take further action, at potentially significant expense, to seek to preserve our effective tax rate. In addition, if proposals were enacted that had the effect of disregarding or limiting our ability, as an Irish company, to take advantage of tax treaties with the U.S., we could incur additional tax expense and/or otherwise incur business detriment.

Legislation relating to governmental contracts could materially and adversely affect us.

Various U.S. federal and state legislative proposals that would deny governmental contracts to U.S. companies that have moved their corporate location abroad may affect us. We are unable to predict the likelihood that, or final form in which, any such proposed legislation might become law, the nature of regulations that may be promulgated under any future legislative enactments, or the effect such enactments and increased regulatory scrutiny may have on our business.

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

It may not be possible to enforce court judgments obtained in the U.S. against us in Ireland based on the civil liability provisions of the U.S. federal or state securities laws. In addition, 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 the civil liabilities provisions of the U.S. federal or state securities laws or hear actions against us or those persons based on those laws. We have been advised that 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. Therefore, a final judgment for the payment of money rendered by any U.S. federal or state court based on civil liability, whether or not based solely on U.S. federal or state securities laws, would not automatically be enforceable in Ireland.

A judgment obtained against the combined company will be enforced by the courts of Ireland if the following general requirements are met:

- U.S. courts must have had jurisdiction in relation to the particular defendant according to Irish conflict of law rules (the submission to jurisdiction by the defendant would satisfy this rule); and
- the judgment must be final and conclusive and the decree must be final and unalterable in the court which pronounces it.

A judgment can be final and conclusive even if it is subject to appeal or even if an appeal is pending. But where the effect of lodging an appeal under the applicable law is to stay execution of the judgment, it is possible that in the meantime the judgment may not be actionable in Ireland. It remains to be determined whether final judgment given in default of appearance is final and conclusive. Irish courts may also refuse to enforce a judgment of the U.S. courts which meets the above requirements for one of the following reasons:

- the judgment is not for a definite sum of money;
- the judgment was obtained by fraud;
- the enforcement of the judgment in Ireland would be contrary to natural or constitutional justice;
- the judgment is contrary to Irish public policy or involves certain U.S. laws which will not be enforced in Ireland; or
- jurisdiction cannot be obtained by the Irish courts over the judgment debtors in the enforcement proceedings by personal service Ireland or outside Ireland under Order 11 of the Irish Superior Courts Rules.

As an Irish company, Johnson Controls is governed by the Irish Companies Acts, which differ 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 Johnson Controls International plc securities may have more difficulty protecting their interests than would holders of securities of a corporation incorporated in a jurisdiction of the U.S.

Our effective tax rate may increase.

There is uncertainty regarding the tax policies of the jurisdictions where we operate, including the potential legislative actions described in these risk factors, which if enacted could result in an increase in our effective tax rate (including the TCJA, as discussed above). Additionally, the tax laws of Ireland and other jurisdictions could change in the future, and such changes could cause a material increase in our effective tax rate.

Changes to the U.S. model income tax treaty could adversely affect us.

On February 17, 2016, the U.S. Treasury released a revised U.S. model income tax convention (the "new model"), which is the baseline text used by the U.S. Treasury to negotiate tax treaties. The new model treaty provisions were preceded by draft versions released by the U.S. Treasury on May 20, 2015 (the "May 2015 draft") for public comment. The revisions made to the model address certain aspects of the model by modifying existing provisions and introducing entirely new provisions. Specifically, the new provisions target (i) permanent establishments subject to little or no foreign tax, (ii) special tax regimes, (iii) expatriated entities subject to Section 7874, (iv) the anti-treaty shopping measures of the limitation on benefits article and (v) subsequent changes in treaty partners' tax laws.

With respect to new model provisions pertaining to expatriated entities, because we do not believe that the Merger resulted in the creation of an expatriated entity as defined in Section 7874, payments of interest, dividends, royalties and certain other items of income by or to us and/or our U.S. affiliates to or from non-U.S. persons would not be expected to become subject to full withholding tax, even if applicable treaties were subsequently amended to adopt the new model provisions. In response to comments the U.S. Treasury received regarding the May 2015 draft, the new model treaty provisions pertaining to expatriated entities fix the definition of "expatriated entity" to the meaning ascribed to such term under Section 7874(a)(2)(A) as of the date the relevant bilateral treaty is signed. However, as discussed above, the rules under Section 7874 are relatively new, complex and are the subject of current and future legislative and regulatory changes. Accordingly, there can be no assurance that the IRS will agree with the position that the Merger did not result in the creation of an expatriated entity (within the meaning of Section 7874) under the law as in effect at the time the applicable treaty were to be amended or that such a challenge would not be sustained by a court, or that such position would not be affected by future or regulatory action which may apply retroactively to the Merger.

Transfers of Johnson Controls ordinary shares may be subject to Irish stamp duty.

For the majority of transfers of Johnson Controls ordinary shares, there is no Irish stamp duty. However, Irish stamp duty is payable in respect of certain share transfers. A transfer of Johnson Controls ordinary shares from a seller who holds shares beneficially (i.e. through the Depository Trust Company ("DTC")) to a buyer who holds the acquired shares beneficially is not subject to Irish stamp duty (unless the transfer involves a change in the nominee that is the record holder of the transferred shares). A transfer of Johnson Controls ordinary shares by a seller who holds shares directly (i.e. not through DTC) to any buyer, or by a seller who holds the shares beneficially to a buyer who holds the acquired shares directly, may be subject to Irish stamp duty (currently at the rate of 1% of the price paid or the market value of the shares acquired, if higher) payable by the buyer. A shareholder who directly holds shares may transfer those shares into his or her own broker account to be held through DTC without giving rise to Irish stamp duty provided that the shareholder has confirmed to Johnson Controls transfer agent that there is no change in the ultimate beneficial ownership of the shares as a result of the transfer and, at the time of the transfer, there is no agreement in place for a sale of the shares.

We currently intend to pay, or cause one of our affiliates to pay, stamp duty in connection with share transfers made in the ordinary course of trading by a seller who holds shares directly to a buyer who holds the acquired shares beneficially. In other cases Johnson Controls may, in its absolute discretion, pay or cause one of its affiliates to pay any stamp duty. Johnson Controls Memorandum and Articles of Association provide that, in the event of any such payment, Johnson Controls (i) may seek reimbursement from the buyer, (ii) may have a lien against the Johnson Controls ordinary shares acquired by such buyer and any dividends paid on such shares and (iii) may set-off the amount of the stamp duty against future dividends on such shares. Parties to a share transfer may assume that any stamp duty arising in respect of a transaction in Johnson Controls ordinary shares has been paid unless one or both of such parties is otherwise notified by Johnson Controls.

Dividends paid by us may be subject to Irish dividend withholding tax.

In certain circumstances, as an Irish tax resident company, we will be required to deduct Irish dividend withholding tax (currently at the rate of 20%) from dividends paid to our shareholders. Shareholders that are resident in the U.S., European Union countries (other than Ireland) or other countries with which Ireland has signed a tax treaty (whether the treaty has been ratified or not) generally should not be subject to Irish withholding tax so long as the shareholder has provided its broker, for onward transmission to our qualifying intermediary or other designated agent (in the case of shares held beneficially), or us or our transfer agent (in the case of shares held directly), with all the necessary documentation by the appropriate due date prior to payment of the dividend. However, some shareholders may be subject to withholding tax, which could adversely affect the price of our ordinary shares.

Dividends received by you could be subject to Irish income tax.

Dividends paid in respect of Johnson Controls ordinary shares generally are not subject to Irish income tax where the beneficial owner of these dividends is exempt from dividend withholding tax, unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Johnson Controls.

Johnson Controls shareholders who receive their dividends subject to Irish dividend withholding tax generally will have no further liability to Irish income tax on the dividend unless the beneficial owner of the dividend has some connection with Ireland other than his or her shareholding in Johnson Controls.

ITEM 1B UNRESOLVED STAFF COMMENTS

The Company has no unresolved written comments regarding its periodic or current reports from the staff of the SEC.

ITEM 2 PROPERTIES

The Company conducts its operations in approximately 60 countries throughout the world, with its world headquarters located in Cork, Ireland and its North American operational headquarters located in Milwaukee, Wisconsin USA. The Company’s wholly- and majority-owned facilities primarily consist of manufacturing, sales and service offices, research and development facilities, monitoring centers, and assembly and/or warehouse centers. At September 30, 2017 , these properties totaled approximately 84 million square feet of floor space of which 56 million square feet are owned and 28 million square feet are leased. The Company considers its facilities to be suitable for their current uses and adequate for current needs. The majority of the facilities are operating at normal levels based on capacity. The Company does not anticipate difficulty in renewing existing leases as they expire or in finding alternative facilities.

Building Solutions North America operates through a network of sales and service offices located in the U.S. and Canada. The business occupies approximately 13 million square feet, of which 9 million square feet are leased and 4 million square feet are owned.

Building Solutions EMEA/LA operates through a network of manufacturing facilities, sales and service offices and assembly and/or warehouse centers located in Europe, the Middle East, Africa and Latin America. The business occupies approximately 5 million square feet, of which 4 million square feet are leased and 1 million square feet are owned.

Building Solutions Asia Pacific operates through a network of manufacturing facilities, sales and service offices and assembly and/or warehouse centers located in the Asia Pacific region. The business occupies approximately 2 million square feet, of which the majority is leased.

Global Products operates through a network of manufacturing facilities, and assembly and/or warehouse centers located in North America, Latin America, Europe, the Middle East, Africa and Asia Pacific. The business occupies approximately 24 million square feet, of which 10 million square feet are leased and 14 million square feet are owned.

Power Solutions operates through a network of manufacturing facilities, and assembly and/or warehouse centers located in North America, South America, Europe and the Asia Pacific region. The business occupies approximately 38 million square feet, of which 36 million square feet are owned and 2 million square feet are leased.

Corporate offices operate in North America, Europe and the Asia-Pacific region, which occupy approximately 2 million square feet, of which 1 million square feet are leased and 1 million square feet are owned.

ITEM 3 LEGAL PROCEEDINGS

Environmental Matters

As noted in Item 1, liabilities potentially arise globally under various environmental laws and worker safety laws for activities that are not in compliance with such laws and for the cleanup of sites where Company-related substances have been released into the environment.

Currently, the Company is responding to allegations that it is responsible for performing environmental remediation, or for the repayment of costs spent by governmental entities or others performing remediation, at approximately 48 sites in the United States for continuing operations. Many of these sites are landfills used by the Company in the past for the disposal of waste materials; others are secondary lead smelters and lead recycling sites where the Company returned lead-containing materials for recycling; a few involve the cleanup of Company manufacturing facilities; and the remaining fall into miscellaneous categories. The Company may face similar claims of liability at additional sites in the future. Where potential liabilities are alleged, the Company pursues a course of action intended to mitigate them.

The Company accrues for potential environmental liabilities when it is probable a liability has been incurred and the amount of the liability is reasonably estimable. As of September 30, 2017 , reserves for environmental liabilities totaled $51 million , of which $10 million was recorded within other current liabilities and $41 million was recorded within other noncurrent liabilities in the consolidated statements of financial position. Such potential liabilities accrued by the Company do not take into consideration possible recoveries of future insurance proceeds. They do, however, take into account the likely share other parties will bear at remediation sites. It is difficult to estimate the Company's ultimate level of liability at many remediation sites due to the large number of other parties that may be involved, the complexity of determining the relative liability among those parties, the uncertainty as to the nature and scope of the investigations and remediation to be conducted, the uncertainty in the application of law and risk assessment, the various choices and costs associated with diverse technologies that may be used in corrective actions at the sites, and the often quite lengthy periods over which eventual remediation may occur. Nevertheless, the Company does not currently believe that any claims, penalties or costs in connection with known environmental matters will have a material adverse effect on the Company's financial position, results of operations or cash flows. In addition, the Company has identified asset retirement obligations for environmental matters that are expected to be addressed at the retirement, disposal, removal or abandonment of existing owned facilities. At September 30, 2017 , the Company recorded conditional asset retirement obligations of $61 million .

Asbestos Matters

The Company and certain of its subsidiaries, along with numerous other third parties, are named as defendants in personal injury lawsuits based on alleged exposure to asbestos containing materials. These cases have typically involved product liability claims based primarily on allegations of manufacture, sale or distribution of industrial products that either contained asbestos or were used with asbestos containing components.

As of September 30, 2017 , the Company's estimated asbestos related net liability recorded on a discounted basis within the Company's consolidated statements of financial position was $181 million . The net liability within the consolidated statements of financial position was comprised of a liability for pending and future claims and related defense costs of $573 million , of which $48 million was recorded in other current liabilities and $525 million was recorded in other noncurrent liabilities. The Company also maintained separate cash, investments and receivables related to insurance recoveries within the consolidated statements of financial position of $392 million , of which $53 million was recorded in other current assets, and $339 million was recorded in other noncurrent assets. Assets included $22 million of cash and $269 million of investments, which have all been designated as restricted. In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable; the amount of such recoveries recorded at September 30, 2017 was $101 million . The Company believes that the asbestos related liabilities and insurance related receivables recorded as of September 30, 2017 are appropriate.

The Company's estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Company's historical claim experience, and estimates of the number and resolution cost of potential future claims that may be filed and is discounted to present value from 2068 (which is the Company's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be filed against Company affiliates). Asbestos related defense costs are included in the asbestos liability. The Company's legal strategy for resolving claims also impacts these estimates. The Company considers various trends and developments in evaluating the period of time (the look-back period) over which historical claim and settlement experience is used to estimate and value claims reasonably projected to be made through 2068. Annually, the Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company also evaluates the recoverability of its insurance receivable on an annual basis. The Company evaluates all of these factors and determines whether a change in the estimate of its liability for pending and future claims and defense costs or insurance receivable is warranted.

The amounts recorded by the Company for asbestos-related liabilities and insurance-related assets are based on the Company's strategies for resolving its asbestos claims, currently available information, and a number of estimates and assumptions. Key variables and assumptions include the number and type of new claims that are filed each year, the average cost of resolution of claims, the identity of defendants, the resolution of coverage issues with insurance carriers, amount of insurance, and the solvency risk with respect to the Company's insurance carriers. Many of these factors are closely linked, such that a change in one variable or assumption will impact one or more of the others, and no single variable or assumption predominately influences the determination of the Company's asbestos-related liabilities and insurance-related assets. Furthermore, predictions with respect to these variables are subject to greater uncertainty in the later portion of the projection period. Other factors that may affect the Company's liability and cash payments for asbestos-related matters include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms of state or federal tort legislation and the applicability of insurance policies among subsidiaries. As a result, actual liabilities or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in the Company's calculations vary significantly from actual results.

Insurable Liabilities

The Company records liabilities for its workers' compensation, product, general and auto liabilities. The determination of these liabilities and related expenses is dependent on claims experience. For most of these liabilities, claims incurred but not yet reported are estimated by utilizing actuarial valuations based upon historical claims experience. At September 30, 2017 , the insurable liabilities totaled $445 million , of which $122 million was recorded within other current liabilities, $22 million was recorded within accrued compensation and benefits, and $301 million was recorded within other noncurrent liabilities in the consolidated statements of financial position. The Company records receivables from third party insurers when recovery has been determined to be probable. The amount of such receivables recorded at September 30, 2017 was $46 million , of which $31 million was recorded within other current assets and $15 million was recorded within other noncurrent assets. The Company maintains captive insurance companies to manage certain of its insurable liabilities.

Other Matters

EC Lead Recycler Investigation

As previously disclosed, an investigation by the European Commission ("EC") related to European lead recyclers' procurement practices was commenced in 2012, with the Company named as one of several companies subject to review. On June 24, 2015, the EC initiated proceedings and adopted a statement of objections alleging infringements of competition rules in Europe against the Company and certain other companies. The EC subsequently scheduled consultation meetings with the Advisory Committee

on Restrictive Practices and Dominant Positions, concluded its investigation and announced its decision with respect to the matter on February 8, 2017. According to the EC's announcement, the Company will not be fined because it revealed the existence of the cartel to the EC. The Company does not anticipate any material adverse effect on its business or financial condition as a result of this matter. The Company's policy is to comply with antitrust and competition laws and, if a violation of any such laws is found, to take appropriate remedial action and to cooperate fully with any related governmental inquiry. Competition and antitrust law investigations may continue for several years and can result in substantial fines depending on the gravity and duration of the violations. In addition, as a result of such violations we could be subject to lawsuits brought by customers or other parties alleging economic harm from such violations.

Laufer v. Johnson Controls, Inc., et al.

On May 20, 2016, a putative class action lawsuit, Laufer v. Johnson Controls, Inc., et al., Docket No. 2016CV003859, was filed in the Circuit Court of Wisconsin, Milwaukee County, naming Johnson Controls, Inc., the individual members of its board of directors, the Company and the Company's merger subsidiary as defendants. The complaint alleged that Johnson Controls Inc.'s directors breached their fiduciary duties in connection with the merger between Johnson Controls Inc. and the Company's merger subsidiary by, among other things, failing to take steps to maximize shareholder value, seeking to benefit themselves improperly and failing to disclose material information in the joint proxy statement/prospectus relating to the merger. The complaint further alleged that the Company aided and abetted Johnson Controls Inc.'s directors in the breach of their fiduciary duties. The complaint sought, among other things, to enjoin the merger. On August 8, 2016, the plaintiffs agreed to settle the action and release all claims that were or could have been brought by plaintiffs or any member of the putative class of Johnson Controls Inc.'s shareholders. The settlement is conditioned upon, among other things, the execution of an appropriate stipulation of settlement. On November 10, 2016, the parties filed a joint status report notifying the court they had reached such agreement. On November 22, 2016, the court ordered that a proposed stipulation of settlement be filed by March 15, 2017 and scheduled a status hearing for April 20, 2017. On March 10, 2017, the parties filed a joint letter requesting that the filing and hearing be adjourned and that the parties be allowed an additional 90 days to update the court in light of the Gumm v. Molinaroli action proceeding in federal court, discussed below. The status hearing has subsequently been rescheduled for November 28, 2017. There can be no assurance that the parties will ultimately enter into a stipulation of settlement or that the court will approve the settlement. In either event, or certain other circumstances, the settlement could be terminated.

Gumm v. Molinaroli, et al.

On August 16, 2016, a putative class action lawsuit, Gumm v. Molinaroli, et al., Case No. 16-cv-1093, was filed in the United States District Court for the Eastern District of Wisconsin, naming Johnson Controls, Inc., the individual members of its board of directors at the time of the merger with the Company's merger subsidiary and certain of its officers, the Company and the Company's merger subsidiary as defendants. The complaint asserted various causes of action under the federal securities laws, state law and the Taxpayer Bill of Rights, including that the individual defendants allegedly breached their fiduciary duties and unjustly enriched themselves by structuring the merger among the Company, Tyco and the merger subsidiary in a manner that would result in a United States federal income tax realization event for the putative class of certain Johnson Controls, Inc. shareholders and allegedly result in certain benefits to the defendants, as well as related claims regarding alleged misstatements in the proxy statement/prospectus distributed to the Johnson Controls, Inc. shareholders, conversion and breach of contract. The complaint also asserted that Johnson Controls, Inc., the Company and the Company's merger subsidiary aided and abetted the individual defendants in their breach of fiduciary duties and unjust enrichment. The complaint seeks, among other things, disgorgement of profits and damages. On September 30, 2016, approximately one month after the closing of the merger, plaintiffs filed a preliminary injunction motion seeking, among other items, to compel Johnson Controls, Inc. to make certain intercompany payments that plaintiffs contend will impact the United States federal income tax consequences of the merger to the putative class of certain Johnson Controls, Inc. shareholders and to enjoin Johnson Controls, Inc. from reporting to the Internal Revenue Service the capital gains taxes payable by this putative class as a result of the closing of the merger. The court held a hearing on the preliminary injunction motion on January 4, 2017, and on January 25, 2017, the judge denied the plaintiffs' motion. Plaintiffs filed an amended complaint on February 15, 2017, and the Company filed a motion to dismiss on April 3, 2017. Although the Company believes it has substantial defenses to plaintiffs' claims, it is not able to predict the outcome of this action.

Aqueous Film-Forming Foam Litigation

Two of our subsidiaries, Chemguard, Inc. ("Chemguard") and Tyco Fire Products L.P. ("Tyco Fire Products"), have been named, along with other defendant manufacturers, in a number of class action lawsuits relating to the use of fire-fighting foam products by the U.S. Department of Defense (the "DOD") and others for fire suppression purposes and related training exercises. Plaintiffs generally allege that the firefighting foam products manufactured by defendants contain or break down into the chemicals perfluorooctane sulfonate ("PFOS") and perfluorooctanoic acid ("PFOA") and that the use of these products by others at various airbases and airports resulted in the release of these chemicals into the environment and ultimately into communities' drinking

water supplies neighboring those airports and airbases. Plaintiffs generally seek compensatory damages, including damages for alleged personal injuries, medical monitoring, and alleged diminution in property values, and also seek punitive damages and injunctive relief to address remediation of the alleged contamination. As of November 21, 2017, the Company is named in 12 putative class actions in federal courts in three states as set forth below:

Colorado

- *District of Colorado - Bell et al. v. The 3M Company et al.,* filed on September 18, 2016.
- *District of Colorado - Bell et al. v. The 3M Company et al.,* filed on September 18, 2016.
- *District of Colorado - Davis et al. v. The 3M Company et al.,* filed on September 22, 2016.

The above cases have been consolidated in the U.S. District Court for the District of Colorado, and a hearing on the plaintiffs' motion for class certification is scheduled for April 2018.

New York

- *Eastern District of New York - Green et al. v. The 3M Company et al.,* filed March 27, 2017 in Supreme Court of the State of New York, Suffolk County, prior to removal to federal court.
- *Southern District of New York - Adamo et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Southern District of New York - Fogarty et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Southern District of New York - Miller et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Supreme Court of the State of New York, Suffolk County - Singer et al. v. The 3M Company et al.,* filed October 10, 2017.

Responses to the complaints have not been filed yet in any of the New York actions.

Pennsylvania

- *Eastern District of Pennsylvania - Bates et al. v. The 3M Company et al.,* filed September 15, 2016.
- *Eastern District of Pennsylvania - Grande et al. v. The 3M Company et al.,* filed October 13, 2016.
- *Eastern District of Pennsylvania - Yockey et al. v. The 3M Company et al.,* filed October 24, 2016.
- *Eastern District of Pennsylvania - Fearnley et al. v. The 3M Company et al.,* filed December 9, 2016.

The above cases have been consolidated in the U.S. District Court for the Eastern District of Pennsylvania. Defendants have moved to dismiss the complaint in the consolidated proceeding.

In addition to the putative class actions, Chemguard and Tyco Fire Products are also defendants in an action filed by two plaintiffs in the U.S. District Court for the Eastern District of Pennsylvania: Menkes et al. v. The 3M Company et al., (filed February 7, 2017). The Menkes plaintiffs assert substantive claims and allegations similar to the putative class allegations, but also include personal injury claim. The Company is also on notice of approximately 490 other possible individual product liability claims by filings made in Pennsylvania state court, but complaints have not been filed in those matters, and, under Pennsylvania's procedural rules, they may or may not result in lawsuits.

Chemguard and Tyco Fire Products are also defendants in two cases pending in the U.S. District Court for the District of Massachusetts: Town of Barnstable v. the 3M. Co., et al, (filed Nov. 21, 2016), and County of Barnstable v. the 3M. Co., et al, (filed January 9, 2017). These municipal plaintiffs generally allege that the use of the defendants' fire-fighting foam products at a fire training academy and municipal airport released PFOS and PFOA into the town's water supply wells, allegedly requiring remediation of the town and county property. The defendants have filed a motion to dismiss in County of Barnstable, which is currently pending before the court.

The Company is vigorously defending these cases and believes that it has meritorious defenses to class certification and the claims asserted. However, there are numerous factual and legal issues to be resolved in connection with these claims, and it is extremely difficult to predict the outcome or ultimate financial exposure, if any, represented by these matters, but there can be no assurance that any such exposure will not be material. The Company is also pursuing insurance coverage for these matters.

The Company is involved in various lawsuits, claims and proceedings incident to the operation of its businesses, including those pertaining to product liability, environmental, safety and health, intellectual property, employment, commercial and contractual matters, and various other casualty matters. Although the outcome of litigation cannot be predicted with certainty and some lawsuits, claims or proceedings may be disposed of unfavorably to us, it is management's opinion that none of these will have a material

adverse effect on the Company's financial position, results of operations or cash flows. Costs related to such matters were not material to the periods presented.

ITEM 4 MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

Pursuant to General Instruction G(3) of Form 10-K, the following list of executive officers of the Company as of November 21, 2017 is included as an unnumbered Item in Part I of this report in lieu of being included in the Company's Proxy Statement relating to the annual general meeting of shareholders to be held on March 7, 2018.

John Donofrio , 55, has served as Executive Vice President and General Counsel of the Company since November 15, 2017. He previously served as Vice President, General Counsel and Secretary of Mars, Incorporated, a global food manufacturer from October 2013 to November 2017. Before joining Mars in October 2013, Mr. Donofrio was Executive Vice President, General Counsel and Secretary for The Shaw Group Inc., a global engineering and construction company, from October 2009 until February 2013. Prior to joining Shaw, Mr. Donofrio was Senior Vice President, General Counsel and Chief Compliance Officer at Visteon Corporation, a global automotive supplier, a position he held from 2005 until October 2009. Mr. Donofrio has been a Director of FARO Technologies, Inc., a designer, developer, manufacturer and marketer of software driven, 3D measurement, imaging and realization systems, since 2008.

William C. Jackson , 57, was elected Vice President and President, Global Products, Building Technologies and Solutions following the completion of the Merger in September 2016. Prior to the Merger he was elected a Vice President and named President, Building Efficiency of Johnson Controls, Inc. in September 2014. He previously served Johnson Controls, Inc. as Executive Vice President, Corporate Development from 2013 to 2014, as President - Automotive Electronics & Interiors from 2012 to 2014, and as Executive Vice President, Operations and Innovation, from 2011 to 2013. Prior to joining Johnson Controls, Inc., Mr. Jackson was Vice President and President of Automotive at Sears Holdings Corporation, (an integrated retailer) from 2009 to 2010. Mr. Jackson is a Director of Metaldyne Performance Group, Inc. (metal-forming technology manufacturing company), where he serves on the Compensation Committee.

Lynn Minella , 59, has served as Executive Vice President and Chief Human Resources Officer since June 2017. Prior to joining Johnson Controls, she served as Group Human Resources Director at BAE Systems Plc from June 2012 to June 2017. Prior to BAE Systems, she was with Air Products and Chemicals, Inc. from 2004 until 2012 where she was the Senior Vice President of Human Resources and Communications. Earlier in her career she also held a variety of human resources roles of increasing responsibility at International Business Machines Corporation.

Trent Nevill , 46, was elected Vice President and President, Asia Pacific following the completion of the Merger in September 2016. Prior to the Merger, he was a Vice President and named President, Asia Pacific of Johnson Controls, Inc. in March 2016. He served Johnson Controls, Inc. as Vice President & General Manager - North America Systems, Services and Solutions from 2014 to 2016, Vice President - North America Business Operations from 2013 to 2014, Vice President & General Manager - North American HVAC and Regions from 2010 to 2013. Mr. Nevill joined Johnson Controls, Inc. in 1995.

George R. Oliver, 58, has served as Chief Executive Officer and Chairman of the Board since September 2017. Prior thereto he served as President and Chief Operating Officer following the completion of the Merger in September 2016. Prior to the Merger, he was Chief Executive Officer of Tyco from October 2012. He joined Tyco in July 2006, serving as president of Tyco Safety Products, and assumed additional responsibility as president of Tyco Electrical & Metal Products from 2007 through 2010. He was appointed president of Tyco Fire Protection in 2011.

Rodney M. Rushing , 51, was elected Vice President and President, Building Solutions, North America in November 2016. From 2015 to November 2016 he served as Global Vice President and General Manager, Global Products - Direct Expansion, overseeing the integration of Johnson Controls, Inc.'s joint venture with Hitachi Air Conditioning. Prior thereto, from 2013 to 2015 he was Vice President and General Manager, Products and Distribution North America and from 2009 to 2013 he was Vice President and General Manager of Unitary Products. Mr. Rushing first joined Johnson Controls, Inc. in 1990, and has held a number of roles of increasing responsibility in its field and product organization.

Brian J. Stief , 61, was elected Executive Vice President and Chief Financial Officer following the completion of the Merger in September 2016. He also serves as the Company's Principal Financial Officer. Prior to the Merger, he was elected Executive Vice President and Chief Financial Officer of Johnson Controls, Inc. in September 2014. He previously served Johnson

Controls, Inc. as Vice President and Corporate Controller from 2010 to 2014. Prior to joining Johnson Controls, Inc. in 2010, Mr. Stief was a partner with PricewaterhouseCoopers LLP (an audit and assurance, tax and consulting services provider), which he joined in 1979 and in which he became partner in 1989.

Suzanne M. Vincent , 47, was elected Vice President and Corporate Controller following the completion of the Merger in September 2016. She also serves as the Company's Principal Accounting Officer. Prior to the Merger, she was elected Vice President and Corporate Controller of Johnson Controls, Inc. in September 2014. She previously served as Vice President, Internal Audit since joining Johnson Controls, Inc. in 2012. Prior to that, Ms. Vincent was a partner with KPMG LLP (an audit and assurance, tax and consulting services provider), which she joined in 2001 and in which she became an audit partner in 2008.

Joseph A. Walicki, 52, was elected Vice President and President, Power Solutions following the completion of the Merger in September 2016. Prior to the Merger, he was elected a Vice President and named President, Power Solutions of Johnson Controls, Inc. in January 2015. He previously served Johnson Controls, Inc. as the Chief Operating Officer, Power Solutions in 2014, as Vice President and General Manager - North America, Systems, Service & Solutions from 2013 to 2014, and as Vice President and General Manager Systems & Channels North America from 2010 to 2013. Mr. Walicki joined Johnson Controls, Inc. in 1988.

Jeff M. Williams, 56, was elected Vice President and President, Building Solutions, Europe, Middle East, Africa and Latin America in March 2017. He previously served as Vice President - Enterprise Operations - Engineering and Supply Chain from January 2015 through the Merger to March 2017. With respect to roles at Johnson Controls, Inc., he served as Vice President, Program Management Office from 2015 to 2016, as Group Vice President and General Manager Global Seating & Supply Chain from 2013 to 2014, and as Group Vice President and General Manager Customer Group Americas from 2010 to 2012. Mr. Williams joined Johnson Controls, Inc. in 1984.

There are no family relationships, as defined by the instructions to this item, among the Company's executive officers.

PART II

ITEM 5 MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The shares of the Company's ordinary shares are traded on the New York Stock Exchange under the symbol "JCI."

Title of Class	Number of Record Holders as of September 30, 2017
Ordinary Shares, $0.01 par value	40,260

	Ordinary Shares Price Range		Dividends	
	2017	2016	2017	2016
First Quarter	$ 38.38 - 46.17	$ 32.29 - 39.38	$ 0.25	$ 0.205
Second Quarter	40.44 - 44.70	30.30 - 38.67	0.25	0.205
Third Quarter	40.36 - 43.71	36.29 - 46.05	0.25	0.205
Fourth Quarter	36.74 - 44.37	42.22 - 48.97	0.25	0.435
Year	$ 36.74 - 46.17	$ 30.30 - 48.97	$ 1.00	$ 1.05

Fiscal 2016 dividends and share prices are different than the amounts disclosed in the Company's consolidated financial statements in Item 8 due to the distinction between legal and accounting acquirer as a result of the reverse merger acquisition with Tyco. The information prior to the merger date of September 2, 2016 is at historical Tyco International plc amounts as it was the legal acquirer.

Following the Tyco Merger, the Company adopted, subject to the ongoing existence of sufficient distributable reserves, the existing Tyco International plc $1 billion share repurchase program in September 2016. The share repurchase program does not have an expiration date and may be amended or terminated by the Board of Directors at any time without prior notice. During fiscal year 2017 , the Company repurchased approximately $651 million of its shares. As of September 30, 2017, approximately $349 million remains available under the share repurchase program.

From time to time, the Company uses equity swaps to reduce market risk associated with its stock-based compensation plans, such as its deferred compensation plans. These equity compensation liabilities increase as the Company's stock price increases and decrease as the Company's stock price decreases. In contrast, the value of equity swaps move in the opposite direction of these liabilities, allowing the Company to fix a portion of the liabilities at a stated amount.

In connection with equity swap agreements, the counterparty may purchase unlimited shares of the Company's stock in the market or in privately negotiated transactions. Under these arrangements, the Company disclaims that the counterparty in the agreement is an "affiliated purchaser" of the Company as such term is defined in Rule 10b-18(a)(3) under the Securities Exchange Act or that the counterparty is purchasing any shares for the Company.

The following table presents information regarding the repurchase of the Company's ordinary shares by the Company as part of the publicly announced program and purchases of the Company's ordinary shares by counterparties under equity swap agreements during the three months ended September 30, 2017 .

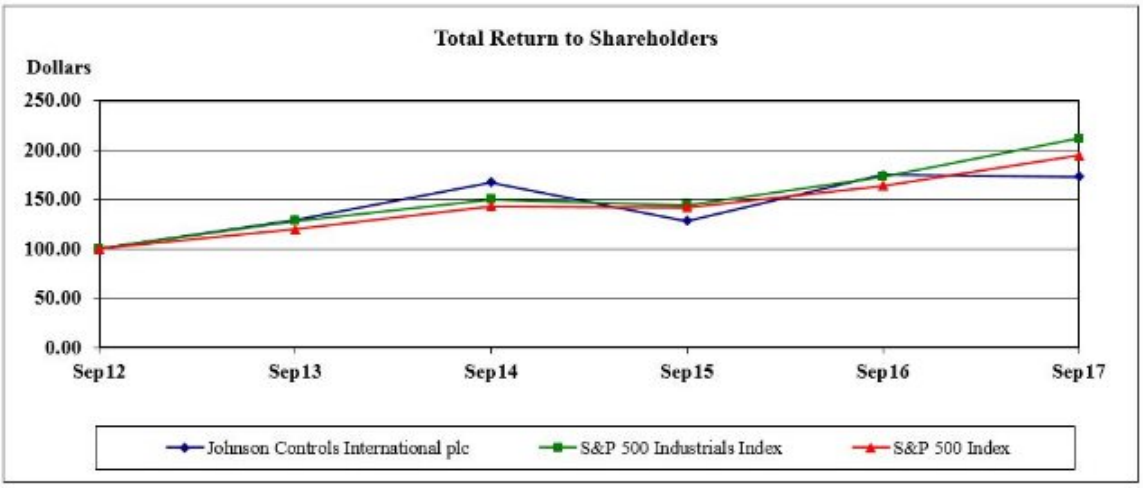
Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of the Publicly Announced Program	Approximate Dollar Value of Shares that May Yet be Purchased under the Programs
7/1/17 - 7/31/17				
Purchases by Company	2,400,200	$ 43.61	2,400,200	$ 469,275,694
8/1/17 - 8/31/17				
Purchases by Company	3,110,953	38.82	3,110,953	348,504,285
9/1/17 - 9/30/17				
Purchases by Company	—	—	—	348,504,285
7/1/17 - 7/31/17				
Purchases by affiliated purchaser	—	—	—	NA
8/1/17 - 8/31/17				
Purchases by affiliated purchaser	—	—	—	NA
9/1/17 - 9/30/17				
Purchases by affiliated purchaser	—	—	—	NA

During the three months ended September 30, 2017 , acquisitions of shares by the Company from certain employees in order to satisfy employee tax withholding requirements in connection with the vesting of restricted shares were not material.

The following information in Item 5 is not deemed to be "soliciting material" or to be "filed" with the SEC or subject to Regulation 14A or 14C under the Securities Exchange Act of 1934 ("Exchange Act") or to the liabilities of Section 18 of the Exchange Act, and will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Exchange Act, except to the extent the Company specifically incorporates it by reference into such a filing.

The line graph below compares the cumulative total shareholder return on our ordinary shares with the cumulative total return of companies on the Standard & Poor's ("S&P's") 500 Stock Index and the companies on the S&P 500 Industrials Index. This graph assumes the investment of $100 on September 30, 2012 and the reinvestment of all dividends since that date.

COMPANY/INDEX	Sep12	Sep13	Sep14	Sep15	Sep16	Sep17
Johnson Controls International plc	100.00	129.11	167.25	127.97	174.77	173.17
S&P 500 Industrials Index	100.00	128.46	150.00	144.50	172.97	211.61
S&P 500 Index	100.00	119.34	142.89	142.02	163.93	194.44



The Company's transfer agent's contact information is as follows:

Wells Fargo Bank, N.A.
Shareowner Services Department
P.O. Box 64874
St. Paul, MN 55164-0874
(877) 602-7397

ITEM 6 SELECTED FINANCIAL DATA

The following selected financial data reflects the results of operations, financial position data and ordinary share information for the fiscal years ended September 30, 2013 through September 30, 2017 (dollars in millions, except per share data).

	Year ended September 30,				
	2017	2016	2015	2014	2013
OPERATING RESULTS					
Net sales	$ 30,172	$ 20,837	$ 17,100	$ 16,717	$ 16,684
Segment EBITA (1)	4,258	2,754	2,327	2,084	1,989
Income from continuing operations attributable to Johnson Controls (6)	1,654	732	814	906	1,146
Net income (loss) attributable to Johnson Controls	1,611	(868)	1,563	1,215	1,178
Earnings per share from continuing operations (6)					
Basic	$ 1.77	$ 1.10	$ 1.24	$ 1.36	$ 1.68
Diluted	1.75	1.09	1.23	1.34	1.66
Return on average shareholders' equity attributable to Johnson Controls (2) (6)	7%	4%	8%	8%	10%
Capital expenditures	$ 1,343	$ 1,249	$ 1,135	$ 1,199	$ 1,377
Depreciation and amortization	1,188	953	860	955	952
Number of employees	121,000	209,000	139,000	168,000	170,000
FINANCIAL POSITION					
Working capital (as defined) (3)	$ 1,608	$ 369	$ 550	$ 989	$ 875
Total assets	51,884	63,179	29,590	32,777	31,646
Long-term debt	11,964	11,053	5,367	5,887	4,361
Total debt	13,572	12,759	6,208	6,100	5,218
Shareholders' equity attributable to Johnson Controls	20,447	24,118	10,335	11,270	12,273
Total debt to capitalization (4)	40%	35%	38%	35%	30%
Net book value per share (5)	$ 22.03	$ 25.77	$ 15.96	$ 16.93	$ 17.93
ORDINARY SHARE INFORMATION					
Dividends per share	$ 1.00	$ 1.16	$ 1.04	$ 0.88	$ 0.76
Market prices					
High	$ 46.17	$ 48.97	$ 54.52	$ 52.50	$ 43.49
Low	36.74	30.30	38.48	39.42	24.75
Weighted average shares (in millions)					
Basic	935.3	667.4	655.2	666.9	683.7
Diluted	944.6	672.6	661.5	674.8	689.2
Number of shareholders	40,260	41,299	35,425	36,687	38,067

(1) Segment earnings before interest, taxes and amortization ("EBITA") is calculated as income from continuing operations before income taxes and noncontrolling interests, excluding general corporate expenses, intangible asset amortization, net financing charges, significant restructuring and impairment costs, and net mark-to-market adjustments related to pension and postretirement plans. Refer to Note 19, "Segment Information," of the notes to consolidated financial statements for a reconciliation of segment EBITA to income from continuing operations before income taxes.

(2) Return on average shareholders' equity attributable to Johnson Controls ("ROE") represents income from continuing operations attributable to Johnson Controls divided by average shareholders' equity attributable to Johnson Controls.

(3) Working capital is defined as current assets less current liabilities, excluding cash, short-term debt, the current portion of long-term debt, and the current portion of assets and liabilities held for sale.

(4) Total debt to total capitalization represents total debt divided by the sum of total debt and shareholders' equity attributable to Johnson Controls.

(5) Net book value per share represents shareholders' equity attributable to Johnson Controls divided by the number of shares outstanding at the end of the period.

(6) Income from continuing operations attributable to Johnson Controls includes $367 million, $288 million, $215 million, $165 million and $191 million of significant restructuring and impairment costs in fiscal year 2017, 2016, 2015, 2014 and 2013, respectively. It also includes $(420) million, $393 million, $416 million, $187 million and $(420) million of net mark-to-market charges (gains) on pension and postretirement plans in fiscal year 2017, 2016, 2015, 2014 and 2013, respectively. The preceding amounts are stated on a pre-tax basis.

ITEM 7 MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

General

The Company operates in two primary businesses: Building Technologies & Solutions and Power Solutions. Building Technologies & Solutions provides facility systems and services including comfort and energy management for the residential and non-residential buildings markets, security products and services, fire detection and suppression products and services, and life safety products. Power Solutions designs and manufactures automotive batteries for the replacement and original equipment markets.

This discussion summarizes the significant factors affecting the consolidated operating results, financial condition and liquidity of the Company for the three-year period ended September 30, 2017 . This discussion should be read in conjunction with Item 8, the consolidated financial statements and the notes to consolidated financial statements.

Effective July 1, 2017, the Company reorganized the reportable segments within its Building Technologies & Solutions business to align with its new management reporting structure and business activities. Prior to this reorganization, Building Technologies & Solutions was comprised of five reportable segments for financial reporting purposes: Systems and Service North America, Products North America, Asia, Rest of World and Tyco. As a result of this change, Building Technologies & Solutions is now comprised of four reportable segments for financial reporting purposes: Building Solutions North America, Building Solutions EMEA/LA, Building Solutions Asia Pacific and Global Products. Historical information has been revised to reflect the new Building Technologies & Solutions reportable segments. Refer to Note 7, "Goodwill and Other Intangible Assets," and Note 19, "Segment Information," of the notes to consolidated financial statements for further information.

FISCAL YEAR 2017 COMPARED TO FISCAL YEAR 2016

Net Sales

	Year Ended September 30,		
(in millions)	2017	2016	Change
Net sales	$ 30,172	$ 20,837	45%

The increase in consolidated net sales was due to higher sales in the Building Technologies & Solutions business ($8,647 million) and Power Solutions business ($667 million), and the favorable impact of foreign currency translation ($21 million). Increased sales resulted from the Tyco Merger, as well as higher volumes in the Global Products segment, the impact of higher lead costs on pricing, and favorable pricing and product mix in the Power Solutions business. Excluding the impact of the Tyco Merger and foreign currency translation, consolidated net sales increased 4% as compared to the prior year. Refer to the segment analysis below within Item 7 for a discussion of net sales by segment.

Cost of Sales / Gross Profit

(in millions)	Year Ended September 30, 2017	2016	Change
Cost of sales	$ 20,833	$ 15,183	37%
Gross profit	9,339	5,654	65%
% of sales	31.0%	27.1%	

Cost of sales increased in fiscal 2017 as compared to fiscal 2016, with gross profit as a percentage of sales increasing by 390 basis points. Gross profit in the Building Technologies & Solutions business included the incremental gross profit related to the Tyco Merger, and higher volumes in the Global Products segment. Gross profit in the Power Solutions business was favorably impacted by favorable pricing and product mix net of lead cost increases and higher volumes, partially offset by higher operating costs. Net mark-to-market adjustments on pension and postretirement plans had a net favorable year-over-year impact on cost of sales of $169 million ($72 million gain in fiscal 2017 compared to a $97 million charge in fiscal 2016) primarily due to an increase in year-over-year discount rates and favorable U.S. investment returns versus expectations in the current year. Foreign currency translation had an unfavorable impact on cost of sales of approximately $21 million. Refer to the segment analysis below within Item 7 for a discussion of segment earnings before interest, taxes and amortization ("EBITA") by segment.

Selling, General and Administrative Expenses

(in millions)	Year Ended September 30, 2017	2016	Change
Selling, general and administrative expenses	$ 6,158	$ 4,190	47%
% of sales	20.4%	20.1%	

Selling, general and administrative expenses ("SG&A") increased by $1,968 million year over year, and SG&A as a percentage of sales increased by 30 basis points. The Building Technologies & Solutions business SG&A increased primarily due to incremental SG&A related to the Tyco Merger, partially offset by productivity savings and cost synergies. Foreign currency translation had an unfavorable impact on SG&A of $5 million. The net unfavorable year-over-year impact on SG&A resulting from transaction, integration and separation costs was $149 million. The net mark-to-market adjustments on pension and postretirement plans had a net favorable year-over-year impact on SG&A of $644 million ($348 million gain in fiscal 2017 compared to a $296 million charge in fiscal 2016) primarily due to an increase in year-over-year discount rates and favorable U.S. investment returns versus expectations in the current year. Refer to the segment analysis below within Item 7 for a discussion of segment EBITA by segment.

Restructuring and Impairment Costs

(in millions)	Year Ended September 30, 2017	2016	Change
Restructuring and impairment costs	$ 367	$ 288	27%

Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for further disclosure related to the Company's restructuring plans.

Net Financing Charges

(in millions)	Year Ended September 30, 2017	2016	Change
Net financing charges	$ 496	$ 289	72%

Net financing charges increased in fiscal 2017 as compared to fiscal 2016 primarily due to higher interest rates, higher average borrowing levels as a result of the debt assumed with the Tyco Merger, new debt issuances in the second quarter of fiscal year 2017 and debt exchange offer fees.

Equity Income

(in millions)	Year Ended September 30, 2017	2016	Change
Equity income	$ 240	$ 174	38%

The increase in equity income was primarily due to higher income at certain partially-owned affiliates of the Power Solutions business and the Johnson Controls - Hitachi ("JCH") joint venture in the Building Technologies & Solutions business. Refer to the segment analysis below within Item 7 for a discussion of segment EBITA by segment.

Income Tax Provision

(in millions)	Year Ended September 30, 2017	2016	Change
Income tax provision	$ 705	$ 197	*
Effective tax rate	28%	19%	

* Measure not meaningful

The U.S. federal statutory tax rate is being used as a comparison since the Company was a U.S. domiciled company for 11 months of 2016 and due to the Company's current legal entity structure. The effective rate is below the U.S. statutory rate for fiscal 2017 primarily due to the benefits of continuing global tax planning initiatives, non-U.S. tax rate differentials, tax audit closures, and a tax benefit due to changes in entity tax status, partially offset by the jurisdictional mix of significant restructuring and impairment costs, Tyco Merger transaction / integration costs and the establishment of a deferred tax liability on the outside basis difference of the Company's investment in certain subsidiaries related to the divestiture of the Scott Safety business. The effective rate is below the U.S. statutory rate for fiscal 2016 primarily due to the benefits of continuing global tax planning initiatives and foreign tax rate differentials, partially offset by the jurisdictional mix of restructuring and impairment costs, and the tax impacts of the merger and integration related costs. The fiscal 2017 effective tax rate increased as compared to the fiscal 2016 effective tax rate primarily due to the tax effects of transactions ($408 million), and the tax effects of restructuring and impairment costs ($37 million), partially offset by the tax effects of reserve and valuation allowance adjustments ($164 million) and tax planning initiatives. The fiscal year 2017 and 2016 global tax planning initiatives related primarily to foreign tax credit planning, changes in entity tax status, global financing structures and alignment of the Company's global business functions in a tax efficient manner. Refer to Note 18, "Income Taxes," of the notes to consolidated financial statements for further details.

Valuation Allowances

The Company reviews the realizability of its deferred tax asset valuation allowances on a quarterly basis, or whenever events or changes in circumstances indicate that a review is required. In determining the requirement for a valuation allowance, the historical and projected financial results of the legal entity or consolidated group recording the net deferred tax asset are considered, along with any other positive or negative evidence. Since future financial results may differ from previous estimates, periodic adjustments to the Company’s valuation allowances may be necessary.

In the fourth quarter of fiscal 2017, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that it was more likely than not that certain deferred tax assets primarily in Canada, China and Mexico would not be able to be realized, and it was more likely than not that certain deferred tax assets in Germany would be realized. Therefore, the Company recorded $27 million of net valuation allowances as income tax expense in the three month period ended September 30, 2017.

In the fourth quarter of fiscal 2016, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that no other material changes were needed to its valuation allowances. Therefore, there was no impact to income tax expense due to valuation allowance changes in the three month period or year ended September 30, 2016.

Uncertain Tax Positions

The Company is subject to income taxes in the U.S. and numerous non-U.S. jurisdictions. Judgment is required in determining its worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of the Company's business, there are many transactions and calculations where the ultimate tax determination is uncertain. The Company is regularly under audit by tax authorities.

During fiscal 2017, the Company settled a significant number of tax examinations impacting fiscal years 2006 to fiscal 2014. In the fourth quarter of fiscal 2017, income tax audit resolutions resulted in a net $191 million benefit to income tax expense.

The Company's federal income tax returns and certain non-U.S. income tax returns for various fiscal years remain under various stages of audit by the IRS and respective non-U.S. tax authorities. Although the outcome of tax audits is always uncertain, management believes that it has appropriate support for the positions taken on its tax returns and that its annual tax provisions included amounts sufficient to pay assessments, if any, which may be proposed by the taxing authorities. At September 30, 2017, the Company had recorded a liability for its best estimate of the probable loss on certain of its tax positions, the majority of which is included in other noncurrent liabilities in the consolidated statements of financial position. Nonetheless, the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ materially from the amounts accrued for each year.

Other Tax Matters

During fiscal 2017, the Company recorded $428 million of transaction and integration costs which generated a $69 million tax benefit.

During fiscal 2017, the Company recorded a discrete non-cash tax charge of $490 million related to establishment of a deferred tax liability on the outside basis difference of the Company's investment in certain subsidiaries of the Scott Safety business. This business is reported as net assets held for sale given the announced sale to 3M Company. Refer to Note 3, "Acquisitions and Divestitures," and Note 4, "Discontinued Operations," of the notes to consolidated financial statements for additional information.

In the fourth quarter of fiscal 2017, the Company recorded a tax charge of $53 million due to a change in the deferred tax liability related to the outside basis of certain nonconsolidated subsidiaries.

In the first quarter of fiscal 2017, the Company recorded a discrete tax benefit of $101 million due to changes in entity tax status.

During fiscal 2017 and 2016, the Company incurred significant charges for restructuring and impairment costs. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. A substantial portion of these charges do not generate a tax benefit due to the Company's current tax position in these jurisdictions and the underlying tax basis in the impaired assets, resulting in $65 million and $28 million incremental tax expense in fiscal 2017 and 2016, respectively.

During the fourth quarter of fiscal 2016, the Company completed its merger with Tyco. As a result of that transaction, the Company incurred incremental tax expense of $137 million. In preparation for the spin-off of the Automotive Experience business in the first quarter of fiscal 2017, the Company incurred incremental tax expense for continuing operations of $26 million in fiscal 2016.

Impacts of Tax Legislation and Change in Statutory Tax Rates

On October 13, 2016, the U.S. Treasury and the IRS released final and temporary Section 385 regulations. These regulations address whether certain instruments between related parties are treated as debt or equity. The Company does not expect that the regulations will have a material impact on its consolidated financial statements.

The "look-through rule," under subpart F of the U.S. Internal Revenue Code, expired for the Company on September 30, 2015. The "look-through rule" had provided an exception to the U.S. taxation of certain income generated by foreign subsidiaries. The rule was extended in December 2015 retroactive to the beginning of the Company's 2016 fiscal year. The retroactive extension was signed into legislation and was made permanent through the Company's 2020 fiscal year.

During the fiscal years ended 2017 and 2016, other tax legislation was adopted in various jurisdictions. These law changes did not have a material impact on the Company's consolidated financial statements.

Loss From Discontinued Operations, Net of Tax

(in millions)	Year Ended September 30, 2017	Year Ended September 30, 2016	Change
Loss from discontinued operations, net of tax	$ (34)	$ (1,516)	*

* Measure not meaningful

Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information.

Income Attributable to Noncontrolling Interests

(in millions)	Year Ended September 30, 2017	Year Ended September 30, 2016	Change
Income from continuing operations attributable to noncontrolling interests	$ 199	$ 132	51 %
Income from discontinued operations attributable to noncontrolling interests	9	84	-89 %

The increase in income from continuing operations attributable to noncontrolling interests for fiscal 2017 was primarily due to higher net income related to the JCH joint venture in the Building Technologies & Solutions business.

Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information regarding the Company's discontinued operations.

Net Income (Loss) Attributable to Johnson Controls

(in millions)	Year Ended September 30, 2017	Year Ended September 30, 2016	Change
Net income (loss) attributable to Johnson Controls	$ 1,611	$ (868)	*

* Measure not meaningful

The increase in net income (loss) attributable to Johnson Controls was primarily due to incremental operating income as a result of the Tyco Merger and a prior year net loss from discontinued operations, partially offset by an increase in the income tax provision and higher net financing charges. Fiscal 2017 diluted earnings (loss) per share attributable to Johnson Controls was $1.71 compared to ($1.29) in fiscal 2016 .

Comprehensive Income (Loss) Attributable to Johnson Controls

(in millions)	Year Ended September 30, 2017	Year Ended September 30, 2016	Change
Comprehensive income (loss) attributable to Johnson Controls	$ 1,710	$ (964)	*

* Measure not meaningful

The increase in comprehensive income (loss) attributable to Johnson Controls was due to higher net income (loss) attributable to Johnson Controls ($2,479 million) and an increase in other comprehensive loss attributable to Johnson Controls ($195 million) primarily related to favorable foreign currency translation adjustments. These year-over-year favorable foreign currency translation adjustments were primarily driven by the strengthening of the euro and British pound currencies against the U.S. dollar, partially offset by the weakening of the Japanese yen currency against the U.S. dollar.

SEGMENT ANALYSIS

Management evaluates the performance of its business units based primarily on segment EBITA, which is defined as income from continuing operations before income taxes and noncontrolling interests, excluding general corporate expenses, intangible asset amortization, net financing charges, significant restructuring and impairment costs, and net mark-to-market adjustments on pension and postretirement plans.

Building Technologies & Solutions

	Net Sales for the Year Ended September 30,			Segment EBITA for the Year Ended September 30,		
(in millions)	2017	2016	Change	2017	2016	Change
Building Solutions North America	$ 8,341	$ 4,687	78%	$ 1,039	$ 494	*
Building Solutions EMEA/LA	3,595	1,613	*	290	74	*
Building Solutions Asia Pacific	2,444	1,736	41%	323	222	45%
Global Products	8,455	6,148	38%	1,179	637	85%
	$ 22,835	$ 14,184	61%	$ 2,831	$ 1,427	98%

* Measure not meaningful

Net Sales:

- The increase in Building Solutions North America was due to incremental sales related to the Tyco Merger including current year nonrecurring purchase accounting adjustments ($3,689 million), the impact of prior year nonrecurring purchase accounting adjustments ($15 million) and the favorable impact of foreign currency translation ($5 million), partially offset by a prior year business divestiture ($32 million) and lower installation volumes ($23 million).

- The increase in Building Solutions EMEA/LA was due to incremental sales related to the Tyco Merger including current year nonrecurring purchase accounting adjustments ($1,982 million), higher volumes ($7 million), the impact of prior year nonrecurring purchase accounting adjustments ($5 million) and the favorable impact of foreign currency translation ($3 million), partially offset by a business divestiture ($15 million).

- The increase in Building Solutions Asia Pacific was due to incremental sales related to the Tyco Merger including current year nonrecurring purchase accounting adjustments ($653 million), higher volumes of equipment and control systems ($41 million), and higher service volumes ($38 million), partially offset by the unfavorable impact of foreign currency translation ($24 million). The increase in volume was driven by favorable local economic conditions.

- The increase in Global Products was due to incremental sales related to the Tyco Merger including current year nonrecurring purchase accounting adjustments ($2,157 million), higher volumes ($221 million) and the favorable impact of foreign currency translation ($20 million), partially offset by lower volumes related to business divestitures and deconsolidation ($91 million). The increase in volumes was primarily attributable to new product offerings.

Segment EBITA:

- The increase in Building Solutions North America was due to incremental income related to the Tyco Merger ($567 million), the net impact of prior year and current year nonrecurring purchase accounting adjustments ($52 million), favorable mix ($9 million), lower selling, general and administrative expenses ($3 million) as a result of productivity and synergy savings net of a prior year gain on business divestiture, the favorable impact of foreign currency translation ($1 million) and prior year transaction costs ($1 million), partially offset by current year integration costs ($42 million), higher operating costs as a result of channel investments ($25 million), current year transaction costs ($13 million), lower volumes ($6 million) and a prior year business divestiture ($2 million).

- The increase in Building Solutions EMEA/LA was due to incremental income related to the Tyco Merger ($221 million), the net impact of prior year and current year nonrecurring purchase accounting adjustments ($33 million), lower selling, general and administrative expenses as a result of productivity and synergy savings ($23 million), favorable mix ($7 million), higher volumes ($2 million) and prior year transaction costs ($1 million), partially offset by a current year unfavorable arbitration award ($50 million), current year integration costs ($6 million), lower equity income ($6 million),

current year transaction costs ($5 million), the unfavorable impact of foreign currency translation ($3 million) and a prior year business divestiture ($1 million).

- The increase in Building Solutions Asia Pacific was due to incremental income related to the Tyco Merger ($73 million), lower selling, general and administrative expenses as a result of productivity savings ($24 million), higher volumes ($20 million) and the favorable impact of foreign currency translation ($1 million), partially offset by unfavorable mix ($6 million), current year integration costs ($5 million), higher operating costs ($4 million) and current year transaction costs ($2 million).

- The increase in Global Products was due to incremental income related to the Tyco Merger ($474 million), higher volumes ($55 million), lower selling, general and administrative expenses as a result of productivity and synergy savings ($41 million), higher equity income ($33 million), prior year integration costs ($20 million), prior year transaction costs ($14 million) and lower operating costs ($13 million), partially offset by the net impact of prior year and current year nonrecurring purchase accounting adjustments ($42 million), current year integration costs ($25 million), unfavorable mix ($16 million), current year transaction costs ($13 million), the unfavorable impact of foreign currency translation ($5 million), a prior year gain on acquisition of partially-owned affiliate ($4 million) and business divestitures ($3 million).

Power Solutions

	Year Ended September 30,		
(in millions)	2017	2016	Change
Net sales	$ 7,337	$ 6,653	10%
Segment EBITA	1,427	1,327	8%

- Net sales increased due to the impact of higher lead costs on pricing ($427 million) favorable pricing and product mix ($154 million), higher sales volumes ($86 million) and the favorable impact of foreign currency translation ($17 million). The increase in volumes was driven by start-stop battery volumes and growth in China. Additionally, higher start-stop volumes contributed to favorable product mix.

- Segment EBITA increased due to favorable pricing and product mix net of lead cost increases ($106 million), lower selling, general and administrative expenses as a result of productivity savings ($39 million), higher equity income ($28 million), higher volumes ($27 million), prior year restructuring and impairment costs included in equity income ($7 million), prior year transaction costs ($1 million) and the favorable impact of foreign currency translation ($1 million), partially offset by higher operating costs primarily driven by efforts to satisfy growing customer demand ($108 million) and current year transaction costs ($1 million).

FISCAL YEAR 2016 COMPARED TO FISCAL YEAR 2015

Net Sales

	Year Ended September 30,		
(in millions)	2016	2015	Change
Net sales	$ 20,837	$ 17,100	22%

The increase in consolidated net sales was due to higher sales in the Building Technologies & Solutions business ($3,837 million) and Power Solutions business ($243 million), partially offset by the unfavorable impact of foreign currency translation ($343 million). Excluding the unfavorable impact of foreign currency translation, consolidated net sales increased 24% as compared to the prior year. Increased sales resulted from the JCH joint venture and the Tyco Merger, as well as higher volumes in the Building Solutions North America segment, higher global battery shipments and favorable product mix in the Power Solutions business. Refer to the segment analysis below within Item 7 for a discussion of net sales by segment.

Cost of Sales / Gross Profit

(in millions)	Year Ended September 30, 2016	2015	Change
Cost of sales	$ 15,183	$ 12,569	21%
Gross profit	5,654	4,531	25%
% of sales	27.1%	26.5%	

Cost of sales increased in fiscal 2016 as compared to fiscal 2015, with gross profit as a percentage of sales increasing by 60 basis points. Foreign currency translation had a favorable impact on cost of sales of approximately $253 million. Gross profit in the Building Technologies & Solutions business included the incremental gross profit related to the JCH joint venture and Tyco Merger, and higher volumes in the Building Solutions North America segment. Gross profit in the Power Solutions business was favorably impacted by higher volumes, and favorable pricing and product mix, partially offset by higher operating costs. Net mark-to-market adjustments on pension and postretirement plans had a net favorable year over year impact on cost of sales of $56 million ($97 million charge in fiscal 2016 compared to a $153 million charge in fiscal 2015) primarily due to the unfavorable U.S. investment returns versus expectations and the adoption of new mortality rate changes in the U.S. in the prior year, partially offset by a decrease in year-over-year discount rates. Refer to the segment analysis below within Item 7 for a discussion of segment EBITA by segment.

Selling, General and Administrative Expenses

(in millions)	Year Ended September 30, 2016	2015	Change
Selling, general and administrative expenses	$ 4,190	$ 3,191	31%
% of sales	20.1%	18.7%	

SG&A increased by $999 million year over year, and SG&A as a percentage of sales increased by 140 basis points. The net mark-to-market adjustments on pension and postretirement plans had a net unfavorable year over year impact on SG&A of $33 million ($296 million charge in fiscal 2016 compared to a $263 million charge in fiscal 2015) primarily due to a decrease in year-over-year discount rates, partially offset by the unfavorable U.S. investment returns versus expectations and the adoption of new mortality rate changes in the U.S. in the prior year. Additionally, the net unfavorable impact on SG&A resulting from transaction and integration costs was $130 million. Excluding the impact of transaction and integrations costs, the Building Technologies & Solutions business SG&A increased primarily due to incremental SG&A related to the JCH joint venture and Tyco Merger, and product and sales force investments in North America. The Power Solutions business SG&A decreased primarily due to lower employee related expenses and cost reduction initiatives. Foreign currency translation had a favorable impact on SG&A of $44 million. Refer to the segment analysis below within Item 7 for a discussion of segment EBITA by segment.

Restructuring and Impairment Costs

(in millions)	Year Ended September 30, 2016	2015	Change
Restructuring and impairment costs	$ 288	$ 215	34%

Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for further disclosure related to the Company's restructuring plans.

Net Financing Charges

(in millions)	Year Ended September 30, 2016	2015	Change
Net financing charges	$ 289	$ 274	5%

Net financing charges increased in fiscal 2016 as compared to fiscal 2015 primarily due to higher average borrowing levels; in part due to the acquisition of debt as a result of the Tyco Merger.

Equity Income

(in millions)	Year Ended September 30, 2016	2015	Change
Equity income	$ 174	$ 80	*

* Measure not meaningful

The increase in equity income was primarily due to current year income related to partially-owned affiliates of the JCH joint venture in the Building Technologies & Solutions business. Refer to the segment analysis below within Item 7 for a discussion of segment EBITA by segment.

Income Tax Provision

(in millions)	Year Ended September 30, 2016	2015	Change
Income tax provision	$ 197	$ 71	*
Effective tax rate	19%	8%	

* Measure not meaningful

The U.S. federal statutory tax rate is being used as a comparison since the Company was a U.S. domiciled company in fiscal 2015 and for 11 months of 2016. The effective rate is below the U.S. statutory rate for fiscal 2016 primarily due to the benefits of continuing global tax planning initiatives and foreign tax rate differentials, partially offset by the jurisdictional mix of restructuring and impairment costs, and the tax impacts of the merger and integration related costs. The effective rate is below the U.S. statutory rate for fiscal 2015 primarily due to the benefits of continuing global tax planning initiatives, income in certain non-U.S. jurisdictions with a tax rate lower than the U.S. statutory tax rate and adjustments due to tax audit resolutions. The fiscal 2016 effective tax rate increased as compared to the fiscal 2015 effective tax rate primarily due to the tax effects of transactions ($163 million), reserve and valuation allowance adjustments ($99 million), and the tax effects of restructuring and impairment costs ($28 million), partially offset by tax planning initiatives ($164 million). The fiscal year 2016 and 2015 global tax planning initiatives related primarily to foreign tax credit planning, global financing structures and alignment of the Company's global business functions in a tax efficient manner. Refer to Note 18, "Income Taxes," of the notes to consolidated financial statements for further details.

Valuation Allowances

The Company reviews the realizability of its deferred tax asset valuation allowances on a quarterly basis, or whenever events or changes in circumstances indicate that a review is required. In determining the requirement for a valuation allowance, the historical and projected financial results of the legal entity or consolidated group recording the net deferred tax asset are considered, along with any other positive or negative evidence. Since future financial results may differ from previous estimates, periodic adjustments to the Company’s valuation allowances may be necessary.

In the fourth quarter of fiscal 2016, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that no other material changes were needed to its valuation allowances. Therefore, there was no impact to income tax expense due to valuation allowance changes in the three month period or year ended September 30, 2016.

In the fourth quarter of fiscal 2015, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that it was more likely than not that certain deferred tax assets primarily within Spain, Germany, and the United Kingdom would not be realized, and was more likely than not that certain deferred tax assets of Poland and Germany would be realized. The impact of the net valuation allowance provision offset the benefit of valuation allowance releases and, as such, there was no net impact to income tax expense in the three month period or year ended September 30, 2015.

Uncertain Tax Positions

The Company is subject to income taxes in the U.S. and numerous non-U.S. jurisdictions. Judgment is required in determining its worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of the Company's business, there are many transactions and calculations where the ultimate tax determination is uncertain. The Company is regularly under audit by tax authorities.

During fiscal 2015, the Company settled a significant number of tax examinations in Germany, Mexico and the U.S., impacting fiscal years 1998 to fiscal 2012. The settlement of unrecognized tax benefits included cash payments for approximately $440 million and the loss of various tax attributes. The reduction for tax positions of prior years is substantially related to foreign exchange rates. In the fourth quarter of fiscal 2015, income tax audit resolutions resulted in a net $99 million benefit to income tax expense.

The Company's federal income tax returns and certain non-U.S. income tax returns for various fiscal years remain under various stages of audit by the IRS and respective non-U.S. tax authorities. Although the outcome of tax audits is always uncertain, management believes that it has appropriate support for the positions taken on its tax returns and that its annual tax provisions included amounts sufficient to pay assessments, if any, which may be proposed by the taxing authorities. At September 30, 2016, the Company had recorded a liability for its best estimate of the probable loss on certain of its tax positions, the majority of which is included in other noncurrent liabilities in the consolidated statements of financial position. Nonetheless, the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ materially from the amounts accrued for each year.

Other Tax Matters

During fiscal 2016 and 2015, the Company incurred significant charges for restructuring and impairment costs. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. A substantial portion of these charges do not generate a tax benefit due to the Company's current tax position in these jurisdictions and the underlying tax basis in the impaired assets, resulting in $28 million incremental tax expense in fiscal 2016.

During the fourth quarter of fiscal 2016, the Company completed its merger with Tyco. As a result of that transaction, the Company incurred incremental tax expense of $137 million. In preparation for the spin-off of the Automotive Experience business in the first quarter of fiscal 2017, the Company incurred incremental tax expense for continuing operations of $26 million in fiscal 2016.

Impacts of Tax Legislation and Change in Statutory Tax Rates

After the fourth quarter of fiscal 2016, on October 13, 2016, the U.S. Treasury and the IRS released final and temporary Section 385 regulations. These regulations address whether certain instruments between related parties are treated as debt or equity. The Company does not expect that the regulations will have a material impact on its consolidated financial statements.

The "look-through rule," under subpart F of the U.S. Internal Revenue Code, expired for the Company on September 30, 2015. The "look-through rule" had provided an exception to the U.S. taxation of certain income generated by foreign subsidiaries. The rule was extended in December 2015 retroactive to the beginning of the Company's 2016 fiscal year. The retroactive extension was signed into legislation and was made permanent through the Company's 2020 fiscal year.

In the second quarter of fiscal 2015, tax legislation was adopted in Japan which reduced its statutory income tax rate. As a result of the law change, the Company recorded income tax expense of $17 million in the second quarter of fiscal 2015.

During the fiscal years ended 2016 and 2015, other tax legislation was adopted in various jurisdictions. These law changes did not have a material impact on the Company's consolidated financial statements.

Income (Loss) From Discontinued Operations, Net of Tax

(in millions)	Year Ended September 30, 2016	2015	Change
Income (loss) from discontinued operations, net of tax	$ (1,516)	$ 819	*

* Measure not meaningful

Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information.

Income Attributable to Noncontrolling Interests

(in millions)	Year Ended September 30, 2016	2015	Change
Income from continuing operations attributable to noncontrolling interests	$ 132	$ 46	*
Income from discontinued operations attributable to noncontrolling interests	84	70	20%

* Measure not meaningful

The increase in income from continuing operations attributable to noncontrolling interests for fiscal 2016 was primarily due to current year income related to the JCH joint venture in the Building Technologies & Solutions business.

Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information regarding the Company's discontinued operations.

Net Income (Loss) Attributable to Johnson Controls

(in millions)	Year Ended September 30, 2016	2015	Change
Net income (loss) attributable to Johnson Controls	$ (868)	$ 1,563	*

* Measure not meaningful

The decrease in net income (loss) attributable to Johnson Controls was primarily due to a net loss from discontinued operations, higher SG&A primarily due to higher transaction costs in the current year, an increase in the income tax provision, and current year restructuring and impairment costs, partially offset by higher gross profit. Fiscal 2016 diluted earnings (loss) per share attributable to Johnson Controls was ($1.29) compared to $2.36 in fiscal 2015 .

Comprehensive Income (Loss) Attributable to Johnson Controls

(in millions)	Year Ended September 30, 2016	2015	Change
Comprehensive income (loss) attributable to Johnson Controls	$ (964)	$ 743	*

* Measure not meaningful

The decrease in comprehensive income (loss) attributable to Johnson Controls was due to lower net income (loss) attributable to Johnson Controls ($2,431 million), partially offset by a decrease in other comprehensive loss attributable to Johnson Controls ($724 million) primarily related to favorable foreign currency translation adjustments. These year-over-year favorable foreign currency translation adjustments were primarily driven by the weakening of the Brazilian real, Canadian dollar, Colombian peso, euro and Japanese currencies against the U.S. dollar in the prior year.

Segment Analysis

Management evaluates the performance of its business units based primarily on segment EBITA, which is defined as income from continuing operations before income taxes and noncontrolling interests, excluding general corporate expenses, intangible asset amortization, net financing charges, significant restructuring and impairment costs, and net mark-to-market adjustments on pension and postretirement plans.

Building Technologies & Solutions

	Net Sales for the Year Ended September 30,			Segment EBITA for the Year Ended September 30,		
(in millions)	2016	2015	Change	2016	2015	Change
Building Solutions North America	$ 4,687	$ 4,270	10%	$ 494	$ 416	19%
Building Solutions EMEA/LA	1,613	1,549	4%	74	45	64%
Building Solutions Asia Pacific	1,736	1,651	5%	222	211	5%
Global Products	6,148	3,040	*	637	414	54%
	$ 14,184	$ 10,510	35%	$ 1,427	$ 1,086	31%

* Measure not meaningful

Net Sales:

- The increase in Building Solutions North America was due to incremental sales related to the Tyco Merger ($335 million), and higher volumes of controls systems and service ($172 million), partially offset by lower volumes related to business divestitures ($52 million), the unfavorable impact of foreign currency translation ($23 million) and the impact of nonrecurring purchase accounting adjustments ($15 million). The increase in volumes was primarily attributable to market share gains.

- The increase in Building Solutions EMEA/LA was due to incremental sales related to the Tyco Merger ($195 million) and incremental sales related to a business acquisition ($7 million), partially offset by the unfavorable impact of foreign currency translation ($77 million), lower volumes ($56 million) and the impact of nonrecurring purchase accounting adjustments ($5 million). The net decrease in volumes was primarily attributable to unfavorable local market conditions.

- The increase in Building Solutions Asia Pacific was due to incremental sales related to the Tyco Merger ($68 million) and higher volumes ($65 million), partially offset by the unfavorable impact of foreign currency translation ($48 million). The increase in volumes was primarily driven favorable local economic conditions.

- The increase in Global Products was due to incremental sales related to the JCH joint venture ($2,808 million), incremental sales related to the Tyco Merger ($230 million) and higher volumes ($85 million), partially offset by the unfavorable impact of foreign currency translation ($15 million). The increase in volume was driven by new product offerings.

Segment EBITA:

- The increase in Building Solutions North America was due to incremental income related to the Tyco Merger ($54 million), higher volumes ($38 million), lower selling, general and administrative expenses ($34 million) as a result of restructuring actions and other cost reduction initiatives and a current year gain on business divestiture net of a prior year gain on business divestitures, and prior year transaction and integration costs ($4 million), partially offset by the impact of nonrecurring purchase accounting adjustments ($28 million), unfavorable margin rates ($13 million), lower income due to a prior year business divestiture ($5 million), the unfavorable impact of foreign currency translation ($3 million), a pension settlement loss ($2 million), and current year transaction and integration costs ($1 million).

- The increase in Building Solutions EMEA/LA was due to incremental income related to the Tyco Merger ($24 million), favorable margin rates ($22 million), lower selling, general and administrative expenses ($10 million), and prior year transaction and integration costs ($1 million), partially offset by lower volumes ($12 million), the impact of nonrecurring purchase accounting adjustments ($10 million), lower equity income ($3 million), the unfavorable impact of foreign currency translation ($2 million), and current year transaction and integration costs ($1 million).

- The increase in Building Solutions Asia Pacific was due to lower selling, general and administrative expenses ($20 million), higher volumes ($16 million), incremental income related to the Tyco Merger ($6 million), and prior year transaction and integration costs ($1 million), partially offset by unfavorable margin rates ($22 million), the unfavorable impact of foreign currency translation ($8 million) and the impact of nonrecurring purchase accounting adjustments ($2 million).

- The increase in Global Products was due to incremental income related to the JCH joint venture exclusive of global investments in related products and technologies ($307 million), incremental income related to the Tyco Merger ($51 million), higher volumes ($32 million), prior year transaction and integration costs ($31 million), a gain on a partially-owned affiliate ($4 million) and higher equity income ($1 million), partially offset by higher selling, general and administrative expenses ($116 million) due to global product and related sales force investments and a prior year gain on business divestitures, current year transaction and integration costs ($35 million), nonrecurring purchase accounting adjustments ($29 million), unfavorable margin rates ($16 million), the unfavorable impact of foreign currency translation ($4 million) and a pension settlement loss ($3 million).

Power Solutions

	Year Ended September 30,		
(in millions)	2016	2015	Change
Net sales	$ 6,653	$ 6,590	1%
Segment EBITA	1,327	1,241	7%

- Net sales increased due to higher sales volumes ($246 million), and favorable pricing and product mix ($105 million), partially offset by the unfavorable impact of foreign currency translation ($180 million) and the impact of lower lead costs on pricing ($108 million). The increase in volumes was primarily driven by start-stop battery volumes and growth in China. Additionally, higher start-stop volumes contributed to favorable product mix.

- Segment EBITA increased due to higher volumes ($77 million), favorable pricing and product mix ($55 million), and lower selling, general and administrative expenses due to lower employee related expenses and cost reduction initiatives ($41 million), partially offset by higher operating costs primarily driven by efforts to increase supply to satisfy growing customer demand and launch new capacity in China ($48 million), the unfavorable impact of foreign currency translation ($29 million), restructuring and impairment costs included in equity income ($7 million), a pension settlement loss ($1 million), transaction costs ($1 million) and lower equity income ($1 million).

GOODWILL, LONG-LIVED ASSETS AND OTHER INVESTMENTS

Goodwill at September 30, 2017 was $19.7 billion, $1.3 billion lower than the prior year. The decrease was primarily due to business divestitures.

Goodwill reflects the cost of an acquisition in excess of the fair values assigned to identifiable net assets acquired. The Company reviews goodwill for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired. The Company performs impairment reviews for its reporting units, which have been determined to be the Company's reportable segments or one level below the reportable segments in certain instances, using a fair value method based on management's judgments and assumptions or third party valuations. The fair value of a reporting unit refers to the price that would be received to sell the unit as a whole in an orderly transaction between market participants at the measurement date. In estimating the fair value, the Company uses multiples of earnings based on the average of historical, published multiples of earnings of comparable entities with similar operations and economic characteristics. In certain instances, the Company uses discounted cash flow analyses or estimated sales price to further support the fair value estimates. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement." The estimated

fair value is then compared with the carrying amount of the reporting unit, including recorded goodwill. The Company is subject to financial statement risk to the extent that the carrying amount exceeds the estimated fair value.

The assumptions included in the impairment tests require judgment, and changes to these inputs could impact the results of the calculations. Other than management's projections of future cash flows, the primary assumptions used in the impairment tests were the weighted-average cost of capital and long-term growth rates. Although the Company's cash flow forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management is using to operate the underlying businesses, there are significant judgments in determining the expected future cash flows attributable to a reporting unit.

Indefinite-lived other intangible assets are also subject to at least annual impairment testing. A considerable amount of management judgment and assumptions are required in performing the impairment tests. While the Company believes the judgments and assumptions used in the impairment tests are reasonable and no impairments of goodwill or indefinite-lived assets existed during fiscal years 2017 , 2016 and 2015 , different assumptions could change the estimated fair values and, therefore, impairment charges could be required, which could be material to the consolidated financial statements.

The Company reviews long-lived assets, including property, plant and equipment and other intangible assets with definite lives, for impairment whenever events or changes in circumstances indicate that the asset’s carrying amount may not be recoverable. The Company conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets" and ASC 985-20, "Costs of software to be sold, leased, or marketed." ASC 360-10-15 requires the Company to group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the sum of the undiscounted future cash flows. If the undiscounted cash flows do not indicate the carrying amount of the asset is recoverable, an impairment charge is measured as the amount by which the carrying amount of the asset group exceeds its fair value based on discounted cash flow analysis or appraisals. ASC 985-20 requires the unamortized capitalized costs of a computer software product be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset shall be written off.

In fiscal 2017, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2017. As a result, the Company reviewed the long-lived assets for impairment and recorded $77 million of asset impairment charges within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charges, $30 million related to the Building Solutions North America segment, $20 million related to the Global Products segment, $19 million related to Corporate assets, $7 million related to the Power Solutions segment and $1 million related to the Building Solutions Asia Pacific segment. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were measured, depending on the asset, under either an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

In the second, third and fourth quarters of fiscal 2016, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2016. As a result, the Company reviewed the long-lived assets for impairment and recorded $103 million of asset impairment charges within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charges, $64 million related to the Power Solutions segment, $24 million related to Corporate assets, $8 million related to the Global Products segment, $4 million related to the Building Solutions Asia Pacific segment and $3 million related to the Building Solutions EMEA/LA segment. In addition, the Company recorded $87 million of asset impairments within discontinued operations related to Adient in fiscal 2016. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were measured, depending on the asset, under either an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

In the fourth quarter of fiscal 2015, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its announced restructuring actions and the intention to spin-off the Automotive Experience business. As a result, the Company reviewed the long-lived assets for impairment and recorded a $156 million impairment charge within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charge, $139 million related to Corporate assets, $16 million related to the Building Solutions EMEA/LA segment and $1 million

related to the Building Solutions North America segment. In addition, the Company recorded $27 million of asset impairments within discontinued operations related to Adient in fiscal 2015. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairment was measured, depending on the asset, either under an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

Investments in partially-owned affiliates ("affiliates") at September 30, 2017 were $1.2 billion , $0.2 billion higher than the prior year. The increase was primarily due to equity income from partially-owned affiliates in the Power Solutions business and the JCH joint venture.

LIQUIDITY AND CAPITAL RESOURCES

Working Capital

(in millions)	September 30, 2017	September 30, 2016	Change
Current assets	$ 12,292	$ 17,109	
Current liabilities	(11,854)	(16,331)	
	438	778	-44 %
Less: Cash	(321)	(579)	
Add: Short-term debt	1,214	1,078	
Add: Current portion of long-term debt	394	628	
Less: Assets held for sale	(189)	(5,812)	
Add: Liabilities held for sale	72	4,276	
Working capital (as defined)	$ 1,608	$ 369	*
Accounts receivable	$ 6,666	$ 6,394	4 %
Inventories	3,209	2,888	11 %
Accounts payable	4,271	4,000	7 %

* Measure not meaningful

- The Company defines working capital as current assets less current liabilities, excluding cash, short-term debt, the current portion of long-term debt, and the current portion of assets and liabilities held for sale. Management believes that this measure of working capital, which excludes financing-related items and businesses to be divested, provides a more useful measurement of the Company’s operating performance.

- The increase in working capital at September 30, 2017 as compared to September 30, 2016 , was primarily due to current year income tax payments related to the Adient-spin off, an increase in inventory to meet anticipated customer demand and an increase in accounts receivable due to timing of customer receipts, partially offset by an increase in accounts payable due to timing and mix of supplier payments.

- The Company’s days sales in accounts receivable at September 30, 2017 were 65, a slight increase from 63 at September 30, 2016 . There has been no significant adverse change in the level of overdue receivables or changes in revenue recognition methods. Increased volumes in certain of the segments contributed to the increase.

- The Company’s inventory turns for the year ended September 30, 2017 were lower than the comparable period ended September 30, 2016 primarily due to a build of Power Solutions inventory levels to meet customer demand.

- Days in accounts payable at September 30, 2017 were 73 days, higher than 69 days at the comparable period ended September 30, 2016 .

Cash Flows

(in millions)	Year Ended September 30, 2017	Year Ended September 30, 2016
Cash provided by operating activities	$ 12	$ 1,895
Cash used by investing activities	(1,137)	(887)
Cash provided (used) by financing activities	717	(933)
Capital expenditures	(1,343)	(1,249)

- The decrease in cash provided by operating activities was primarily due to higher income tax payments related to the Adient spin-off ($1.2 billion in the first quarter of fiscal 2017) and the movement in trade working capital balances.

- The increase in cash used by investing activities was primarily due to cash acquired in the Tyco Merger in the prior year and an increase in capital expenditures, partially offset by cash received from business divestitures in the current year.

- The increase in cash provided by financing activities was primarily due to the net dividend proceeds from the Adient spin-off, an increase in long-term debt and higher dividends paid to noncontrolling interests related to the JCH joint venture in the prior year, partially offset by a net decrease in short-term debt borrowings.

- The increase in capital expenditures in the current year is primarily related to higher capital investments in the current year in the Building Technologies & Solutions and Power Solutions businesses, partially offset by lower capital investments in the Automotive Experience business due to the Adient spin-off.

Capitalization

(in millions)	September 30, 2017	September 30, 2016	Change
Short-term debt	$ 1,214	$ 1,078	
Current portion of long-term debt	394	628	
Long-term debt	11,964	11,053	
Total debt	$ 13,572	$ 12,759	6 %
Shareholders' equity attributable to Johnson Controls ordinary shareholders	20,447	24,118	-15 %
Total capitalization	$ 34,019	$ 36,877	-8 %
Total debt as a % of total capitalization	40%	35%	

- The Company believes the percentage of total debt to total capitalization is useful to understanding the Company's financial condition as it provides a review of the extent to which the Company relies on external debt financing for its funding and is a measure of risk to its shareholders.

- Shareholders' equity attributable to Johnson Controls ordinary shareholders decreased as a result of the Adient spin-off in October 2016. Refer to Note 5, "Discontinued Operations," of the notes to consolidated financial statements for further information.

- In connection with the Tyco Merger, on December 28, 2016, the Company completed its offers to exchange all validly tendered and accepted notes of certain series (the existing notes) issued by JCI Inc. or Tyco International Finance S.A. ("TIFSA"), as applicable, each of which is a wholly owned subsidiary of the Company, for new notes (the "New Notes") to be issued by the Company, and the related solicitation of consents to amend the indentures governing the existing notes (the offers to exchange and the related consent solicitation together the "exchange offers"). Pursuant to the exchange offers, the Company exchanged approximately $5.6 billion of $6.0 billion in aggregate principal amount of dollar denominated notes and approximately 423 million euro of 500 million euro in aggregate principal amount of euro denominated notes. All validly tendered and accepted existing notes have been canceled. Immediately following such cancellation, $380.9 million aggregate principal amount of existing notes (not including the TIFSA Euro Notes) remained outstanding across seventeen series of dollar-denominated existing notes and 77.4 million euro aggregate principal amount of TIFSA Euro Notes remained outstanding across one series. In connection with the settlement of the exchange offers, the New Notes

were registered under the Securities Act of 1933 and their terms are described in the Company's Prospectus dated December 19, 2016, as filed with the SEC under Rule 424(b)(3) of the Act on that date. The issuance of the New Notes occurred on December 28, 2016. The New Notes are unsecured and unsubordinated obligations of the Company and rank equally with all other unsecured and unsubordinated indebtedness of the Company issued from time to time.

- In connection with the Tyco Merger on September 2, 2016, JCI Inc., a wholly owned subsidiary of the Company, replaced its $2.5 billion committed five-year credit facility scheduled to mature in August 2018 with a $2.0 billion committed four-year credit facility scheduled to expire in August 2020. Also, in connection with the Tyco Merger on September 2, 2016, Tyco International Holding S.à.r.l ("TSarl"), a wholly owned subsidiary of the Company, entered into a four-year, $1.0 billion revolving credit agreement scheduled to expire in August 2020. The facilities are used to support the Company's outstanding commercial paper. There were no draws on either committed credit facility during the fiscal year ended September 30, 2017.

- Simultaneously with the closing of the Tyco Merger on September 2, 2016, TSarl borrowed $4.0 billion under the Term Loan Credit Agreement dated as of March 10, 2016 with a syndicate of lenders, providing for a three and a half year senior unsecured term loan facility to finance the cash consideration for, and fees, expenses and costs incurred in connection with the Merger. During fiscal 2017, the Company partially repaid $300 million of the $4.0 billion floating rate term loan scheduled to expire in March 2020. As of September 30, 2017, the outstanding term loan balance was $3.7 billion. In October 2017, the Company completed the previously announced sale of its Scott Safety business to 3M, and net cash proceeds from the transaction of $1.9 billion were used to further repay a significant portion of the $4.0 billion term loan.

- At September 30, 2017, the Company had committed bilateral U.S. dollar denominated revolving credit facilities totaling $550 million, which are scheduled to expire in fiscal 2018. There were no draws on any of these revolving facilities as of September 30, 2017.

- In September 2017, the Company entered into a 364-day 150 million euro, floating rate, term loan scheduled to expire in September 2018. Proceeds from the loan were used for general corporate purposes.

- In September 2017, the Company entered into five-year 35 billion yen syndicated floating rate term loan scheduled to expire in September 2022. Proceeds from the loan were used for general corporate purposes.

- In July 2017, the Company retired $150 million in principal amount, plus accrued interest, of its 7.125% fixed rate notes that expired in July 2017.

- In July 2017, the Company repurchased, at a discount, 4 million euro of its TIFSA 1.375% fixed rate notes, plus accrued interest, scheduled to expire in 2025.

- In March 2017, the Company issued one billion euro in principal amount of 1.0% senior unsecured fixed rate notes due in fiscal 2023. Proceeds from the issuance were used to repay existing debt and for other general corporate purposes.

- In March 2017, the Company entered into a 364-day $150 million committed revolving credit facility scheduled to expire in March 2018. As of September 30, 2017, there were no draws on the facility.

- In March 2017, the Company retired $46 million in principal amount, plus accrued interest, of its 2.355% fixed rate notes that expired in March 2017.

- In March 2017 and February 2017, the Company repurchased, at a discount, 15 million euro of its TIFSA 1.375% fixed rate notes, plus accrued interest, scheduled to expire in February 2025.

- In February 2017, the Company issued $500 million aggregate principal amount of 4.5% senior unsecured fixed rate notes due in fiscal 2047. Proceeds from the issuance were used to repay outstanding commercial paper borrowings and for other general corporate purposes.

- In February 2017, the Company entered into a 364-day $150 million committed revolving credit facility scheduled to expire in February 2018. As of September 30, 2017, there were no draws on the facility.

- In January 2017, the Company entered into a 364-day $250 million committed revolving credit facility scheduled to expire in January 2018. As of September 30, 2017, there were no draws on the facility.

- In December 2016, the Company retired $400 million in principal amount, plus accrued interest, of its 2.6% fixed rate notes that expired in December 2016.
- In December 2016, the Company entered into a 364-day 100 million euro floating rate term loan scheduled to mature in December 2017. Proceeds from the term loan were used for general corporate purposes. Principal and accrued interest were fully repaid in March 2017.
- In December 2016, a $100 million committed revolving credit facility expired. There were no draws on the facility.
- In November 2016, the Company fully repaid its 37 billion yen syndicated floating rate term loan, plus accrued interest, scheduled to expire in June 2020.
- In November 2016, a $35 million committed revolving credit facility expired. There were no draws on the facility.
- In October 2016, the Company repaid two ten-month floating rate term loans totaling $325 million, plus accrued interest, scheduled to expire in October 2016.
- In October 2016, the Company repaid a nine-month $100 million floating rate term loan, plus accrued interest, scheduled to expire in November 2016.
- In October 2016, the Company repaid a nine-month 100 million euro floating rate term loan, plus accrued interest, scheduled to expire in October 2016.
- The Company also selectively makes use of short-term credit lines other than its revolving credit facilities at the Company and TSarl. The Company estimates that, as of September 30, 2017 , it could borrow up to $1.4 billion based on average borrowing levels during the year on committed credit lines.
- The Company believes its capital resources and liquidity position at September 30, 2017 are adequate to meet projected needs. The Company believes requirements for working capital, capital expenditures, dividends, stock repurchases, minimum pension contributions, debt maturities and any potential acquisitions in fiscal 2018 will continue to be funded from operations, supplemented by short- and long-term borrowings, if required. The Company currently manages its short-term debt position in the U.S. and euro commercial paper markets and bank loan markets. In the event the Company and TSarl are unable to issue commercial paper, they would have the ability to draw on their $2.0 billion and $1.0 billion revolving credit facilities, respectively. Both facilities mature in August 2020. There were no draws on the revolving credit facilities as of September 30, 2017 . As such, the Company believes it has sufficient financial resources to fund operations and meet its obligations for the foreseeable future.
- The Company earns a significant amount of its operating income outside of the parent company. Outside basis differences in these subsidiaries are deemed to be permanently reinvested except in limited circumstances. However, in fiscal 2017, the Company provided income tax expense related to a change in the Company’s assertion over the outside basis difference of the Scott Safety business as a result of the pending divestiture as well as the outside basis of certain nonconsolidated subsidiaries. In addition, in fiscal 2016, the Company provided income tax expense related to a change in the Company's assertion over a portion of the permanently reinvested earnings as a result of the planned spin-off of the Automotive Experience business. The Company currently does not intend nor foresee a need to repatriate undistributed earnings included in the outside basis differences other than in tax efficient manners. Except as noted, the Company’s intent is to reduce basis differences only when it would be tax efficient. The Company expects existing U.S. cash and liquidity to continue to be sufficient to fund the Company’s U.S. operating activities and cash commitments for investing and financing activities for at least the next twelve months and thereafter for the foreseeable future. In the U.S., should the Company require more capital than is generated by its operations, the Company could elect to raise capital in the U.S. through debt or equity issuances. The Company has borrowed funds in the U.S. and continues to have the ability to borrow funds in the U.S. at reasonable interest rates. In addition, the Company expects existing non-U.S. cash, cash equivalents, short-term investments and cash flows from operations to continue to be sufficient to fund the Company’s non-U.S. operating activities and cash commitments for investing activities, such as material capital expenditures, for at least the next twelve months and thereafter for the foreseeable future. Should the Company require more capital at the Luxembourg and Ireland holding and financing entities, other than amounts that can be provided in tax efficient methods, the Company could also elect to raise capital through debt or equity issuances. These alternatives could result in increased interest expense or other dilution of the Company’s earnings.

- The Company's debt financial covenant in its revolving credit facility requires a minimum consolidated shareholders' equity attributable to Johnson Controls of at least $3.5 billion at all times. The revolving credit facility also limits the amount of debt secured by liens that may be incurred to a maximum aggregated amount of 10% of consolidated shareholders' equity attributable to Johnson Controls for liens and pledges. For purposes of calculating these covenants, consolidated shareholders' equity attributable to Johnson Controls is calculated without giving effect to (i) the application of Accounting Standards Codification ("ASC") 715-60, "Defined Benefit Plans - Other Postretirement," or (ii) the cumulative foreign currency translation adjustment. TSarl's revolving credit facility contains customary terms and conditions, and a financial covenant that limits the ratio of TSarl's debt to earnings before interest, taxes, depreciation, and amortization as adjusted for certain items set forth in the agreement to 3.5x. TSarl's revolving credit facility also limits its ability to incur subsidiary debt or grant liens on its and its subsidiaries' property. As of September 30, 2017 , the Company and TSarl were in compliance with all covenants and other requirements set forth in their credit agreements and the indentures, governing their notes, and expect to remain in compliance for the foreseeable future. None of the Company's or TSarl's debt agreements limit access to stated borrowing levels or require accelerated repayment in the event of a decrease in the respective borrower's credit rating.

- To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company committed to a significant restructuring plan in fiscal 2017 and recorded $367 million of restructuring and impairment costs in the consolidated statements of income. The restructuring action related to cost reduction initiatives in the Company's Building Technologies & Solutions and Power Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. The Company currently estimates that upon completion of the restructuring action, the fiscal 2017 restructuring plan will reduce annual operating costs from continuing operations by approximately $280 million, which is primarily the result of lower cost of sales and selling, general and administrative expenses due to reduced employee-related costs, depreciation and amortization expense. The Company expects the annual benefit of these actions will be substantially realized in fiscal 2018. For fiscal 2017, the savings, net of execution costs, were approximately 40% of the expected annual operating cost reduction. The restructuring action is expected to be substantially complete in fiscal 2018. The restructuring plan reserve balance of $239 million at September 30, 2017 is expected to be paid in cash.

- To better align its resources with its growth strategies and reduce the cost structure of its global operations to address the softness in certain underlying markets, the Company committed to a significant restructuring plan in fiscal 2016 and recorded $288 million of restructuring and impairment costs in the consolidated statements of income. The restructuring action related to cost reduction initiatives in the Company's Building Technologies & Solutions and Power Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures, asset impairments and change-in-control payments. The Company currently estimates that upon completion of the restructuring action, the fiscal 2016 restructuring plan will reduce annual operating costs from continuing operations by approximately $135 million, which is primarily the result of lower cost of sales and selling, general and administrative expenses due to reduced employee-related costs, depreciation and amortization expense. The Company expects the annual benefit of these actions will be substantially realized by the end of fiscal 2018. For fiscal 2017, the savings, net of execution costs, were approximately 35% of the expected annual operating cost reduction. The restructuring action is expected to be substantially complete in fiscal 2018. The restructuring plan reserve balance of $92 million at September 30, 2017 is expected to be paid in cash.

A summary of the Company's significant contractual obligations for continuing operations as of September 30, 2017 is as follows (in millions):

	Total	2018	2019-2020	2021-2022	2023 and Beyond
Contractual Obligations					
Long-term debt (including capital lease obligations)*	$ 12,403	$ 394	$ 4,228	$ 1,305	$ 6,476
Interest on long-term debt (including capital lease obligations)*	5,731	413	752	503	4,063
Operating leases	954	315	397	157	85
Purchase obligations	2,334	1,830	373	125	6
Pension and postretirement contributions	447	64	76	79	228
Tax indemnification liabilities**	301	—	—	—	—
Total contractual cash obligations	$ 22,170	$ 3,016	$ 5,826	$ 2,169	$ 10,858

* Refer to Note 9, "Debt and Financing Arrangements," of the notes to consolidated financial statements for information related to the Company's long-term debt.

** As a result of the Tyco Merger in the fourth quarter of fiscal 2016, the Company recorded as part of the acquired liabilities of Tyco $290 million of post sale contingent tax indemnification liabilities which is generally recorded within other noncurrent liabilities in the consolidated statements of financial position. The liabilities are recorded at fair value and relate to certain tax related matters borne by the buyer of previously divested subsidiaries of Tyco which Tyco has indemnified certain parties and the amounts are probable of being paid. Of the $290 million recorded as of September 30, 2017 and 2016, $255 million is related to prior divested businesses and the remainder relates to Tyco's tax sharing agreements from its 2007 and 2012 spin-off transactions. The payments due by period are not presented due to uncertainty as to when these liabilities will be settled or paid. These are certain guarantees or indemnifications extended among Tyco, Medtronic, TE Connectivity, ADT and Pentair in accordance with the terms of the 2007 and 2012 separation and tax sharing agreements. In addition, the Company has recorded $11 million of tax indemnification liabilities as of September 30, 2017 related to other divestitures.

CRITICAL ACCOUNTING ESTIMATES AND POLICIES

The Company 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 make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from those estimates. The following policies are considered by management to be the most critical in understanding the judgments that are involved in the preparation of the Company's consolidated financial statements and the uncertainties that could impact the Company's results of operations, financial position and cash flows.

Revenue Recognition

The Building Technologies & Solutions business recognizes revenue from certain long-term contracts over the contractual period under the percentage-of-completion ("POC") method of accounting. This method of accounting recognizes sales and gross profit as work is performed based on the relationship between actual costs incurred and total estimated costs at completion. Recognized revenues that will not be billed under the terms of the contract until a later date are recorded primarily in accounts receivable. Likewise, contracts where billings to date have exceeded recognized revenues are recorded primarily in other current liabilities. Changes to the original estimates may be required during the life of the contract and such estimates are reviewed monthly. Sales and gross profit are adjusted using the cumulative catch-up method for revisions in estimated total contract costs and contract values. Estimated losses are recorded when identified. Claims against customers are recognized as revenue upon settlement. The use of the POC method of accounting involves considerable use of estimates in determining revenues, costs and profits and in assigning the amounts to accounting periods. The periodic reviews have not resulted in adjustments that were significant to the Company's results of operations. The Company continually evaluates all of the assumptions, risks and uncertainties inherent with the application of the POC method of accounting.

The Building Technologies & Solutions business enters into extended warranties and long-term service and maintenance agreements with certain customers. For these arrangements, revenue is recognized on a straight-line basis over the respective contract term.

The Building Technologies & Solutions business also sells certain heating, ventilating and air conditioning ("HVAC") and refrigeration products and services in bundled arrangements, where multiple products and/or services are involved. Significant deliverables within these arrangements include equipment, commissioning, service labor and extended warranties. Approximately four to twelve months separate the timing of the first deliverable until the last piece of equipment is delivered, and there may be extended warranty arrangements with duration of one to five years commencing upon the end of the standard warranty period. In addition, the Buildings business sells security monitoring systems that may have multiple elements, including equipment, installation, monitoring services and maintenance agreements. Revenues associated with sale of equipment and related installations are recognized once delivery, installation and customer acceptance is completed, while the revenue for monitoring and maintenance services are recognized as services are rendered. In accordance with ASU No. 2009-13, "Revenue Recognition (Topic 605): Multiple-Deliverable Revenue Arrangements - A Consensus of the FASB Emerging Issues Task Force," the Company divides bundled arrangements into separate deliverables and revenue is allocated to each deliverable based on the relative selling price method. In order to estimate relative selling price, market data and transfer price studies are utilized. Revenue recognized for security monitoring equipment and installation is limited to the lesser of their allocated amounts under the estimated selling price hierarchy or the non-contingent up-front consideration received at the time of installation, since collection of future amounts under the arrangement with the customer is contingent upon the delivery of monitoring and maintenance services. For transactions in which the Company retains ownership of the subscriber system asset, fees for monitoring and maintenance services are recognized on a straight-line basis over the contract term. Non-refundable fees received in connection with the initiation of a monitoring

contract, along with associated direct and incremental selling costs, are deferred and amortized over the estimated life of the customer relationship.

In all other cases, the Company recognizes revenue at the time title passes to the customer or as services are performed.

Goodwill and Indefinite-Lived Intangible Assets

Goodwill reflects the cost of an acquisition in excess of the fair values assigned to identifiable net assets acquired. The Company reviews goodwill for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired. The Company performs impairment reviews for its reporting units, which have been determined to be the Company's reportable segments or one level below the reportable segments in certain instances, using a fair value method based on management's judgments and assumptions or third party valuations. The fair value of a reporting unit refers to the price that would be received to sell the unit as a whole in an orderly transaction between market participants at the measurement date. In estimating the fair value, the Company uses multiples of earnings based on the average of historical, published multiples of earnings of comparable entities with similar operations and economic characteristics. In certain instances, the Company uses discounted cash flow analyses or estimated sales price to further support the fair value estimates. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement." The estimated fair value is then compared with the carrying amount of the reporting unit, including recorded goodwill. The Company is subject to financial statement risk to the extent that the carrying amount exceeds the estimated fair value. Refer to Note 7, "Goodwill and Other Intangible Assets," of the notes to consolidated financial statements for information regarding the goodwill impairment testing performed in the fourth quarters of fiscal years 2017 , 2016 and 2015 .

Indefinite-lived intangible assets are also subject to at least annual impairment testing. Indefinite-lived intangible assets consist of trademarks and tradenames and are tested for impairment using a relief-from-royalty method. A considerable amount of management judgment and assumptions are required in performing the impairment tests.

Impairment of Long-Lived Assets

The Company reviews long-lived assets, including tangible assets and other intangible assets with definitive lives, for impairment whenever events or changes in circumstances indicate that the asset's carrying amount may not be recoverable. The Company conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets" and ASC 985-20, "Costs of software to be sold, leased, or marketed." ASC 360-10-15 requires the Company to group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the sum of the undiscounted future cash flows. If the undiscounted cash flows do not indicate the carrying amount of the asset is recoverable, an impairment charge is measured as the amount by which the carrying amount of the asset group exceeds its fair value based on discounted cash flow analysis or appraisals. ASC 985-20 requires the unamortized capitalized costs of a computer software product be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset shall be written off. Refer to Note 17, "Impairment of Long-Lived Assets," of the notes to consolidated financial statements for information regarding the impairment testing performed in fiscal years 2017 , 2016 and 2015 .

Employee Benefit Plans

The Company provides a range of benefits to its employees and retired employees, including pensions and postretirement benefits. Plan assets and obligations are measured annually, or more frequently if there is a remeasurement event, based on the Company's measurement date utilizing various actuarial assumptions such as discount rates, assumed rates of return, compensation increases, turnover rates and health care cost trend rates as of that date. The Company reviews its actuarial assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when appropriate.

The Company utilizes a mark-to-market approach for recognizing pension and postretirement benefit expenses, including measuring the market related value of plan assets at fair value and recognizing actuarial gains and losses in the fourth quarter of each fiscal year or at the date of a remeasurement event. Refer to Note 15, "Retirement Plans," of the notes to consolidated financial statements for disclosure of the Company's pension and postretirement benefit plans.

U.S. GAAP requires that companies recognize in the statement of financial position a liability for defined benefit pension and postretirement plans that are underfunded or unfunded, or an asset for defined benefit pension and postretirement plans that are overfunded. U.S. GAAP also requires that companies measure the benefit obligations and fair value of plan assets that determine a benefit plan's funded status as of the date of the employer's fiscal year end.

The Company considers the expected benefit payments on a plan-by-plan basis when setting assumed discount rates. As a result, the Company uses different discount rates for each plan depending on the plan jurisdiction, the demographics of participants and the expected timing of benefit payments. For the U.S. pension and postretirement plans, the Company uses a discount rate provided by an independent third party calculated based on an appropriate mix of high quality bonds. For the non-U.S. pension and postretirement plans, the Company consistently uses the relevant country specific benchmark indices for determining the various discount rates. The Company's discount rate on U.S. pension plans was 3.80% and 3.70% at September 30, 2017 and 2016 , respectively. The Company's discount rate on postretirement plans was 3.70% and 3.30% at September 30, 2017 and 2016 , respectively. The Company's weighted average discount rate on non-U.S. pension plans was 2.40% and 1.90% at September 30, 2017 and 2016 , respectively.

In estimating the expected return on plan assets, the Company considers the historical returns on plan assets, adjusted for forward-looking considerations, inflation assumptions and the impact of the active management of the plans' invested assets. Reflecting the relatively long-term nature of the plans' obligations, approximately 45% of the plans' assets are invested in equity securities and 44% in fixed income securities, with the remainder primarily invested in alternative investments. For the years ending September 30, 2017 and 2016 , the Company's expected long-term return on U.S. pension plan assets used to determine net periodic benefit cost was 7.50% . The actual rate of return on U.S. pension plans was above 7.50% in both fiscal years 2017 and 2016. For the years ending September 30, 2017 and 2016 , the Company's weighted average expected long-term return on non-U.S. pension plan assets was 4.60% and 4.50%, respectively. The actual rate of return on non-U.S. pension plans was above 4.60% in fiscal year 2017 and above 4.50% in fiscal year 2016 . For the years ending September 30, 2017 and 2016 , the Company's weighted average expected long-term return on postretirement plan assets was 5.60% and 5.45% , respectively. The actual rate of return on postretirement plan assets was above 5.60% in fiscal year 2017 and above 5.45% in fiscal year 2016 .

Beginning in fiscal 2018 , the Company believes the long-term rate of return will approximate 7.50%, 5.35% and 5.65% for U.S. pension, non-U.S. pension and postretirement plans, respectively. Any differences between actual investment results and the expected long-term asset returns will be reflected in net periodic benefit costs in the fourth quarter of each fiscal year or at the date of a remeasurement event. If the Company's actual returns on plan assets are less than the Company's expectations, additional contributions may be required.

In fiscal 2017 , total employer contributions to the defined benefit pension plans were $342 million , of which $49 million were voluntary contributions made by the Company. The Company expects to contribute approximately $100 million in cash to its defined benefit pension plans in fiscal 2018 . In fiscal 2017 , total employer contributions to the postretirement plans were $5 million . The Company expects to contribute approximately $5 million in cash to its postretirement plans in fiscal 2018 .

Based on information provided by its independent actuaries and other relevant sources, the Company believes that the assumptions used are reasonable; however, changes in these assumptions could impact the Company's financial position, results of operations or cash flows.

Loss Contingencies

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

The Company is subject to laws and regulations relating to protecting the environment. The Company provides for expenses associated with environmental remediation obligations when such amounts are probable and can be reasonably estimated. Refer to Note 23, "Commitments and Contingencies," of the notes to consolidated financial statements.

The Company records liabilities for its workers' compensation, product, general and auto liabilities. The determination of these liabilities and related expenses is dependent on claims experience. For most of these liabilities, claims incurred but not yet reported are estimated by utilizing actuarial valuations based upon historical claims experience. The Company records receivables from third party insurers when recovery has been determined to be probable.

Asbestos-Related Contingencies and Insurance Receivables

The Company and certain of its subsidiaries along with numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. The Company's estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Company's historical claim experience, and estimates of the number and resolution cost of potential future claims that may be filed and is discounted to present value from

2068 (which is the Company's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be filed against Company affiliates). Asbestos related defense costs are included in the asbestos liability. The Company's legal strategy for resolving claims also impacts these estimates. The Company considers various trends and developments in evaluating the period of time (the look-back period) over which historical claim and settlement experience is used to estimate and value claims reasonably projected to be made through 2068. Annually, the Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company also evaluates the recoverability of its insurance receivable on an annual basis. The Company evaluates all of these factors and determines whether a change in the estimate of its liability for pending and future claims and defense costs or insurance receivable is warranted.

In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable. The Company's estimate of asbestos-related insurance recoveries represents estimated amounts due to the Company for previously paid and settled claims and the probable reimbursements relating to its estimated liability for pending and future claims discounted to present value. In determining the amount of insurance recoverable, the Company considers available insurance, allocation methodologies, solvency and creditworthiness of the insurers. Refer to Note 23, "Commitments and Contingencies," of the notes to consolidated financial statements for a discussion on management's judgments applied in the recognition and measurement of asbestos-related assets and liabilities.

Product Warranties

The Company offers warranties to its customers depending upon the specific product and terms of the customer purchase agreement. A typical warranty program requires that the Company replace defective products within a specified time period from the date of sale. The Company records an estimate of future warranty-related costs based on actual historical return rates and other known factors. Based on analysis of return rates and other factors, the Company’s warranty provisions are adjusted as necessary. At September 30, 2017 , the Company had recorded $409 million of warranty reserves for continuing operations, including extended warranties for which deferred revenue is recorded. The Company monitors its warranty activity and adjusts its reserve estimates when it is probable that future warranty costs will be different than those estimates. Refer to Note 21, "Guarantees," of the notes to consolidated financial statements for disclosure of the Company's product warranty liabilities.

Income Taxes

The Company accounts for income taxes in accordance with ASC 740, "Income Taxes." Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and other loss carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The Company records a valuation allowance that primarily represents non-U.S. operating and other loss carryforwards for which realization is uncertain. Management judgment is required in determining the Company’s provision for income taxes, deferred tax assets and liabilities, and the valuation allowance recorded against the Company’s net deferred tax assets. In calculating the provision for income taxes on an interim basis, the Company uses an estimate of the annual effective tax rate based upon the facts and circumstances known at each interim period. On a quarterly basis, the actual effective tax rate is adjusted as appropriate based upon the actual results as compared to those forecasted at the beginning of the fiscal year.

The Company reviews the realizability of its deferred tax asset valuation allowances on a quarterly basis, or whenever events or changes in circumstances indicate that a review is required. In determining the requirement for a valuation allowance, the historical and projected financial results of the legal entity or consolidated group recording the net deferred tax asset are considered, along with any other positive or negative evidence. Since future financial results may differ from previous estimates, periodic adjustments to the Company’s valuation allowances may be necessary. At September 30, 2017 , the Company had a valuation allowance of $3.8 billion for continuing operations, of which $3.2 billion relates to net operating loss carryforwards primarily in Australia, Belgium, Brazil, China, France, Spain, Switzerland, Luxembourg and the United Kingdom for which sustainable taxable income has not been demonstrated; and $610 million for other deferred tax assets.

The Company is subject to income taxes in the U.S. and numerous non-U.S. jurisdictions. Judgment is required in determining its worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of the Company’s business, there are many transactions and calculations where the ultimate tax determination is uncertain. The Company is regularly under audit by tax authorities. At September 30, 2017 , the Company had unrecognized tax benefits of $2.2 billion for continuing operations.

The Company does not generally provide additional U.S. or non-U.S. income taxes on outside basis differences of consolidated subsidiaries included in shareholders' equity attributable to Johnson Controls International plc, except in limited circumstances including anticipated taxation on planned divestitures. The reduction of the outside basis differences via the sale or liquidation of these subsidiaries and/or distributions could create taxable income. The Company's intent is to reduce the outside basis differences only when it would be tax efficient. Refer to "Capitalization" within the "Liquidity and Capital Resources" section for discussion of U.S. and non-U.S. cash projections.

Refer to Note 18, "Income Taxes," of the notes to consolidated financial statements for the Company's income tax disclosures.

NEW ACCOUNTING PRONOUNCEMENTS

Refer to the "New Accounting Pronouncements" section within Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements.

RISK MANAGEMENT

The Company selectively uses derivative instruments to reduce market risk associated with changes in foreign currency, commodities, interest rates and stock-based compensation. All hedging transactions are authorized and executed pursuant to clearly defined policies and procedures, which strictly prohibit the use of financial instruments for speculative purposes. At the inception of the hedge, the Company assesses the effectiveness of the hedge instrument and designates the hedge instrument as either (1) a hedge of a recognized asset or liability or of a recognized firm commitment (a fair value hedge), (2) a hedge of a forecasted transaction or of the variability of cash flows to be received or paid related to an unrecognized asset or liability (a cash flow hedge) or (3) a hedge of a net investment in a non-U.S. operation (a net investment hedge). The Company performs hedge effectiveness testing on an ongoing basis depending on the type of hedging instrument used. All other derivatives not designated as hedging instruments under ASC 815, "Derivatives and Hedging," are revalued in the consolidated statements of income.

For all foreign currency derivative instruments designated as cash flow hedges, retrospective effectiveness is tested on a monthly basis using a cumulative dollar offset test. The fair value of the hedged exposures and the fair value of the hedge instruments are revalued, and the ratio of the cumulative sum of the periodic changes in the value of the hedge instruments to the cumulative sum of the periodic changes in the value of the hedge is calculated. The hedge is deemed as highly effective if the ratio is between 80% and 125%. For commodity derivative contracts designated as cash flow hedges, effectiveness is tested using a regression calculation. Ineffectiveness is minimal as the Company aligns most of the critical terms of its derivatives with the supply contracts.

For net investment hedges, the Company assesses its net investment positions in the non-U.S. operations and compares it with the outstanding net investment hedges on a quarterly basis. The hedge is deemed effective if the aggregate outstanding principal of the hedge instruments designated as the net investment hedge in a non-U.S. operation does not exceed the Company's net investment positions in the respective non-U.S. operation.

The Company selectively uses interest rate swaps to reduce market risk associated with changes in interest rates for its fixed-rate bonds. At September 30, 2017 , the Company did not have any outstanding interest rate swaps. The Company assesses retrospective and prospective effectiveness and records any measured ineffectiveness in the consolidated statements of income on a monthly basis.

Equity swaps and any other derivative instruments not designated as hedging instruments under ASC 815 require no assessment of effectiveness.

A discussion of the Company's accounting policies for derivative financial instruments is included in Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements, and further disclosure relating to derivatives and hedging activities is included in Note 10, "Derivative Instruments and Hedging Activities," and Note 11, "Fair Value Measurements," of the notes to consolidated financial statements.

Foreign Exchange

The Company has manufacturing, sales and distribution facilities around the world and thus makes investments and enters into transactions denominated in various foreign currencies. In order to maintain strict control and achieve the benefits of the Company's global diversification, foreign exchange exposures for each currency are netted internally so that only its net foreign exchange exposures are, as appropriate, hedged with financial instruments.

The Company hedges 70% to 90% of the nominal amount of each of its known foreign exchange transactional exposures. The Company primarily enters into foreign currency exchange contracts to reduce the earnings and cash flow impact of the variation of non-functional currency denominated receivables and payables. Gains and losses resulting from hedging instruments offset the foreign exchange gains or losses on the underlying assets and liabilities being hedged. The maturities of the forward exchange contracts generally coincide with the settlement dates of the related transactions. Realized and unrealized gains and losses on these contracts are recognized in the same period as gains and losses on the hedged items. The Company also selectively hedges anticipated transactions that are subject to foreign exchange exposure, primarily with foreign currency exchange contracts, which are designated as cash flow hedges in accordance with ASC 815.

The Company has entered into foreign currency denominated debt obligations to selectively hedge portions of its net investment in non-U.S. subsidiaries. The currency effects of debt obligations are reflected in the accumulated other comprehensive income ("AOCI") account within shareholders' equity attributable to Johnson Controls ordinary shareholders where they offset gains and losses recorded on the Company's net investm ents globally.

At September 30, 2017 and 2016 , the Company estimates that an unfavorable 10% change in the exchange rates would have decreased net unrealized gains by approximately $330 million and $297 million, respectively.

Interest Rates

The Company has used interest rate swaps to offset its exposure to interest rate movements. In accordance with ASC 815, these outstanding swaps qualify and are designated as fair value hedges. The Company had no outstanding interest rate swaps at September 30, 2017 and eight interest rates swaps totaling $850 million outstanding at September 30, 2016 . A 10% increase in the average cost of the Company's variable rate debt would have resulted in an unfavorable change in pre-tax interest expense of approximately $13 million and $11 million for the year ended September 30, 2017 and 2016 , respectively.

Commodities

The Company uses commodity hedge contracts in the financial derivatives market in cases where commodity price risk cannot be naturally offset or hedged through supply base fixed price contracts. Commodity risks are systematically managed pursuant to policy guidelines. As a cash flow hedge, gains and losses resulting from the hedging instruments offset the gains or losses on purchases of the underlying commodities that will be used in the business. The maturities of the commodity hedge contracts coincide with the expected purchase of the commodities.

ENVIRONMENTAL, HEALTH AND SAFETY AND OTHER MATTERS

The Company's global operations are governed by environmental laws and worker safety laws. Under various circumstances, these laws impose civil and criminal penalties and fines, as well as injunctive and remedial relief, for noncompliance and require remediation at sites where Company-related substances have been released into the environment.

The Company has expended substantial resources globally, both financial and managerial, to comply with applicable environmental laws and worker safety laws and to protect the environment and workers. The Company believes it is in substantial compliance with such laws and maintains procedures designed to foster and ensure compliance. However, the Company has been, and in the future may become, the subject of formal or informal enforcement actions or proceedings regarding noncompliance with such laws or the remediation of Company-related substances released into the environment. Such matters typically are resolved with regulatory authorities through commitments to compliance, abatement or remediation programs and in some cases payment of penalties. Historically, neither such commitments nor penalties imposed on the Company have been material.

Refer to Note 23, "Commitments and Contingencies," of the notes to consolidated financial statements for additional information.

QUARTERLY FINANCIAL DATA

(in millions, except per share data) (quarterly amounts unaudited)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
2017					
Net sales	$ 7,086	$ 7,267	$ 7,683	$ 8,136	$ 30,172
Gross profit	2,114	2,281	2,431	2,513	9,339
Net income (loss) (1)	378	(115)	629	927	1,819
Net income (loss) attributable to Johnson Controls	329	(148)	555	875	1,611
Earnings (loss) per share (2)					
Basic	0.35	(0.16)	0.59	0.94	1.72
Diluted	0.35	(0.16)	0.59	0.93	1.71
2016					
Net sales	$ 4,696	$ 4,733	$ 5,154	$ 6,254	$ 20,837
Gross profit	1,257	1,287	1,422	1,688	5,654
Net income (loss) (3)	490	(469)	459	(1,132)	(652)
Net income (loss) attributable to Johnson Controls	450	(530)	383	(1,171)	(868)
Earnings (loss) per share (4)					
Basic	0.69	(0.82)	0.59	(1.61)	(1.30)
Diluted	0.69	(0.81)	0.59	(1.61)	(1.29)

(1) The fiscal 2017 first quarter net income includes $117 million of mark-to-market gains on pension plans, $78 million of significant restructuring and impairment costs, and $213 million of transaction, integration and separation costs. The fiscal 2017 second quarter net loss includes $18 million of mark-to-market gains on pension plans, $99 million of significant restructuring and impairment costs, and $138 million of transaction and integration costs. The fiscal 2017 third quarter net income includes $45 million of mark-to-market losses on pension plans, $49 million of significant restructuring and impairment costs, and $70 million of transaction and integration costs The fiscal 2017 fourth quarter net income includes $330 million of net mark-to-market gains on pension and postretirement plans, $141 million of significant restructuring and impairment costs, $90 million of integration costs and $50 million for an unfavorable arbitration award. The preceding amounts are stated on a pre-tax and pre-noncontrolling interest impact basis and include both continuing and discontinued operations activity.

(2) Due to the use of the weighted-average shares outstanding for each quarter for computing earnings per share, the sum of the quarterly per share amounts may not equal the per share amount for the year.

(3) The fiscal 2016 first quarter net income includes $101 million of transaction, integration and separation costs. The fiscal 2016 second quarter net loss includes $229 million of significant restructuring and impairment costs, and $131 million of transaction, integration and separation costs. The fiscal 2016 third quarter net income includes $167 million of transaction, integration, and separation costs, and $102 million of significant restructuring and impairment costs. The fiscal 2016 fourth quarter net loss includes $514 million of net mark-to-market and settlement losses on pension and postretirement plans, $296 million of significant restructuring and impairment costs, and $293 million of transaction, integration and separation costs. The preceding amounts are stated on a pre-tax and pre-noncontrolling interest impact basis and include both continuing and discontinued operations activity.

(4) Basic and diluted earnings (loss) per share will not cross-foot due to the impact of the Tyco Merger on the weighted-average shares included within the earnings per share calculation.

ITEM 7A QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

See "Risk Management" included in Item 7 - Management’s Discussion and Analysis of Financial Condition and Results of Operations.

ITEM 8 FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Johnson Controls International plc

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of Johnson Controls International plc. and its subsidiaries as of September 30, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended September 30, 2017 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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

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

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
Milwaukee, Wisconsin
November 21, 2017

Johnson Controls International plc
Consolidated Statements of Income

(in millions, except per share data)	Year Ended September 30, 2017	2016	2015
Net sales			
Products and systems*	$ 24,099	$ 18,084	$ 14,733
Services*	6,073	2,753	2,367
	30,172	20,837	17,100
Cost of sales			
Products and systems*	17,220	13,323	10,954
Services*	3,613	1,860	1,615
	20,833	15,183	12,569
Gross profit	9,339	5,654	4,531
Selling, general and administrative expenses	(6,158)	(4,190)	(3,191)
Restructuring and impairment costs	(367)	(288)	(215)
Net financing charges	(496)	(289)	(274)
Equity income	240	174	80
Income from continuing operations before income taxes	2,558	1,061	931
Income tax provision	705	197	71
Income from continuing operations	1,853	864	860
Income (loss) from discontinued operations, net of tax (Note 4)	(34)	(1,516)	819
Net income (loss)	1,819	(652)	1,679
Income from continuing operations attributable to noncontrolling interests	199	132	46
Income from discontinued operations attributable to noncontrolling interests	9	84	70
Net income (loss) attributable to Johnson Controls	$ 1,611	$ (868)	$ 1,563
Amounts attributable to Johnson Controls ordinary shareholders:			
Income from continuing operations	$ 1,654	$ 732	$ 814
Income (loss) from discontinued operations	(43)	(1,600)	749
Net income (loss)	$ 1,611	$ (868)	$ 1,563
Basic earnings (loss) per share attributable to Johnson Controls			
Continuing operations	$ 1.77	$ 1.10	$ 1.24
Discontinued operations	(0.05)	(2.40)	1.14
Net income (loss) **	$ 1.72	$ (1.30)	$ 2.39
Diluted earnings (loss) per share attributable to Johnson Controls			
Continuing operations	$ 1.75	$ 1.09	$ 1.23
Discontinued operations	(0.05)	(2.38)	1.13
Net income (loss) **	$ 1.71	$ (1.29)	$ 2.36

* Products and systems consist of Building Technologies & Solutions and Power Solutions products and systems. Services are Building Technologies & Solutions technical services.

** Certain items do not sum due to rounding.

The accompanying notes are an integral part of the consolidated financial statements.

Johnson Controls International plc
Consolidated Statements of Comprehensive Income (Loss)

(in millions)	Year Ended September 30, 2017	2016	2015
Net income (loss)	$ 1,819	$ (652)	$ 1,679
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	103	(94)	(825)
Realized and unrealized gains (losses) on derivatives	(14)	9	(10)
Realized and unrealized gains (losses) on marketable securities	5	(1)	—
Pension and postretirement plans	—	(1)	(10)
Other comprehensive income (loss)	94	(87)	(845)
Total comprehensive income (loss)	1,913	(739)	834
Comprehensive income attributable to noncontrolling interests	203	225	91
Comprehensive income (loss) attributable to Johnson Controls	$ 1,710	$ (964)	$ 743

The accompanying notes are an integral part of the consolidated financial statements.

Johnson Controls International plc
Consolidated Statements of Financial Position

(in millions, except par value and share data)	September 30, 2017	September 30, 2016
Assets		
Cash and cash equivalents	$ 321	$ 579
Accounts receivable, less allowance for doubtful accounts of $182 and $173, respectively	6,666	6,394
Inventories	3,209	2,888
Assets held for sale	189	5,812
Other current assets	1,907	1,436
Current assets	12,292	17,109
Property, plant and equipment - net	6,121	5,632
Goodwill	19,688	21,024
Other intangible assets - net	6,741	7,540
Investments in partially-owned affiliates	1,191	990
Noncurrent assets held for sale	1,920	7,374
Other noncurrent assets	3,931	3,510
Total assets	$ 51,884	$ 63,179
Liabilities and Equity		
Short-term debt	$ 1,214	$ 1,078
Current portion of long-term debt	394	628
Accounts payable	4,271	4,000
Accrued compensation and benefits	1,071	1,333
Deferred revenue	1,279	1,228
Liabilities held for sale	72	4,276
Other current liabilities	3,553	3,788
Current liabilities	11,854	16,331
Long-term debt	11,964	11,053
Pension and postretirement benefits	947	1,550
Noncurrent liabilities held for sale	173	3,888
Other noncurrent liabilities	5,368	5,033
Long-term liabilities	18,452	21,524
Commitments and contingencies (Note 23)		
Redeemable noncontrolling interests	211	234
Ordinary shares - par value $0.01, $0.01; 2.0 billion, 2.0 billion shares authorized; 945,055,276, 936,247,911 shares issued, respectively	9	9
Ordinary A shares - par value €1.00; 40,000 shares authorized, none outstanding as of September 30, 2017 and 2016	—	—
Preferred shares - par value $0.01; 200,000,000 shares authorized, none outstanding as of September 30, 2017 and 2016	—	—
Ordinary shares held in treasury, at cost (2017 - 17,080,302; 2016 - 452,083 shares)	(710)	(20)
Capital in excess of par value	16,390	16,105
Retained earnings	5,231	9,177
Accumulated other comprehensive loss	(473)	(1,153)
Shareholders' equity attributable to Johnson Controls	20,447	24,118
Noncontrolling interests	920	972
Total equity	21,367	25,090
Total liabilities and equity	$ 51,884	$ 63,179

The accompanying notes are an integral part of the consolidated financial statements.

Johnson Controls International plc
Consolidated Statements of Cash Flows

(in millions)	Year Ended September 30, 2017	2016	2015
Operating Activities			
Net income (loss) attributable to Johnson Controls	$ 1,611	$ (868)	$ 1,563
Income from continuing operations attributable to noncontrolling interests	199	132	46
Income from discontinued operations attributable to noncontrolling interests	9	84	70
Net income (loss)	1,819	(652)	1,679
Adjustments to reconcile net income (loss) to cash provided by operating activities:			
Depreciation and amortization	1,188	953	860
Pension and postretirement benefit expense (income)	(568)	460	396
Pension and postretirement contributions	(347)	(137)	(409)
Equity in earnings of partially-owned affiliates, net of dividends received	(181)	(250)	(144)
Deferred income taxes	1,125	(1,241)	327
Non-cash restructuring and impairment charges	78	221	183
Gain on divestitures - net	(9)	(26)	(1,340)
Fair value adjustment of equity investment	—	(4)	—
Equity-based compensation	147	142	90
Other	(3)	5	(1)
Changes in assets and liabilities, excluding acquisitions and divestitures:			
Accounts receivable	(520)	(344)	(297)
Inventories	(398)	1	(99)
Other assets	(480)	148	(113)
Restructuring reserves	89	141	(6)
Accounts payable and accrued liabilities	217	398	348
Accrued income taxes	(2,145)	2,080	126
Cash provided by operating activities	12	1,895	1,600
Investing Activities			
Capital expenditures	(1,343)	(1,249)	(1,135)
Sale of property, plant and equipment	33	32	37
Acquisition of businesses, net of cash acquired	(6)	353	(22)
Business divestitures, net of cash divested	220	32	1,646
Changes in long-term investments	(41)	(48)	(44)
Other	—	(7)	(12)
Cash provided (used) by investing activities	(1,137)	(887)	470
Financing Activities			
Increase (decrease) in short-term debt - net	145	556	(68)
Increase in long-term debt	1,865	1,501	299
Repayment of long-term debt	(1,297)	(1,299)	(191)
Debt financing costs	(18)	(45)	—
Stock repurchases	(651)	(501)	(1,362)
Payment of cash dividends	(702)	(915)	(657)
Proceeds from the exercise of stock options	157	70	275
Change in noncontrolling interest share	8	(2)	(38)
Dividends paid to noncontrolling interests	(88)	(306)	(68)
Dividends from Adient spin-off	2,050	—	—
Cash transferred to Adient related to spin-off	(665)	—	—
Cash paid to prior acquisitions	(75)	—	—
Other	(12)	8	(11)
Cash provided (used) by financing activities	717	(933)	(1,821)
Effect of exchange rate changes on cash and cash equivalents	54	12	(81)
Change in cash held for sale	96	(61)	21

Increase (decrease) in cash and cash equivalents	(258)	26	189
Cash and cash equivalents at beginning of period	579	553	364
Cash and cash equivalents at end of period	$ 321	$ 579	$ 553

The accompanying notes are an integral part of the consolidated financial statements.

Johnson Controls International plc
Consolidated Statements of Shareholders' Equity Attributable to Johnson Controls Ordinary Shareholders

(in millions, except per share data)	Total	Ordinary Shares	Capital in Excess of Par Value	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Income (Loss)
At September 30, 2014	$ 11,270	$ 7	$ 3,369	$ 9,915	$ (1,784)	$ (237)
Comprehensive income (loss)	743	—	—	1,563	—	(820)
Cash dividends						
Common ($1.04 per share)	(681)	—	—	(681)	—	—
Repurchases of common stock	(1,362)	—	—	—	(1,362)	—
Other, including options exercised	365	—	371	—	(6)	—
At September 30, 2015	10,335	7	3,740	10,797	(3,152)	(1,057)
Comprehensive loss	(964)	—	—	(868)	—	(96)
Result of contribution of Johnson Controls, Inc. to Johnson Controls International plc	15,808	2	12,157	—	3,649	—
Cash dividends						
Common ($1.16 per share)	(752)	—	—	(752)	—	—
Repurchases of common stock	(501)	—	—	—	(501)	—
Other, including options exercised	192	—	208	—	(16)	—
At September 30, 2016	24,118	9	16,105	9,177	(20)	(1,153)
Comprehensive income	1,710	—	—	1,611	—	99
Cash dividends						
Ordinary ($1.00 per share)	(938)	—	—	(938)	—	—
Repurchases of ordinary shares	(651)	—	—	—	(651)	—
Spin-off of Adient	(4,038)	—	—	(4,619)	—	581
Other, including options exercised	246	—	285	—	(39)	—
At September 30, 2017	**$ 20,447**	**$ 9**	**$ 16,390**	**$ 5,231**	**$ (710)**	**$ (473)**

The accompanying notes are an integral part of the consolidated financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements include the consolidated accounts of Johnson Controls International plc, a corporation organized under the laws of Ireland, and its subsidiaries (Johnson Controls International plc and all its subsidiaries, hereinafter collectively referred to as the "Company," "Johnson Controls" or "JCI plc").

Nature of Operations

On September 2, 2016, Johnson Controls, Inc. ("JCI Inc.") and Tyco International plc ("Tyco") completed their combination pursuant to the Agreement and Plan of Merger (the “Merger Agreement”), dated as of January 24, 2016, as amended by Amendment No. 1, dated as of July 1, 2016, by and among JCI Inc., Tyco and certain other parties named therein, including Jagara Merger Sub LLC, an indirect wholly owned subsidiary of Tyco (“Merger Sub”). Pursuant to the terms of the Merger Agreement, on September 2, 2016, Merger Sub merged with and into JCI Inc., with JCI Inc. being the surviving corporation in the merger and a wholly owned, indirect subsidiary of Tyco (the “Merger”). Following the Merger, Tyco changed its name to “Johnson Controls International plc.” The Merger changed the jurisdiction of organization from the United States to Ireland. The domicile to Ireland became effective on September 2, 2016.

The merger was accounted for as a reverse acquisition using the acquisition method of accounting in accordance with Accounting Standards Codification ("ASC") 805, "Business Combinations." JCI Inc. was the accounting acquirer for financial reporting purposes. Accordingly, the historical consolidated financial statements of JCI Inc. for periods prior to this transaction are considered to be the historic financial statements of the Company. Refer to Note 2, "Merger Transaction," of the notes to consolidated financial statements for further information.

On October 31, 2016, the Company completed the spin-off of its Automotive Experience business by way of the transfer of the Automotive Experience Business from Johnson Controls to Adient plc and the issuance of ordinary shares of Adient directly to holders of Johnson Controls ordinary shares on a pro rata basis. Prior to the open of business on October 31, 2016, each of the Company's shareholders received one ordinary share of Adient plc for every ten ordinary shares of Johnson Controls held as of the close of business on October 19, 2016, the record date for the distribution. Company shareholders received cash in lieu of fractional shares of Adient, if any. Following the separation and distribution, Adient plc is now an independent public company trading on the New York Stock Exchange ("NYSE") under the symbol "ADNT". The Company did not retain any equity interest in Adient plc. Adient’s historical financial results are reflected in the Company’s consolidated financial statements as a discontinued operation. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information.

Principles of Consolidation

The consolidated financial statements include the consolidated accounts of Johnson Controls International plc and its subsidiaries that are consolidated in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"). All significant intercompany transactions have been eliminated. The results of companies acquired or disposed of during the year are included in the consolidated financial statements from the effective date of acquisition or up to the date of disposal. Investments in partially-owned affiliates are accounted for by the equity method when the Company’s interest exceeds 20% and the Company does not have a controlling interest.

Under certain criteria as provided for in Financial Accounting Standards Board ("FASB") ASC 810, "Consolidation," the Company may consolidate a partially-owned affiliate. To determine whether to consolidate a partially-owned affiliate, the Company first determines if the entity is a variable interest entity ("VIE"). An entity is considered to be a VIE if it has one of the following characteristics: 1) the entity is thinly capitalized; 2) residual equity holders do not control the entity; 3) equity holders are shielded from economic losses or do not participate fully in the entity’s residual economics; or 4) the entity was established with non-substantive voting. If the entity meets one of these characteristics, the Company then determines if it is the primary beneficiary of the VIE. The party with the power to direct activities of the VIE that most significantly impact the VIE’s economic performance and the potential to absorb benefits or losses that could be significant to the VIE is considered the primary beneficiary and consolidates the VIE. If the entity is not considered a VIE, then the Company applies the voting interest model to determine whether or not the Company shall consolidate the partially-owned affiliate.

Consolidated VIEs

Based upon the criteria set forth in ASC 810, the Company has determined that it was the primary beneficiary in one VIE for the reporting period ended September 30, 2017 and three VIEs for the reporting period ended September 30, 2016 , as the Company absorbs significant economics of the entities and has the power to direct the activities that are considered most significant to the entities.

Two of the VIEs manufacture products in North America for the automotive industry. The Company funded the entities' short-term liquidity needs through revolving credit facilities and had the power to direct the activities that were considered most significant to the entities through its key customer supply relationships. These VIEs were divested as a result of the Adient spin-off in the first quarter of fiscal 2017.

In fiscal 2012, a pre-existing VIE accounted for under the equity method was reorganized into three separate investments as a result of the counterparty exercising its option to put its interest to the Company. The Company acquired additional interests in two of the reorganized group entities. The reorganized group entities are considered to be VIEs as the other owner party has been provided decision making rights but does not have equity at risk. The Company is considered the primary beneficiary of one of the entities due to the Company's power pertaining to decisions over significant activities of the entity. As such, this VIE has been consolidated within the Company's consolidated statements of financial position. The impact of consolidation of the entity on the Company's consolidated statements of income for the years ended September 30, 2017 , 2016 and 2015 was not material. The VIE is named as a co-obligor under a third party debt agreement of $164 million , maturing in fiscal 2020, under which it could become subject to paying more than its allocated share of the third party debt in the event of bankruptcy of one or more of the other co-obligors. The other co-obligors, all related parties in which the Company is an equity investor, consist of the remaining group entities involved in the reorganization. As part of the overall reorganization transaction, the Company has also provided financial support to the group entities in the form of loans totaling $37 million , which are subordinate to the third party debt agreement. The Company is a significant customer of certain co-obligors, resulting in a remote possibility of loss. Additionally, the Company is subject to a floor guaranty expiring in fiscal 2022; in the event that the other owner party no longer owns any part of the group entities due to sale or transfer, the Company has guaranteed that the proceeds received from the sale or transfer will not be less than $25 million . The Company has partnered with the group entities to design and manufacture battery components for the Power Solutions business.

The carrying amounts and classification of assets (none of which are restricted) and liabilities included in the Company's consolidated statements of financial position for the consolidated VIEs are as follows (in millions):

	September 30,	
	2017	2016
Current assets	$ 2	$ 284
Noncurrent assets	53	98
Total assets	$ 55	$ 382
Current liabilities	$ 6	$ 230
Noncurrent liabilities	42	29
Total liabilities	$ 48	$ 259

The Company did not have a significant variable interest in any other consolidated VIEs for the presented reporting periods.

Nonconsolidated VIEs

As mentioned previously within the "Consolidated VIEs" section above, in fiscal 2012, a pre-existing VIE was reorganized into three separate investments as a result of the counterparty exercising its option to put its interest to the Company. The reorganized group entities are considered to be VIEs as the other owner party has been provided decision making rights but does not have equity at risk. The Company is not considered to be the primary beneficiary of two of the entities as the Company cannot make key operating decisions considered to be most significant to the VIEs. Therefore, the entities are accounted for under the equity method of accounting as the Company's interest exceeds 20% and the Company does not have a controlling interest. The Company's maximum exposure to loss includes the partially-owned affiliate investment balance of $65 million and $59 million at September 30, 2017 and 2016 , respectively, as well as the subordinated loan from the Company, third party debt agreement and floor guaranty mentioned previously within the "Consolidated VIEs" section above. Current liabilities due to the VIEs are not material and represent normal course of business trade payables for all presented periods.

The Company did not have a significant variable interest in any other nonconsolidated VIEs for the presented reporting periods.

Use of Estimates

The preparation of consolidated 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 disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Fair Value of Financial Instruments

The fair values of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values. See Note 10, "Derivative Instruments and Hedging Activities," and Note 11, "Fair Value Measurements," of the notes to consolidated financial statements for fair value of financial instruments, including derivative instruments, hedging activities and long-term debt.

Assets and Liabilities Held for Sale

The Company classifies assets and liabilities (disposal groups) to be sold as held for sale in the period in which all of the following criteria are met: management, having the authority to approve the action, commits to a plan to sell the disposal group; the disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such disposal groups; an active program to locate a buyer and other actions required to complete the plan to sell the disposal group have been initiated; the sale of the disposal group is probable, and transfer of the disposal group is expected to qualify for recognition as a completed sale within one year, except if events or circumstances beyond the Company's control extend the period of time required to sell the disposal group beyond one year; the disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

In addition, the Company classifies disposal groups to be disposed of other than by sale (e.g. spin-off) as held for sale in the period the disposal occurs.

The Company initially measures a disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell. Any loss resulting from this measurement is recognized in the period in which the held for sale criteria are met. Conversely, gains are not recognized on the sale of a disposal group until the date of sale. The Company assesses the fair value of a disposal group, less any costs to sell, each reporting period it remains classified as held for sale and reports any subsequent changes as an adjustment to the carrying value of the disposal group, as long as the new carrying value does not exceed the carrying value of the disposal group at the time it was initially classified as held for sale.

Upon determining that a disposal group meets the criteria to be classified as held for sale, the Company reports the assets and liabilities of the disposal group, if material, in the line items assets held for sale and liabilities held for sale in the consolidated statements of financial position. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents.

Restricted Cash

At September 30, 2017 , the Company held restricted cash of approximately $31 million , of which $22 million was recorded within other current assets in the consolidated statements of financial position and $9 million was recorded within other noncurrent assets in the consolidated statements of financial position. These amounts were primarily related to cash restricted for payment of asbestos liabilities. At September 30, 2016 , the Company held restricted cash of approximately $88 million , of which $79 million was recorded within other current assets in the consolidated statements of financial position and $9 million was recorded within other noncurrent assets in the consolidated statements of financial position. These amounts were primarily related to cash held in escrow from business divestitures and cash restricted for payment of asbestos liabilities.

Receivables

Receivables consist of amounts billed and currently due from customers and unbilled costs and accrued profits related to revenues on long-term contracts that have been recognized for accounting purposes but not yet billed to customers. The Company extends credit to customers in the normal course of business and maintains an allowance for doubtful accounts resulting from the inability or unwillingness of customers to make required payments. The allowance for doubtful accounts is based on historical experience, existing economic conditions and any specific customer collection issues the Company has identified. The Company enters into supply chain financing programs to sell certain accounts receivable without recourse to third-party financial institutions. Sales of accounts receivable are reflected as a reduction of accounts receivable on the consolidated statements of financial position and the proceeds are included in cash flows from operating activities in the consolidated statements of cash flows.

Inventories

Inventories are stated at the lower of cost or market using the first-in, first-out ("FIFO") method. Finished goods and work-in-process inventories include material, labor and manufacturing overhead costs.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation is provided over the estimated useful lives of the respective assets using the straight-line method for financial reporting purposes and accelerated methods for income tax purposes. The estimated useful lives generally range from 3 to 40 years for buildings and improvements, subscriber systems up to 15 years, and from 3 to 15 years for machinery and equipment. The Company capitalizes interest on borrowings during the active construction period of major capital projects. Capitalized interest is added to the cost of the underlying assets and is amortized over the useful lives of the assets.

Goodwill and Indefinite-Lived Intangible Assets

Goodwill reflects the cost of an acquisition in excess of the fair values assigned to identifiable net assets acquired. The Company reviews goodwill for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired. The Company performs impairment reviews for its reporting units, which have been determined to be the Company's reportable segments or one level below the reportable segments in certain instances, using a fair value method based on management's judgments and assumptions or third party valuations. The fair value of a reporting unit refers to the price that would be received to sell the unit as a whole in an orderly transaction between market participants at the measurement date. In estimating the fair value, the Company uses multiples of earnings based on the average of historical, published multiples of earnings of comparable entities with similar operations and economic characteristics. In certain instances, the Company uses discounted cash flow analyses or estimated sales price to further support the fair value estimates. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement." The estimated fair value is then compared with the carrying amount of the reporting unit, including recorded goodwill. The Company is subject to financial statement risk to the extent that the carrying amount exceeds the estimated fair value. Refer to Note 7, "Goodwill and Other Intangible Assets," of the notes to consolidated financial statements for information regarding the goodwill impairment testing performed in the fourth quarters of fiscal years 2017 , 2016 and 2015 .

Indefinite-lived intangible assets are also subject to at least annual impairment testing. Indefinite-lived intangible assets primarily consist of trademarks and tradenames and are tested for impairment using a relief-from-royalty method. A considerable amount of management judgment and assumptions are required in performing the impairment tests.

Impairment of Long-Lived Assets

The Company reviews long-lived assets, including property, plant and equipment and other intangible assets with definite lives, for impairment whenever events or changes in circumstances indicate that the asset's carrying amount may not be recoverable. The Company conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets" and ASC 985-20, "Costs of software to be sold, leased, or marketed." ASC 360-10-15 requires the Company to group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the sum of the undiscounted future cash flows. If the undiscounted cash flows do not indicate the carrying amount of the asset is recoverable, an impairment charge is measured as the amount by which the carrying amount of the asset group exceeds its fair value based on discounted cash flow analysis or appraisals. ASC 985-20 requires the unamortized capitalized costs of a computer software product be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value

of that asset shall be written off. Refer to Note 17, "Impairment of Long-Lived Assets," of the notes to consolidated financial statements for information regarding the impairment testing performed in fiscal years 2017 , 2016 and 2015 .

Revenue Recognition

The Building Technologies & Solutions business records certain long-term contracts under the percentage-of-completion ("POC") method of accounting. Under this method, sales and gross profit are recognized as work is performed based on the relationship between actual costs incurred and total estimated costs at completion. The Company records costs and earnings in excess of billings on uncompleted contracts primarily within accounts receivable and billings in excess of costs and earnings on uncompleted contracts primarily within deferred revenue in the consolidated statements of financial position. Costs and earnings in excess of billings related to these contracts were $908 million and $841 million at September 30, 2017 and 2016 , respectively. Billings in excess of costs and earnings related to these contracts were $451 million and $431 million at September 30, 2017 and 2016 , respectively. Changes to the original estimates may be required during the life of the contract and such estimates are reviewed monthly. Sales and gross profit are adjusted using the cumulative catch-up method for revisions in estimated total contract costs and contract values. Estimated losses are recorded when identified. Claims against customers are recognized as revenue upon settlement. The use of the POC method of accounting involves considerable use of estimates in determining revenues, costs and profits and in assigning the amounts to accounting periods. The periodic reviews have not resulted in adjustments that were significant to the Company's results of operations. The Company continually evaluates all of the assumptions, risks and uncertainties inherent with the application of the POC method of accounting.

The Building Technologies & Solutions business enters into extended warranties and long-term service and maintenance agreements with certain customers. For these arrangements, revenue is recognized on a straight-line basis over the respective contract term.

The Building Technologies & Solutions business also sells certain heating, ventilating and air conditioning ("HVAC") and refrigeration products and services in bundled arrangements, where multiple products and/or services are involved. Significant deliverables within these arrangements include equipment, commissioning, service labor and extended warranties. Approximately four to twelve months separate the timing of the first deliverable until the last piece of equipment is delivered, and there may be extended warranty arrangements with duration of one to five years commencing upon the end of the standard warranty period. In addition, the Building Technologies & Solutions business sells security monitoring systems that may have multiple elements, including equipment, installation, monitoring services and maintenance agreements. Revenues associated with sale of equipment and related installations are recognized once delivery, installation and customer acceptance is completed, while the revenue for monitoring and maintenance services are recognized as services are rendered. In accordance with Accounting Standards Update ("ASU") No. 2009-13, "Revenue Recognition (Topic 605): Multiple-Deliverable Revenue Arrangements - A Consensus of the FASB Emerging Issues Task Force," the Company divides bundled arrangements into separate deliverables and revenue is allocated to each deliverable based on the relative selling price method. In order to estimate relative selling price, market data and transfer price studies are utilized. Revenue recognized for security monitoring equipment and installation is limited to the lesser of their allocated amounts under the estimated selling price hierarchy or the non-contingent up-front consideration received at the time of installation, since collection of future amounts under the arrangement with the customer is contingent upon the delivery of monitoring and maintenance services. For transactions in which the Company retains ownership of the subscriber system asset, fees for monitoring and maintenance services are recognized on a straight-line basis over the contract term. Non-refundable fees received in connection with the initiation of a monitoring contract, along with associated direct and incremental selling costs, are deferred and amortized over the estimated life of the customer relationship.

In all other cases, the Company recognizes revenue at the time title passes to the customer or as services are performed.

Subscriber System Assets, Dealer Intangibles and Related Deferred Revenue Accounts

The Building Technologies & Solutions business considers assets related to the acquisition of new customers in its electronic security business in three asset categories: internally generated residential subscriber systems outside of North America, internally generated commercial subscriber systems (collectively referred to as subscriber system assets) and customer accounts acquired through the ADT dealer program, primarily outside of North America (referred to as dealer intangibles). Subscriber system assets include installed property, plant and equipment for which the Company retains ownership and deferred costs directly related to the customer acquisition and system installation. Subscriber system assets represent capitalized equipment (e.g. security control panels, touchpad, motion detectors, window sensors, and other equipment) and installation costs associated with electronic security monitoring arrangements under which the Company retains ownership of the security system assets in a customer's place of business, or outside of North America, residence. Installation costs represent costs incurred to prepare the asset for its intended use. The Company pays property taxes on the subscriber system assets and upon customer termination, may retrieve such assets. These assets embody a probable future economic benefit as they generate future monitoring revenue for the Company.

Costs related to the subscriber system equipment and installation are categorized as property, plant and equipment rather than deferred costs. Deferred costs associated with subscriber system assets represent direct and incremental selling expenses (such as commissions) related to acquiring the customer. Commissions related to up-front consideration paid by customers in connection with the establishment of the monitoring arrangement are determined based on a percentage of the up-front fees and do not exceed deferred revenue. Such deferred costs are recorded as other current and noncurrent assets within the consolidated statements of financial position.

Subscriber system assets and any deferred revenue resulting from the customer acquisition are accounted for over the expected life of the subscriber. In certain geographical areas where the Company has a large number of customers that behave in a similar manner over time, the Company accounts for subscriber system assets and related deferred revenue using pools, with separate pools for the components of subscriber system assets and any related deferred revenue based on the same month and year of acquisition. The Company depreciates its pooled subscriber system assets and related deferred revenue using a straight-line method with lives up to 12 years and considering customer attrition. The Company uses a straight-line method with a 15 -year life for non-pooled subscriber system assets (primarily in Europe, Latin America and Asia) and related deferred revenue, with remaining balances written off upon customer termination.

Certain contracts and related customer relationships result from purchasing residential security monitoring contracts from an external network of independent dealers who operate under the ADT dealer program, primarily outside of North America. Acquired contracts and related customer relationships are recorded at their contractually determined purchase price.

During the first 6 months (12 months in certain circumstances) after the purchase of the customer contract, any cancellation of monitoring service, including those that result from customer payment delinquencies, results in a chargeback by the Company to the dealer for the full amount of the contract purchase price. The Company records the amount charged back to the dealer as a reduction of the previously recorded intangible asset.

Intangible assets arising from the ADT dealer program described above are amortized in pools determined by the same month and year of contract acquisition on a straight-line basis over the period of the customer relationship. The estimated useful life of dealer intangibles ranges from 12 to 15 years.

Research and Development Costs

Expenditures for research activities relating to product development and improvement are charged against income as incurred and included within selling, general and administrative expenses for continuing operations in the consolidated statements of income. Such expenditures for the years ended September 30, 2017 , 2016 and 2015 were $360 million , $158 million and $134 million , respectively.

Earnings Per Share

The Company presents both basic and diluted earnings per share ("EPS") amounts. Basic EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of common shares outstanding during the reporting period. Diluted EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of common shares and common equivalent shares outstanding during the reporting period that are calculated using the treasury stock method for stock options, unvested restricted stock and unvested performance share awards. See Note 13, "Earnings per Share," of the notes to consolidated financial statements for the calculation of earnings per share.

Foreign Currency Translation

Substantially all of the Company’s international operations use the respective local currency as the functional currency. Assets and liabilities of international entities have been translated at period-end exchange rates, and income and expenses have been translated using average exchange rates for the period. Monetary assets and liabilities denominated in non-functional currencies are adjusted to reflect period-end exchange rates. The aggregate transaction gains (losses), net of the impact of foreign currency hedges, included in net income for the years ended September 30, 2017 , 2016 and 2015 were $94 million , $(95) million and $(119) million , respectively.

Derivative Financial Instruments

The Company has written policies and procedures that place all financial instruments under the direction of Corporate treasury and restrict all derivative transactions to those intended for hedging purposes. The use of financial instruments for speculative

purposes is strictly prohibited. The Company selectively uses financial instruments to manage the market risk from changes in foreign exchange rates, commodity prices, stock-based compensation liabilities and interest rates.

The fair values of all derivatives are recorded in the consolidated statements of financial position. The change in a derivative's fair value is recorded each period in current earnings or accumulated other comprehensive income ("AOCI"), depending on whether the derivative is designated as part of a hedge transaction and if so, the type of hedge transaction. See Note 10, "Derivative Instruments and Hedging Activities," and Note 11, "Fair Value Measurements," of the notes to consolidated financial statements for disclosure of the Company's derivative instruments and hedging activities.

Investments

The Company invests in debt and equity securities which are classified as available for sale and are marked to market at the end of each accounting period. Unrealized gains and losses on these securities, other than the deferred compensation plan assets, are recognized in AOCI within the consolidated statement of shareholders' equity unless an unrealized loss is deemed to be other than temporary, in which case such loss is charged to earnings. The deferred compensation plan assets are marked to market at the end of each accounting period and all unrealized gains and losses are recorded in the consolidated statements of income.

Pension and Postretirement Benefits

The Company utilizes a mark-to-market approach for recognizing pension and postretirement benefit expenses, including measuring the market related value of plan assets at fair value and recognizing actuarial gains and losses in the fourth quarter of each fiscal year or at the date of a remeasurement event. Refer to Note 15, "Retirement Plans," of the notes to consolidated financial statements for disclosure of the Company's pension and postretirement benefit plans.

Loss Contingencies

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

The Company is subject to laws and regulations relating to protecting the environment. The Company provides for expenses associated with environmental remediation obligations when such amounts are probable and can be reasonably estimated. Refer to Note 23, "Commitments and Contingencies," of the notes to consolidated financial statements.

The Company records liabilities for its workers' compensation, product, general and auto liabilities. The determination of these liabilities and related expenses is dependent on claims experience. For most of these liabilities, claims incurred but not yet reported are estimated by utilizing actuarial valuations based upon historical claims experience. The Company records receivables from third party insurers when recovery has been determined to be probable. The Company maintains captive insurance companies to manage certain of its insurable liabilities.

Asbestos-Related Contingencies and Insurance Receivables

The Company and certain of its subsidiaries along with numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. The Company's estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Company's historical claim experience, and estimates of the number and resolution cost of potential future claims that may be filed and is discounted to present value from 2068 (which is the Company's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be filed against Company affiliates). Asbestos related defense costs are included in the asbestos liability. The Company's legal strategy for resolving claims also impacts these estimates. The Company considers various trends and developments in evaluating the period of time (the look-back period) over which historical claim and settlement experience is used to estimate and value claims reasonably projected to be made through 2068. Annually, the Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company also evaluates the recoverability of its insurance receivable on an annual basis. The Company evaluates all of these factors and determines whether a change in the estimate of its liability for pending and future claims and defense costs or insurance receivable is warranted.

In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable. The Company's estimate of asbestos-related insurance recoveries represents estimated amounts due to the Company for previously paid and settled claims and the probable reimbursements relating to its estimated liability for pending and future claims discounted to present value. In determining the amount of insurance recoverable, the Company considers available insurance, allocation methodologies, solvency and creditworthiness of the insurers. Refer to Note 23, "Commitments and Contingencies," of the notes to consolidated financial statements for a discussion on management's judgments applied in the recognition and measurement of asbestos-related assets and liabilities.

Income Taxes

Deferred tax liabilities and assets are recognized for the expected future tax consequences of events that have been reflected in the consolidated financial statements. Deferred tax liabilities and assets are determined based on the differences between the book and tax basis of particular assets and liabilities and operating loss carryforwards, using tax rates in effect for the years in which the differences are expected to reverse. A valuation allowance is provided to offset deferred tax assets if, based upon the available evidence, including consideration of tax planning strategies, it is more-likely-than-not that some or all of the deferred tax assets will not be realized. Refer to Note 18, "Income Taxes," of the notes to consolidated financial statements.

Retrospective Changes

Certain amounts as of September 30, 2016 and 2015 have been revised to conform to the current year's presentation.

Effective July 1, 2017, the Company reorganized the reportable segments within its Building Technologies & Solutions business to align with its new management reporting structure and business activities. Prior to this reorganization, Building Technologies & Solutions was comprised of five reportable segments for financial reporting purposes: Systems and Service North America, Products North America, Asia, Rest of World and Tyco. As a result of this change, Building Technologies & Solutions is now comprised of four reportable segments for financial reporting purposes: Building Solutions North America, Building Solutions EMEA/LA, Building Solutions Asia Pacific and Global Products. Refer to Note 7, “Goodwill and Other Intangible Assets,” and Note 19, “Segment Information,” of the notes to consolidated financial statements for further information. The net sales and cost of sales split of products and systems versus services on the consolidated statements of income has also been revised for the Building Technologies & Solutions reorganization.

New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In October 2016, the FASB issued ASU No. 2016-17, "Consolidations (Topic 810): Interests Held through Related Parties that are under Common Control." The ASU changes how a single decision maker of a variable interest entity ("VIE") that holds indirect interest in the entity through related parties that are under common control determines whether it is the primary beneficiary of the VIE. The new guidance amends ASU 2015-02, "Consolidation (Topic 810): Amendments to the Consolidation Analysis" issued in February 2015. ASU No. 2016-17 was effective for the Company for the quarter ending December 31, 2016. The adoption of this guidance did not have an impact on the Company's consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-07, "Investments - Equity Method and Joint Ventures (Topic 323): Simplifying the Transition to the Equity Method of Accounting." ASU No. 2016-07 eliminates the requirement for an investment that qualifies for the use of the equity method of accounting as a result of an increase in the level of ownership or degree of influence to adjust the investment, results of operations and retained earnings retrospectively. During the quarter ended September 30, 2017, the Company early adopted ASU No. 2016-07 and applied it prospectively. The adoption of this guidance did not have an impact on the Company's consolidated financial statements.

In May 2015, the FASB issued ASU No. 2015-07, "Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)." ASU No. 2015-07 removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. Such investments should be disclosed separate from the fair value hierarchy. ASU No. 2015-07 was effective retrospectively for the Company for the quarter ending December 31, 2016. The adoption of this guidance did not have an impact on the Company's consolidated financial statements, but did impact pension asset disclosures. Refer to Note 15, "Retirement Plans," of the notes to consolidated financial statements for further information.

In February 2015, the FASB issued ASU No. 2015-02, "Consolidation (Topic 810): Amendments to the Consolidation Analysis." ASU No. 2015-02 amends the analysis performed to determine whether a reporting entity should consolidate certain types of legal

entities. ASU No. 2015-02 was effective retrospectively for the Company for the quarter ending December 31, 2016. The adoption of this guidance did not have an impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements

In August 2017, the FASB issued ASU No. 2017-12, "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities." The ASU more closely aligns the results of hedge accounting with risk management activities through amendments to the designation and measurement guidance to better reflect a Company's hedging strategy and effectiveness. ASU 2017-12 is effective for the Company for the quarter ending December 31, 2019. Early adoption is permitted in any interim period. The Company is currently assessing the impact adoption of this guidance will have on its consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation — Stock Compensation (Topic 718): Scope of Modification Accounting." The ASU provides guidance about which changes to the terms or conditions of a share-based payment award require a reporting entity to apply modification accounting. ASU No. 2017-09 will be effective prospectively for the Company for the quarter ending December 31, 2018, with early adoption permitted. The impact of this guidance for the Company is dependent on any future share-based payment award changes, should they occur.

In March 2017, the FASB issued ASU No. 2017-07, "Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The ASU requires the service cost component of net periodic benefit cost to be presented with other compensation costs. The other components of net periodic benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. The ASU also allows only the service cost component of net periodic benefit cost to be eligible for capitalization. The guidance will be effective for the Company for the quarter ending December 31, 2018. Early adoption is permitted as of the beginning of an annual period for which financial statements (interim or annual) have not been issued or made available for issuance. The guidance will be effective retrospectively except for the capitalization of the service cost component which should be applied prospectively. The adoption of this guidance is not expected to have a significant impact on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment," which eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge (Step 2) from the goodwill impairment test. Instead, an impairment charge will equal the amount by which a reporting unit’s carrying amount exceeds its fair value, not to exceed the amount of goodwill allocated to the reporting unit. The guidance will be effective prospectively for the Company for the quarter ending December 31, 2020, with early adoption permitted after January 1, 2017. The impact of this guidance for the Company will depend on the outcomes of future goodwill impairment tests.

In November 2016, the FASB issued ASU No. 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash (a consensus of the FASB Emerging Issues Task Force)." The ASU requires amounts generally described as restricted cash and restricted cash equivalents to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The guidance will be effective for the Company for the quarter ending December 31, 2018, with early adoption permitted. The amendments in this update should be applied retrospectively to all periods presented. The impact of this guidance for the Company will depend on the levels of restricted cash balances in the periods presented.

In October 2016, the FASB issued ASU No. 2016-16, "Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory." The ASU requires the tax effects of all intra-entity sales of assets other than inventory to be recognized in the period in which the transaction occurs. The guidance will be effective for the Company for the quarter ending December 31, 2018, with early adoption permitted but only in the first interim period of a fiscal year. The changes are required to be applied by means of a cumulative-effect adjustment recorded in retained earnings as of the beginning of the fiscal year of adoption. The Company is currently assessing the impact adoption of this guidance will have on its consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments." ASU No. 2016-15 provides clarification guidance on eight specific cash flow presentation issues in order to reduce the diversity in practice. ASU No. 2016-15 will be effective for the Company for the quarter ending December 31, 2018, with early adoption permitted. The guidance should be applied retrospectively to all periods presented, unless deem impracticable, in which case prospective application is permitted. The Company is currently assessing the impact adoption of this guidance will have on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." ASU No. 2016-13 changes the impairment model for financial assets measured at amortized cost, requiring presentation at the net amount expected to be collected. The measurement of expected credit losses is based upon

historical experience, current conditions, and reasonable and supportable forecasts. Available-for-sale debt securities with unrealized losses will now be recorded through an allowance for credit losses. ASU No. 2016-13 will be effective for the Company for the quarter ended December 31, 2020, with early adoption permitted for the quarter ended December 31, 2019. The adoption of this guidance is not expected to have a significant impact on the Company's consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, "Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting." ASU No. 2016-09 impacts certain aspects of the accounting for share-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities, and classification on the statements of cash flows. ASU No. 2016-09 will be effective for the Company for the quarter ending December 31, 2017, with early adoption permitted. The Company is currently assessing the impact adoption of this guidance will have on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)." ASU No. 2016-02 requires recognition of operating leases as lease assets and liabilities on the balance sheet, and disclosure of key information about leasing arrangements. ASU No. 2016-02 will be effective retrospectively for the Company for the quarter ending December 31, 2019, with early adoption permitted. The Company is currently assessing the impact adoption of this guidance will have on its consolidated financial statements. The Company has started the assessment process by evaluating the population of leases under the revised definition of what qualifies as a leased asset. The Company is the lessee under various agreements for facilities and equipment that are currently accounted for as operating leases. The new guidance will require the Company to record operating leases on the balance sheet with a right-of-use asset and corresponding liability for future payment obligations. The Company expects the new guidance will have a material impact on its consolidated statements of financial position for the addition of right-of-use assets and lease liabilities, but the Company does not expect it to have a material impact on its consolidated statements of income.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities." ASU No. 2016-01 amends certain aspects of recognition, measurement, presentation and disclosure of financial instruments, including marketable securities. ASU No. 2016-01 will be effective for the Company for the quarter ending December 31, 2018, and early adoption is not permitted, with certain exceptions. The changes are required to be applied by means of a cumulative-effect adjustment on the balance sheet as of the beginning of the fiscal year of adoption. The impact of this guidance for the Company will depend on the magnitude of the unrealized gains and losses on the Company's marketable securities investments.

In July 2015, the FASB issued ASU No. 2015-11, "Simplifying the Measurement of Inventory." ASU No. 2015-11 requires inventory that is recorded using the first-in, first-out method to be measured at the lower of cost or net realizable value. ASU No. 2015-11 will be effective prospectively for the Company for the quarter ending December 31, 2017, with early adoption permitted. The adoption of this guidance is not expected to have a significant impact on the Company's consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)." ASU No. 2014-09 clarifies the principles for recognizing revenue when an entity either enters into a contract with customers to transfer goods or services or enters into a contract for the transfer of non-financial assets. The original standard was effective retrospectively for the Company for the quarter ending December 31, 2017; however in August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date," which defers the effective date of ASU No. 2014-09 by one-year for all entities. The new standard will become effective retrospectively for the Company for the quarter ending December 31, 2018, with early adoption permitted, but not before the original effective date. Additionally, in March 2016, the FASB issued ASU No. 2016-08, "Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)," in April 2016, the FASB issued ASU No. 2016-10, "Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing," in May 2016, the FASB issued ASU No. 2016-12, "Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients," and in December 2016, the FASB issued ASU No. 2016-20, "Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers," all of which provide additional clarification on certain topics addressed in ASU No. 2014-09. ASU No. 2016-08, ASU No. 2016-10, ASU No. 2016-12 and ASU No. 2016-20 follow the same implementation guidelines as ASU No. 2014-09 and ASU No. 2015-14. The Company has elected to adopt the new revenue guidance as of October 1, 2018 using the modified retrospective approach. In preparation for adoption of the new guidance, the Company has reviewed representative samples of contracts and other forms of agreements with customers globally and is in the process of evaluating the impact of the new revenue standard. Based on its procedures to date, the Company is not in a position today to quantify the potential impact the new revenue standard will have on its consolidated financial statements.

2. MERGER TRANSACTION

As discussed in Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements, JCI Inc. and Tyco completed the Merger on September 2, 2016. The Merger was accounted for as a reverse acquisition using the acquisition method of accounting in accordance with ASC 805, "Business Combinations." Based on the structure of the Merger and other activities contemplated by the Merger Agreement, relative outstanding share ownership, the composition of the Company's board of directors and the designation of certain senior management positions of the Company, JCI Inc. was the accounting acquirer for financial reporting purposes.

Immediately prior to the Merger and in connection therewith, Tyco shareholders received 0.955 ordinary shares of Tyco (which shares are now referred to as shares of the Company, or "Company ordinary shares") for each Tyco ordinary share they held by virtue of a 0.955-for-one share consolidation. In the Merger, each outstanding share of common stock, par value $1.00 per share, of JCI Inc. ("JCI Inc. common stock") (other than shares held by JCI Inc., Tyco and certain of their subsidiaries) was converted into the right to receive either the cash consideration or the share consideration (each as described below), at the election of the holder, subject to proration procedures described in the Merger Agreement and applicable withholding taxes. The election to receive the cash consideration was undersubscribed. As a result, holders of shares of JCI Inc. common stock that elected to receive the share consideration and holders of shares of JCI Inc. common stock that made no election (or failed to properly make an election) became entitled to receive, for each such share of JCI Inc. common stock, $5.7293 in cash, without interest, and 0.8357 Company ordinary shares, subject to applicable withholding taxes. Holders of shares of JCI Inc. common stock that elected to receive the cash consideration became entitled to receive, for each such share of JCI Inc. common stock, $34.88 in cash, without interest, subject to applicable withholding taxes. In the Merger, JCI Inc. shareholders received, in the aggregate, approximately $3.864 billion in cash. Immediately after the closing of, and giving effect to, the Merger, former JCI Inc. shareholders owned approximately 56% of the issued and outstanding Company ordinary shares and former Tyco stockholders owned approximately 44% of the issued and outstanding Company ordinary shares.

Tyco is a leading global provider of security products and services, fire detection and suppression products and services, and life safety products. The acquisition of Tyco brings together best-in-class product, technology and service capabilities across controls, fire, security, HVAC, power solutions and energy storage, to serve various end-markets including large institutions, commercial buildings, retail, industrial, small business and residential. The combination of the Tyco and JCI Inc. buildings platforms creates immediate opportunities for near-term growth through cross-selling, complementary branch and channel networks, and expanded global reach for established businesses. The new Company also benefits by combining innovation capabilities and pipelines involving new products, advanced solutions for smart buildings and cities, value-added services driven by advanced data and analytics and connectivity between buildings and energy storage through infrastructure integration.

Fair Value of Consideration Transferred

The total fair value of consideration transferred was approximately $19.7 billion . Total consideration is comprised of the equity value of the Tyco shares that were outstanding as of September 2, 2016 and the portion of Tyco's share awards and share options earned as of September 2, 2016 ($224 million). Share awards and share options not earned ($101 million) as of September 2, 2016 will be expensed over the remaining future vesting period.

The following table summarizes the total fair value of consideration transferred:

(in millions, except for share consolidation ratio and share data)

Number of Tyco shares outstanding at September 2, 2016		427,181,743
Tyco share consolidation ratio		0.955
Tyco ordinary shares outstanding following the share consolidation and immediately prior to the Merger		407,958,565
JCI Inc. converted share price (1)	$	47.67
Fair value of equity portion of the Merger consideration	$	19,447
Fair value of Tyco equity awards		224
Total fair value of consideration transferred	**$**	**19,671**

(1) Amount equals JCI Inc. closing share price and market capitalization at September 2, 2016 ($45.45 and $29,012 million , respectively) adjusted for the Tyco $3,864 million cash contribution used to purchase 110.8 million shares of JCI Inc. common stock for $34.88 per share.

Fair Value of Assets Acquired and Liabilities Assumed

The Company accounted for the Merger with Tyco as a business combination using the acquisition method of accounting. The assets acquired and liabilities assumed were recorded at their respective fair values as of the acquisition date. Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact the Company's results of operations.

The fair values of the assets acquired and liabilities assumed are as follows (in millions):

Cash and cash equivalents	$	489
Accounts receivable		2,034
Inventories		807
Other current assets		617
Property, plant, and equipment - net		1,216
Goodwill		16,105
Intangible assets - net		6,384
Other noncurrent assets		536
Total assets acquired	$	28,188
Short-term debt	$	462
Accounts payable		725
Accrued compensation and benefits		312
Other current liabilities		1,481
Long-term debt		6,416
Long-term deferred tax liabilities		718
Long-term pension and postretirement benefits		774
Other noncurrent liabilities		1,456
Total liabilities acquired	$	12,344
Noncontrolling interests		37
Net assets acquired	$	15,807
Cash consideration paid to JCI Inc. shareholders		3,864
Total fair value of consideration transferred	$	19,671

In connection with the Merger, the Company recorded goodwill of $16.1 billion , which is attributable primarily to expected synergies, expanded market opportunities, and other benefits that the Company believes will result from combining its operations with the operations of Tyco. Goodwill has been allocated to the reporting units within Building Technologies & Solutions business based on the expected benefits from the Merger. The Company recorded a net reduction in goodwill of $258 million in fiscal 2017 related to purchase price allocations. The goodwill created in the Merger is not deductible for tax purposes.

The purchase price allocation to identifiable intangible assets acquired are as follows:

		Fair Value (in millions)	Weighted Average Life (in years)
Customer relationships	$	2,280	12
Completed technology		1,650	11
Other definite-lived intangibles		214	7
Indefinite-lived trademarks		2,080	
Other indefinite-lived intangibles		90	
In-process research and development		70	
Total identifiable intangible assets	$	6,384	

Actual and Pro Forma Impact

The Company's consolidated financial statements for the fiscal year ended September 30, 2016 include Tyco's results of operations from the acquisition date of September 2, 2016 through September 30, 2016. Net sales and net income (loss) from continuing operations attributable to Tyco during this period and included in the Company's consolidated financial statements for the fiscal year ended September 30, 2016 total $808 million and ($48) million , respectively.

The following unaudited pro forma information assumes the acquisition had occurred on October 1, 2014, and had been included in the Company's consolidated statements of income for fiscal years 2016 and 2015.

	Year Ended September 30,	
(in millions)	2016	2015
Pro forma net sales	$ 29,647	$ 26,908
Pro forma net income from continuing operations	1,143	848

In order to reflect the occurrence of the acquisition on October 1, 2014 as required, the unaudited pro forma results include adjustments to reflect, among other things, the amortization of the inventory step-up, the incremental intangible asset amortization to be incurred based on the preliminary values of each identifiable intangible asset, the change in timing of defined benefit plans' mark-to-market gain or loss recognition, the change in timing of transaction and restructuring costs, and interest expense from debt financing obtained to fund the cash consideration paid to JCI Inc. shareholders. These pro forma amounts are not necessarily indicative of the results that would have been obtained if the acquisition had occurred as of the beginning of the period presented or that may occur in the future, and does not reflect future synergies, integration costs, or other such costs or savings. Additional information regarding fiscal 2016 pro forma information can be found in the Form 8-K filed by the Company with the SEC on November 8, 2016 under Item 7.01, “Regulation FD Disclosure.”

3. ACQUISITIONS AND DIVESTITURES

Fiscal Year 2017

During fiscal 2017, the Company completed three acquisitions for a combined purchase price, net of cash acquired, of $9 million , $6 million of which was paid as of September 30, 2017. The acquisitions in the aggregate were not material to the Company’s consolidated financial statements. In connection with the acquisitions, the Company recorded goodwill of $2 million .

In the fourth quarter of fiscal 2017, the Company completed two divestitures for a combined selling price, net of cash divested, of $44 million , of which $40 million was received as of September 30, 2017. The divestitures were not material to the Company's consolidated financial statements. In connection with the divestitures, the Company recorded a gain of $9 million within selling, general and administrative expenses on the consolidated statements of income and reduced goodwill by $19 million and $2 million in the Global Products segment and in the Building Solutions Asia Pacific segment, respectively.

In the second quarter of fiscal 2017, the Company signed a definitive agreement to sell its Scott Safety business to 3M Company for approximately $2.0 billion . The transaction closed on October 4, 2017. Net cash proceeds from the transaction of approximately $1.9 billion were used to repay a significant portion of the Tyco International Holding S.a.r.L.'s ("TSarl") $4.0 billion of merger-related debt. Scott Safety is a leader in high performance respiratory protection, gas and flame detection, thermal imaging and other critical products. The Scott Safety business is included in the Global Products segment and is reported within assets and liabilities held for sale in the consolidated statements of financial position as of September 30, 2017. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further disclosure related to the Company's net assets held for sale.

In the second quarter of fiscal 2017, the Company completed the sale of its ADT security business in South Africa within the Building Solutions EMEA/LA segment. The selling price, net of cash divested, was $129 million , all of which was received as of September 30, 2017. In connection with the sale, the Company reduced goodwill in assets held for sale by $92 million . The divestiture was not material to the Company's consolidated financial statements.

In the first quarter of fiscal 2017, the Company completed one additional divestiture for a sales price of $4 million , all of which was received as of September 30, 2017. The divestiture decreased the Company's ownership from a controlling to noncontrolling

interest, and as a result, the Company deconsolidated cash of $5 million . The divestiture was not material to the Company's consolidated financial statements. During fiscal 2017, the Company received $52 million in net cash proceeds related to prior year business divestitures.

Fiscal Year 2016

On October 1, 2015, the Company formed a joint venture with Hitachi to expand its Building Technologies & Solutions product offerings. The Company acquired a 60% ownership interest in the new entity for approximately $208 million ($638 million purchase price less cash acquired of $430 million), $133 million of which was paid as of September 30, 2016 and $75 million was paid as of September 30, 2017. In connection with the acquisition, the Company recorded goodwill of $253 million related to purchase price allocations.

Also during fiscal 2016, the Company completed two additional acquisitions for a combined purchase price, net of cash acquired, of $6 million , $3 million of which was paid as of September 30, 2016. The acquisitions in aggregate were not material to the Company's consolidated financial statements. In connection with the acquisitions, the Company recorded goodwill of $6 million . One of the acquisitions increased the Company's ownership from a noncontrolling to controlling interest. As a result, the Company recorded a non-cash gain of $4 million in equity income for the Global Products segment to adjust the Company's existing equity investment in the partially-owned affiliate to fair value.

In the fourth quarter of fiscal 2016, the Company completed two divestitures for a combined sales price of $39 million , net of cash divested of $13 million . None of the sales proceeds were received as of September 30, 2016. The divestitures were not material to the Company's consolidated financial statements. In connection with the divestitures, the Company recorded a gain of $12 million within selling, general and administrative expenses on the consolidated statements of income and reduced goodwill by $16 million in the Global Products segment.

In the third quarter of fiscal 2016, the Company completed a divestiture for a sales price of $16 million , all of which was received as of September 30, 2016. The divestiture was not material to the Company's consolidated financial statements. In connection with the divestiture, the Company recorded a gain of $14 million within selling, general and administrative expenses on the consolidated statements of income and reduced goodwill by $3 million in the Building Solutions North America segment.

During fiscal 2016, the Company received $29 million in net cash proceeds related to prior year business divestitures.

Fiscal Year 2015

During fiscal 2015, the Company completed three acquisitions for a combined purchase price, net of cash acquired, of $47 million , $18 million of which was paid as of September 30, 2015. The acquisitions in the aggregate were not material to the Company’s consolidated financial statements. In connection with the acquisitions, the Company recorded goodwill in assets held for sale of $9 million .

In the fourth quarter of fiscal 2015, the Company completed the sale of its Global Workplace Solutions ("GWS") business to CBRE Group Inc. ("CBRE"). The selling price, net of cash divested, was $1.4 billion , all of which was received as of September 30, 2015. In connection with the sale, the Company recorded a $940 million gain, $643 million net of tax, within income (loss) from discontinued operations, net of tax, on the consolidated statements of income and reduced goodwill in assets held for sale by $220 million . At March 31, 2015, the Company determined that the GWS segment met the criteria to be classified as a discontinued operation. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further disclosure related to the Company's discontinued operations.

In the fourth quarter of fiscal 2015, the Company completed its global automotive interiors joint venture with Yanfeng Automotive Trim Systems. In connection with the divestiture of the Interiors business, the Company recorded a $145 million gain, $38 million net of tax within income (loss) from discontinued operations, net of tax, on the consolidated statements of income and reduced goodwill in assets held for sale by $21 million .

Also during fiscal 2015, the Company completed four additional divestitures for a combined sales price of $119 million , $86 million of which was received as of September 30, 2015. The divestitures were not material to the Company's consolidated financial statements. In connection with the divestitures, the Company recorded a gain of $38 million within selling, general and administrative expenses on the consolidated statements of income and reduced goodwill by $14 million in the Global Products segment, recorded a gain of $10 million within income (loss) from discontinued operations, net of tax, on the consolidated statements of income and reduced goodwill in assets held for sale by $4 million , and recorded a gain of $7 million within selling, general and administrative expenses on the consolidated statements of income and reduced goodwill by $2 million in the Building Solutions North America segment.

In the first nine months of fiscal 2015, the Company adjusted the purchase price allocation of the fiscal 2014 acquisition of Air Distribution Technologies Inc. ("ADTi"). The adjustment was made as a result of a true-up to the purchase price in the amount of $4 million , all of which was paid as of September 30, 2015. Also, in connection with this acquisition, the Company recorded additional goodwill of $34 million in fiscal 2015 related to the final purchase price allocations.

In the second quarter of fiscal 2015, the Company completed the sale of its interests in two GWS joint ventures to Brookfield Asset Management, Inc. The selling price, net of cash divested, was $141 million , all of which was received as of September 30, 2015. In connection with the sale, the Company recorded a $200 million gain, $127 million net of tax, within income (loss) from discontinued operations, net of tax, on the consolidated statements of income and reduced goodwill in assets held for sale by $20 million .

4. DISCONTINUED OPERATIONS

Adient

As discussed in Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements, on October 31, 2016, the Company completed the spin-off of its Automotive Experience business by way of the transfer of the Automotive Experience Business from Johnson Controls to Adient plc. The Company did not retain any equity interest in Adient plc. During the first quarter of fiscal 2017, the Company determined that Adient met the criteria to be classified as a discontinued operation and, as a result, Adient's historical financial results are reflected in the Company's consolidated financial statements as a discontinued operation, and assets and liabilities are classified as assets and liabilities held for sale. The Company did not allocate any general corporate overhead to discontinued operations.

The following table summarizes the results of Adient, reclassified as discontinued operations for the fiscal years ended September 30, 2017 , 2016 and 2015 (in millions). As the Adient spin-off occurred on October 31, 2016, there is only one month of Adient results included in the year ended September 30, 2017 .

	Year Ended September 30,		
	2017	2016	2015
Net sales	$ 1,434	$ 16,837	$ 20,079
Income from discontinued operations before income taxes	1	525	1,220
Provision for income taxes on discontinued operations	35	2,041	529
Income from discontinued operations attributable to noncontrolling interests, net of tax	9	84	66
Income (loss) from discontinued operations	$ (43)	$ (1,600)	$ 625

For the fiscal year ended September 30, 2017, the income from discontinued operations before income taxes included separation costs of $79 million . For the fiscal year ended September 30, 2016, the income from discontinued operations before income taxes included separation costs ($418 million), significant restructuring and impairment costs ($332 million), and net mark-to market losses on pension and postretirement plans ($110 million). For the fiscal year ended September 30, 2015, the income from discontinued operations before income taxes included significant restructuring and impairment costs ($182 million), a net gain on a business divestiture ($155 million), transaction and separation costs ($52 million), and net mark-to market losses on pension and postretirement plans ($6 million).

For the fiscal year ended September 30, 2017, the effective tax rate was more than the U.S. federal statutory rate of 35% primarily due to the tax impacts of separation costs and Adient spin-off related tax expense, partially offset by non-U.S. tax rate differentials.

In preparation for the spin-off of the Automotive Experience business in the first quarter of fiscal 2017, the Company incurred incremental tax expense of $95 million in fiscal 2016. The Company also completed substantial business reorganizations which resulted in total tax charges of $1,891 million in fiscal 2016. Included in this amount is the tax charge provided for in the third quarter of fiscal 2016 of $85 million for changes in entity tax status and the charge provided for in the second quarter of fiscal 2016 of $780 million for income tax expense on foreign undistributed earnings of certain non-U.S. subsidiaries.

In fiscal 2016, the Company did provide U.S. income tax expense related to the restructuring and repatriation of cash for certain non-U.S. subsidiaries in connection with the Automotive Experience planned spin-off. At September 30, 2016 the Company needed

to complete the final steps of Automotive Experience restructuring and, as a result, the Company provided deferred taxes of $24 million for the U.S. income tax expense on outside basis differences that reversed upon the completion of the restructuring.

In the fourth quarter of fiscal 2015, the Company completed its global automotive interiors joint venture with Yanfeng Automotive Trim Systems. Refer to Note 3, "Acquisitions and Divestitures," of the notes to consolidated financial statements for additional information. In connection with the divestiture of the Interiors business, the Company recorded a pre-tax gain on divestiture of $145 million , $38 million net of tax. The tax impact of the gain is due to the jurisdictional mix of gains and losses on the divestiture, which resulted in non-benefited expenses in certain countries and taxable gains in other countries. In addition, in the third and fourth quarters of fiscal 2015, the Company provided income tax expense for repatriation of cash and other tax reserves associated with the Automotive Experience Interiors joint venture transaction, which resulted in a tax charge of $75 million and $223 million , respectively.

GWS

On March 31, 2015, the Company announced that it had reached a definitive agreement to sell the remainder of the GWS business to CBRE, subject to regulatory and other approvals. The sale closed on September 1, 2015. The agreement includes a 10 -year strategic relationship between the Company and CBRE. The Company is the preferred provider of HVAC equipment, building automation systems and related services to the portfolio of real estate and corporate facilities managed globally by CBRE and GWS. The Company also engages GWS for facility management services. The annual cash flows resulting from these activities with the legacy GWS business are not currently significant nor are they expected to become significant in the future.

At March 31, 2015, the Company determined that its GWS segment met the criteria to be classified as a discontinued operation, The Company did not allocate any general corporate overhead to discontinued operations.

There were no amounts related to the GWS business classified as discontinued operations for the fiscal years ended September 30, 2017 and 2016 . The following table summarizes the results of GWS, reclassified as discontinued operations for the fiscal year ended September 30, 2015 (in millions):

	Year Ended September 30,	
	2015	
Net sales	$	3,025
Income from discontinued operations before income taxes		1,203
Provision for income taxes on discontinued operations		1,075
Income from discontinued operations attributable to noncontrolling interests, net of tax		4
Income from discontinued operations	$	124

For the fiscal year ended September 30, 2015, the income from discontinued operations before income taxes included a $940 million gain on divestiture for the remainder of the GWS business, a $200 million gain on divestiture of the Company's interest in two GWS joint ventures and transaction costs of $87 million .

The effective tax rate is different than the U.S. statutory rate for fiscal 2015 primarily due to $680 million tax expense for repatriation of cash and other tax reserves, and the tax consequences of the sale of the GWS joint ventures ($73 million) and the remaining business ($297 million).

Assets and Liabilities Held for Sale

During the second quarter of fiscal 2017, the Company signed a definitive agreement to sell its Scott Safety business of the Global Products segment to 3M Company. The transaction closed on October 4, 2017. The assets and liabilities of this business are presented as held for sale in the consolidated statements of financial position as of September 30, 2017 . The business did not meet the criteria to be classified as a discontinued operation as the divestiture of the Scott Safety business will not have a major effect on the Company’s operations and financial results.

The following table summarizes the carrying value of the Scott Safety assets and liabilities held for sale at September 30, 2017 (in millions):

	September 30, 2017
Cash	$ 9
Accounts receivable - net	100
Inventories	75
Other current assets	5
Assets held for sale	$ 189
Property, plant and equipment - net	$ 79
Goodwill	1,248
Other intangible assets - net	592
Other noncurrent assets	1
Noncurrent assets held for sale	$ 1,920
Accounts payable	$ 37
Accrued compensation and benefits	10
Other current liabilities	25
Liabilities held for sale	$ 72
Other noncurrent liabilities	$ 173
Noncurrent liabilities held for sale	$ 173

The following table summarizes the carrying value of Adient, classified as assets and liabilities held for sale at September 30, 2016 (in millions):

	September 30, 2016
Cash	$ 105
Cash in escrow related to Adient debt	2,034
Accounts receivable - net	2,071
Inventories	672
Other current assets	756
Assets held for sale	$ 5,638
Property, plant and equipment - net	$ 2,240
Goodwill	2,385
Other intangible assets - net	113
Investments in partially-owned affiliates	1,745
Other noncurrent assets	891
Noncurrent assets held for sale	$ 7,374
Short-term debt	$ 41
Current portion of long-term debt	38
Accounts payable	2,764
Accrued compensation and benefits	430
Other current liabilities	975
Liabilities held for sale	$ 4,248
Long-term debt	$ 3,441
Pension and postretirement benefits	188
Other noncurrent liabilities	259
Noncurrent liabilities held for sale	$ 3,888

The following table summarizes depreciation and amortization, capital expenditures, and significant operating and investing non-cash items related to Adient for the fiscal years ended September 30, 2016 and 2015 (in millions):

	Year Ended September 30,		
	2017	2016	2015
Depreciation and amortization	$ 29	$ 331	$ 333
Pension and postretirement benefit expense	—	113	15
Equity in earnings of partially-owned affiliates	(31)	(357)	(295)
Deferred income taxes	562	(476)	(50)
Non-cash restructuring and impairment costs	—	87	27
Gain on divestitures	—	—	(155)
Equity-based compensation	1	16	16
Accrued income taxes	(808)	—	—
Other	—	(2)	(4)
Capital expenditures	(91)	(395)	(455)

During the second quarter of fiscal 2017, the Company completed the divestiture of its ADT security business in South Africa within the Building Solutions EMEA/LA segment. The assets and liabilities of this business were presented as held for sale in the consolidated statements of financial position as of September 30, 2016. The business did not meet the criteria to be classified as a discontinued operation.

The following table summarizes the carrying value of ADT security business in South Africa assets and liabilities at September 30, 2016 (in millions):

	September 30, 2016
Accounts receivable - net	$ 9
Inventories	7
Other current assets	3
Property, plant and equipment - net	15
Goodwill	89
Other intangible assets - net	30
Other noncurrent assets	4
Assets held for sale	$ 157
Accounts payable	$ 9
Other current liabilities	19
Liabilities held for sale	$ 28

At September 30, 2016, $17 million of certain Corporate assets were classified as held for sale. The assets were sold during the second quarter of fiscal 2017.

5. INVENTORIES

Inventories consisted of the following (in millions):

	September 30,	
	2017	2016
Raw materials and supplies	$ 919	$ 852
Work-in-process	567	503
Finished goods	1,723	1,533
Inventories	$ 3,209	$ 2,888

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following (in millions):

	September 30,	
	2017	2016
Buildings and improvements	$ 2,445	$ 2,107
Subscriber systems	571	448
Machinery and equipment	5,572	5,137
Construction in progress	1,252	990
Land	373	367
Total property, plant and equipment	10,213	9,049
Less: accumulated depreciation	(4,092)	(3,417)
Property, plant and equipment - net	$ 6,121	$ 5,632

Interest costs capitalized during the fiscal years ended September 30, 2017 , 2016 and 2015 were $27 million , $19 million and $25 million , respectively. Accumulated depreciation related to capital leases at September 30, 2017 and 2016 was $13 million and $16 million , respectively.

7. GOODWILL AND OTHER INTANGIBLE ASSETS

Effective July 1, 2017, the Company reorganized the reportable segments within its Building Technologies & Solutions business to align with its new management reporting structure and business activities. Historical information has been revised to reflect the new Building Technologies & Solutions reportable segments. Refer to Note 19, "Segment Information," of the notes to consolidated financial statements for further information.

The changes in the carrying amount of goodwill in each of the Company's reportable segments for the fiscal years ended September 30, 2017 and 2016 were as follows (in millions):

	September 30, 2015	Business Acquisitions	Business Divestitures	Currency Translation and Other	September 30, 2016
Building Technologies & Solutions					
Building Solutions North America	$ 930	$ 8,829	$ (3)	$ (22)	$ 9,734
Building Solutions EMEA/LA	195	1,787	—	(1)	1,981
Building Solutions Asia Pacific	310	968	—	(18)	1,260
Global Products	1,943	5,038	(16)	(2)	6,963
Power Solutions	1,082	—	—	4	1,086
Total	$ 4,460	$ 16,622	$ (19)	$ (39)	$ 21,024

	September 30, 2016	Business Acquisitions	Business Divestitures	Currency Translation and Other	September 30, 2017
Building Technologies & Solutions					
Building Solutions North America	$ 9,734	$ (147)	$ —	$ 50	$ 9,637
Building Solutions EMEA/LA	1,981	(37)	—	68	2,012
Building Solutions Asia Pacific	1,260	(14)	(2)	11	1,255
Global Products	6,963	(58)	(1,267)	49	5,687
Power Solutions	1,086	—	—	11	1,097
Total	$ 21,024	$ (256)	$ (1,269)	$ 189	$ 19,688

In connection with the Tyco Merger, the Company recorded goodwill of $16,105 million based on the final purchase price allocation. Refer to Note 2, "Merger Transaction," of the notes to consolidated financial statements for additional information.

The fiscal 2017 Global Products business divestiture amount includes $1,248 million of goodwill transferred to noncurrent assets held for sale on the consolidated statements of financial position for the sale of the Scott Safety business. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information regarding the Company's assets and liabilities held for sale.

At September 30, 2015, accumulated goodwill impairment charges included $47 million related to the Building Solutions EMEA/LA - Latin America reporting unit.

At July 1, 2017, the Company assessed goodwill for impairment in the Building Technologies & Solutions business due to the change in reportable segments as described in Note 19, "Segment Information," of the notes to consolidated financial statements. The Company determined that the estimated fair value of each reporting unit exceeded its corresponding carrying amount including recorded goodwill, and as such, no impairment existed at July 1, 2017.

There were no goodwill impairments resulting from fiscal 2017 and 2016 annual impairment tests. With the exception of a Building Solutions North America reporting unit that has goodwill as a result of a recent acquisition and is recorded at fair value, no reporting unit was determined to be at risk of failing step one of the goodwill impairment test. The Company continuously monitors for events and circumstances that could negatively impact the key assumptions in determining fair value, including long-term revenue growth projections, profitability, discount rates, recent market valuations from transactions by comparable companies, volatility in the Company's market capitalization, and general industry, market and macro-economic conditions. It is possible that future

changes in such circumstances, or in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of the reporting unit, would require the Company to record a non-cash impairment charge.

The assumptions included in the impairment tests require judgment, and changes to these inputs could impact the results of the calculations. Other than management's projections of future cash flows, the primary assumptions used in the impairment tests were the weighted-average cost of capital and long-term growth rates. Although the Company's cash flow forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management is using to operate the underlying businesses, there are significant judgments in determining the expected future cash flows attributable to a reporting unit.

The Company’s other intangible assets, primarily from business acquisitions valued based on independent appraisals, consisted of (in millions):

	September 30, 2017			September 30, 2016		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Amortized intangible assets						
Technology	$ 1,328	$ (137)	$ 1,191	$ 1,528	$ (24)	$ 1,504
Customer relationships	3,168	(486)	2,682	3,168	(226)	2,942
Miscellaneous	389	(147)	242	519	(130)	389
Total amortized intangible assets	4,885	(770)	4,115	5,215	(380)	4,835
Unamortized intangible assets						
Trademarks/trade names	2,483	—	2,483	2,555	—	2,555
Miscellaneous	143	—	143	150	—	150
	2,626	—	2,626	2,705	—	2,705
Total intangible assets	$ 7,511	$ (770)	$ 6,741	$ 7,920	$ (380)	$ 7,540

Refer to Note 2, "Merger Transaction," of the notes to consolidated financial statements for additional information of intangibles recorded as a result of the Tyco Merger. Given the recent acquisition, the September 30, 2017 carrying amount of the indefinite-lived intangible assets recorded as a result of the Tyco Merger approximate fair value.

Amortization of other intangible assets included within continuing operations for the fiscal years ended September 30, 2017 , 2016 and 2015 was $489 million , $116 million and $74 million , respectively. Excluding the impact of any future acquisitions, the Company anticipates amortization for fiscal 2018 , 2019 , 2020 , 2021 and 2022 will be approximately $375 million , $375 million , $372 million , $369 million and $360 million , respectively. There were no indefinite-lived intangible asset impairments resulting from fiscal 2017 , 2016 and 2015 annual impairment tests.

8. LEASES

Certain administrative and production facilities and equipment are leased under long-term agreements. Most leases contain renewal options for varying periods, and certain leases include options to purchase the leased property during or at the end of the lease term. Leases generally require the Company to pay for insurance, taxes and maintenance of the property. Leased capital assets included in net property, plant and equipment, primarily buildings and improvements, were $17 million and $23 million at September 30, 2017 and 2016 , respectively.

Other facilities and equipment are leased under arrangements that are accounted for as operating leases. Total rental expense for continuing and discontinued operations for the fiscal years ended September 30, 2017 , 2016 and 2015 was $502 million , $402 million and $413 million , respectively.

Future minimum capital and operating lease payments and the related present value of capital lease payments at September 30, 2017 were as follows (in millions):

	Capital Leases	Operating Leases
2018	$ 4	$ 315
2019	3	237
2020	3	160
2021	2	96
2022	2	61
After 2022	9	85
Total minimum lease payments	23	$ 954
Interest	(4)	
Present value of net minimum lease payments	$ 19	

9. DEBT AND FINANCING ARRANGEMENTS

Short-term debt consisted of the following (in millions):

	September 30,	
	2017	2016
Bank borrowings and commercial paper	$ 1,214	$ 1,078
Weighted average interest rate on short-term debt outstanding	1.6%	1.1%

In connection with the Tyco Merger, JCI Inc. replaced its $2.5 billion committed five -year credit facility scheduled to mature in August 2018 with a $2.0 billion committed four -year credit facility scheduled to mature in August 2020. Additionally, TSarl, a wholly-owned subsidiary of Johnson Controls, entered into a $1.0 billion committed four -year credit facility scheduled to mature in August 2020. The facilities are used to support the Company's outstanding commercial paper. There were no draws on either committed credit facilities during the fiscal years ended September 30, 2017 and 2016 . Commercial paper outstanding as of September 30, 2017 and 2016 was $954 million and $440 million , respectively.

In September 2017, the Company entered into a 364 -day 150 million euro, floating rate, term loan scheduled to expire in September 2018. Proceeds from the loan were used for general corporate purposes.

In March 2017, the Company entered into a 364 -day $150 million committed revolving credit facility scheduled to expire in March 2018. As of September 30, 2017, there were no draws on the facility.

In February 2017, the Company entered into a 364 -day $150 million committed revolving credit facility scheduled to expire in February 2018. As of September 30, 2017, there were no draws on the facility.

In January 2017, the Company entered into a 364 -day $250 million committed revolving credit facility scheduled to expire in January 2018. As of September 30, 2017, there were no draws on the facility.

In December 2016, the Company entered into a 364 -day 100 million euro floating rate term loan scheduled to mature in December 2017. Proceeds from the term loan were used for general corporate purposes. Principal and accrued interest were fully repaid in March 2017.

In December 2016, a $100 million committed revolving credit facility expired. There were no draws on the facility.

In November 2016, a $35 million committed revolving credit facility expired. There were no draws on the facility.

In October 2016, the Company repaid two ten -month floating rate term loans totaling $325 million , plus accrued interest, scheduled to expire in October 2016.

In October 2016, the Company repaid a nine -month $100 million floating rate term loan, plus accrued interest, scheduled to expire in November 2016.

In October 2016, the Company repaid a nine -month 100 million euro floating rate term loan, plus accrued interest, scheduled to expire in October 2016.

Long-term debt consisted of the following (in millions; due dates by fiscal year):

	September 30,	
	2017	2016
Unsecured notes		
JCI Inc. - 7.125% due in 2017 ($150 million par value)	$ —	$ 149
JCI Inc. - 2.6% due in 2017 ($400 million par value)	—	404
JCI Inc. - 2.355% due in 2017 ($46 million par value)	—	46
JCI plc - 1.4% due in 2018 ($259 million par value)	259	—
JCI Inc. - 1.4% due in 2018 ($41 million par value in 2017; $300 million par value in 2016)	42	301
JCI plc - 3.75% due in 2018 ($49 million par value)	49	—
Tyco International Finance S.A. ("TIFSA") - 3.75% due in 2018 ($18 million par value in 2017; $67 million par value in 2016)	18	69
JCI plc - 5.00% due in 2020 ($453 million par value)	452	—
JCI Inc. - 5.00% due in 2020 ($47 million par value in 2017; $500 million par value in 2016)	47	499
JCI plc - 4.25% due in 2021 ($447 million par value)	446	—
JCI Inc. - 4.25% due in 2021 ($53 million par value in 2017; $500 million par value in 2016)	53	498
JCI plc - 3.75% due in 2022 ($428 million par value)	427	—
JCI Inc. - 3.75% due in 2022 ($22 million par value in 2017; $450 million par value in 2016)	22	448
JCI plc - 4.625% due in 2023 ($35 million par value)	38	—
TIFSA - 4.625% due in 2023 ($7 million par value in 2017; $42 million par value in 2016)	8	46
JCI plc - 1.00% due in 2023 (€1,000 million par value)	1,171	—
JCI plc - 3.625% due in 2024 ($468 million par value)	468	—
JCI Inc. - 3.625% due in 2024 ($31 million par value in 2017; $500 million par value in 2016)	31	500
Adient - 3.5% due in 2024 (€1,000 million par value)	—	1,119
JCI plc - 1.375% due in 2025 (€423 million par value)	510	—
TIFSA - 1.375% due in 2025 (€58 million par value in 2017; €500 million par value in 2016)	70	571
JCI plc - 3.90% due in 2026 ($698 million par value)	763	—
TIFSA - 3.90% due in 2026 ($51 million par value in 2017; $750 million par value in 2016)	53	824
Adient - 4.875% due in 2026 ($900 million par value)	—	900
JCI plc - 6.00% due in 2036 ($392 million par value)	388	—
JCI Inc. - 6.00% due in 2036 ($8 million par value in 2017; $400 million par value in 2016)	8	396
JCI plc - 5.70% due in 2041 ($270 million par value)	269	—
JCI Inc. - 5.70% due in 2041 ($30 million par value in 2017; $300 million par value in 2016)	30	299
JCI plc - 5.25% due in 2042 ($242 million par value)	242	—
JCI Inc. - 5.25% due in 2042 ($8 million par value in 2017; $250 million par value in 2016)	8	250
JCI plc - 4.625% due in 2044 ($445 million par value)	441	—
JCI Inc. - 4.625% due in 2044 ($6 million par value in 2017; $450 million par value in 2016)	6	447
JCI plc - 5.125% due in 2045 ($727 million par value)	872	—
TIFSA - 5.125% due in 2045 ($23 million par value in 2017; $750 million par value in 2016)	23	903
JCI plc - 6.95% due in 2046 ($121 million par value)	121	—
JCI Inc. - 6.95% due in 2046 ($4 million par value in 2017; $125 million par value in 2016)	4	125
JCI plc - 4.50% due in 2047 ($500 million par value)	495	—
JCI plc - 4.95% due in 2064 ($435 million par value)	434	—
JCI Inc. - 4.95% due in 2064 ($15 million par value in 2017; $450 million par value in 2016)	15	449
TSarl - Term Loan A - LIBOR plus 1.50% due in 2020	3,700	4,000

Adient - Term Loan A - LIBOR plus 1.005% due in 2021	—	1,500
Capital lease obligations	19	24
Other foreign-denominated debt		
Euro	43	61
Japanese Yen	311	367
Other	47	39
Gross long-term debt	12,403	15,234
Less: current portion	394	628
Less: debt issuance costs	45	74
Less: current portion - liabilities held for sale	—	38
Less: long-term debt - noncurrent liabilities held for sale	—	3,441
Net long-term debt	$ 11,964	$ 11,053

At September 30, 2017 , the Company's other foreign-denominated long-term debt was at fixed and floating rates with a weighted-average interest rate of 1.2% . At September 30, 2016 , the Company's other foreign-denominated long-term debt was at fixed and floating rates with a weighted-average interest rate of 1.3% .

The installments of long-term debt maturing in subsequent fiscal years are: 2018 - $394 million ; 2019 - $27 million ; 2020 - $4,201 million ; 2021 - $501 million ; 2022 - $804 million ; 2023 and thereafter - $6,476 million . The Company's long-term debt includes various financial covenants, none of which are expected to restrict future operations.

Total interest paid on both short and long-term debt for the fiscal years ended September 30, 2017 , 2016 and 2015 was $448 million , $319 million and $373 million , respectively. The Company uses financial instruments to manage its interest rate exposure (see Note 10, "Derivative Instruments and Hedging Activities," and Note 11, "Fair Value Measurements," of the notes to consolidated financial statements). These instruments affect the weighted average interest rate of the Company's debt and interest expense.

Financing Arrangements

Debt Exchange

In connection with the Tyco Merger, on December 28, 2016, the Company completed its offer to exchange all validly tendered and accepted notes of certain series (the "existing notes") issued by JCI Inc. or TIFSA, as applicable, each of which is a wholly owned subsidiary of the Company, for new notes (the "New Notes") to be issued by the Company, and the related solicitation of consents to amend the indentures governing the existing notes (the offers to exchange and the related consent solicitation together the "exchange offers"). Pursuant to the exchange offers, the Company exchanged approximately $5.6 billion of $6.0 billion in aggregate principal amount of dollar denominated notes and approximately 423 million euro of 500 million euro in aggregate principal amount of euro denominated notes. All validly tendered and accepted existing notes have been canceled. Immediately following such cancellation, $380.9 million aggregate principal amount of existing notes (not including the TIFSA Euro Notes) remained outstanding across seventeen series of dollar-denominated existing notes and 77.4 million euro aggregate principal amount of TIFSA Euro Notes remained outstanding across one series. In connection with the settlement of the exchange offers, the New Notes were registered under the Securities Act of 1933 and their terms are described in the Company's Prospectus dated December 19, 2016, as filed with the SEC under Rule 424(b)(3) of the Act on that date. The issuance of the New Notes occurred on December 28, 2016. The new notes are unsecured and unsubordinated obligations of the Company and rank equally with all other unsecured and unsubordinated indebtedness of the Company issued from time to time.

Financing in connection with Tyco Merger

Simultaneously with the closing of the Tyco Merger on September 2, 2016, TSarl borrowed $4.0 billion under the Term Loan Credit Agreement dated as of March 10, 2016 with a syndicate of lenders, providing for a three and a half year senior unsecured term loan facility to finance the cash consideration for, and fees, expenses and costs incurred in connection with the Merger. During fiscal 2017, the Company partially repaid $300 million of the $4.0 billion floating rate term loan scheduled to expire in March 2020. As of September 30, 2017, the outstanding term loan balance was $3.7 billion . In October 2017, the Company completed the previously announced sale of its Scott Safety business to 3M, and net cash proceeds from the transaction of $1.9 billion were used to further repay a significant portion of the $4.0 billion term loan.

Financing in connection with Adient spin-off

In August 2016, Adient Global Holdings, Ltd. ("AGH"), a wholly-owned subsidiary of the Company, issued a one billion euro, 3.5% fixed rate, 8 -year senior unsecured note scheduled to mature in August 2024. AGH also issued a $900 million , 4.875% , 10 -year senior unsecured note scheduled to mature in August 2026. The proceeds from the notes were deposited into escrow and released in connection with the spin-off. The notes were not guaranteed by the Company or any of its subsidiaries that are not subsidiaries of Adient following the spin-off. Approximately $1.5 billion of the proceeds were distributed to the Company in connection with the spin-off and approximately $500 million of the proceeds were used for Adient's general corporate purposes.

In July 2016, AGH entered into a 5 -year, $1.5 billion Term A loan facility and a 5 -year, $1.5 billion revolving credit facility scheduled to mature in July 2021. The term loan was fully drawn in August 2016. As of September 30, 2016, there were no draws on the revolving credit facility. Upon completion of the spin-off of Adient, AGH became a wholly-owned subsidiary of Adient. On the date of the spin-off, Adient and certain of its wholly-owned subsidiaries guaranteed the debt, and the guarantees of the Company were automatically released. The Company used the proceeds of the term loan to early repay its four tranches of euro-denominated floating rate credit facilities, totaling 390 million euro, that were outstanding as of September 30, 2016; three term loans of $500 million , $200 million and $125 million that were entered into during fiscal 2016, plus accrued interest, and a $90 million outstanding credit facility. The remainder of the proceeds were used for general corporate purposes.

Other financing arrangements

In September 2017, the Company entered into a five -year 35 billion yen syndicated floating rate term loan scheduled to expire in September 2022. Proceeds from the loan were used for general corporate purposes.

In July 2017, the Company retired $150 million in principal amount, plus accrued interest, of its 7.125% fixed rate notes that expired in July 2017.

In July 2017, the Company repurchased, at a discount, 4 million euro of its TIFSA 1.375% fixed rate notes, plus accrued interest, scheduled to mature in 2025.

In March 2017, the Company issued one billion euro in principal amount of 1.0% senior unsecured fixed rate notes due in fiscal 2023. Proceeds from the issuance were used to repay existing debt and for other general corporate purposes.

In March 2017, the Company retired $46 million in principal amount, plus accrued interest, of its 2.355% fixed rate notes that expired in March 2017.

In March and February 2017, the Company repurchased, at a discount, 15 million euro of its TIFSA 1.375% fixed rate notes, plus accrued interest, scheduled to expire in 2025.

In February 2017, the Company issued $500 million aggregate principal amount of 4.5% senior unsecured fixed rate notes due in fiscal 2047. Proceeds from the issuance were used to repay outstanding commercial paper borrowings and for other general corporate purposes.

In December 2016, the Company retired $400 million in principal amount, plus accrued interest, of its 2.6% fixed rate notes that expired in December 2016.

In November 2016, the Company fully repaid its 37 billion yen syndicated floating rate term loan, plus accrued interest scheduled to expire in June 2020.

Net Financing Charges

The Company's net financing charges line item in the consolidated statements of income for the years ended September 30, 2017 , 2016 and 2015 contained the following components (in millions):

	Year Ended September 30,		
	2017	2016	2015
Interest expense, net of capitalized interest costs	$ 466	$ 293	$ 275
Banking fees and bond cost amortization	67	30	21
Interest income	(19)	(12)	(7)
Net foreign exchange results for financing activities	(18)	(22)	(15)
Net financing charges	$ 496	$ 289	$ 274

10. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

The Company selectively uses derivative instruments to reduce market risk associated with changes in foreign currency, commodities, stock-based compensation liabilities and interest rates. Under Company policy, the use of derivatives is restricted to those intended for hedging purposes; the use of any derivative instrument for speculative purposes is strictly prohibited. A description of each type of derivative utilized by the Company to manage risk is included in the following paragraphs. In addition, refer to Note 11, "Fair Value Measurements," of the notes to consolidated financial statements for information related to the fair value measurements and valuation methods utilized by the Company for each derivative type.

Cash Flow Hedges

The Company has global operations and participates in the foreign exchange markets to minimize its risk of loss from fluctuations in foreign currency exchange rates. The Company selectively hedges anticipated transactions that are subject to foreign exchange rate risk primarily using foreign currency exchange hedge contracts. The Company hedges 70% to 90% of the nominal amount of each of its known foreign exchange transactional exposures. As cash flow hedges under ASC 815, "Derivatives and Hedging," the effective portion of the hedge gains or losses due to changes in fair value are initially recorded as a component of AOCI and are subsequently reclassified into earnings when the hedged transactions occur and affect earnings. Any ineffective portion of the hedge is reflected in the consolidated statements of income. These contracts were highly effective in hedging the variability in future cash flows attributable to changes in currency exchange rates at September 30, 2017 and 2016 .

The Company selectively hedges anticipated transactions that are subject to commodity price risk, primarily using commodity hedge contracts, to minimize overall price risk associated with the Company’s purchases of lead, copper, tin, aluminum and polypropylene in cases where commodity price risk cannot be naturally offset or hedged through supply base fixed price contracts. Commodity risks are systematically managed pursuant to policy guidelines. As cash flow hedges, the effective portion of the hedge gains or losses due to changes in fair value are initially recorded as a component of AOCI and are subsequently reclassified into earnings when the hedged transactions, typically sales, occur and affect earnings. Any ineffective portion of the hedge is reflected in the consolidated statements of income. The maturities of the commodity hedge contracts coincide with the expected purchase of the commodities. These contracts were highly effective in hedging the variability in future cash flows attributable to changes in commodity prices at September 30, 2017 and 2016 .

The Company had the following outstanding contracts to hedge forecasted commodity purchases:

		Volume Outstanding as of	
Commodity	Units	September 30, 2017	September 30, 2016
Copper	Metric Tons	1,962	2,653
Polypropylene	Metric Tons	19,563	—
Lead	Metric Tons	24,705	5,185
Aluminum	Metric Tons	2,169	2,620
Tin	Metric Tons	1,715	185

Fair Value Hedges

The Company selectively uses interest rate swaps to reduce market risk associated with changes in interest rates for its fixed-rate bonds. As fair value hedges, the interest rate swaps and related debt balances are valued under a market approach using publicized swap curves. Changes in the fair value of the swap and hedged portion of the debt are recorded in the consolidated statements of income. In the third quarter of fiscal 2014, the Company entered into four fixed to floating interest rate swaps totaling $400 million to hedge the coupon of its 2.6% notes that matured in December 2016, three fixed to floating interest rate swaps totaling $300 million to hedge the coupon of its 1.4% notes maturing November 2017 and one fixed to floating interest rate swap totaling $150 million to hedge the coupon of its 7.125% notes maturing in July 2017. In December 31, 2016, the remaining four outstanding interest rate swaps were terminated. The Company had no interest rate swaps outstanding at September 30, 2017 . There were eight interest rate swaps outstanding as of September 30, 2016 .

Net Investment Hedges

The Company enters into foreign currency denominated debt obligations to selectively hedge portions of its net investment in non-U.S. subsidiaries. The currency effects of the debt obligations are reflected in the AOCI account within shareholders' equity attributable to Johnson Controls ordinary shareholders where they offset gains and losses recorded on the Company's net investments globally. At September 30, 2017 , the Company had one billion euro, 423 million euro and 58 million euro bonds designated as net investment hedges in the Company's net investment in Europe and 35 billion yen of foreign denominated debt designated as net investment hedge in the Company's net investment in Japan. At September 30, 2016 , the Company had 37 billion yen of foreign denominated debt designated as net investment hedge in the Company's net investment in Japan and one billion euro and 500 million euro bonds designated as net investment hedges in the Company's net investment in Europe.

Derivatives Not Designated as Hedging Instruments

The Company selectively uses equity swaps to reduce market risk associated with certain of its stock-based compensation plans, such as its deferred compensation plans. These equity compensation liabilities increase as the Company's stock price increases and decrease as the Company's stock price decreases. In contrast, the value of the swap agreement moves in the opposite direction of these liabilities, allowing the Company to fix a portion of the liabilities at a stated amount. As of September 30, 2017 , the Company hedged approximately 1.4 million of its ordinary shares, which have a cost basis of $58 million . As of September 30, 2016 the Company had no equity swaps outstanding.

The Company also holds certain foreign currency forward contracts which do not qualify for hedge accounting treatment. The change in fair value of foreign currency exchange derivatives not designated as hedging instruments under ASC 815 are recorded in the consolidated statements of income.

Fair Value of Derivative Instruments

The following table presents the location and fair values of derivative instruments and hedging activities included in the Company's consolidated statements of financial position (in millions):

	Derivatives and Hedging Activities Designated as Hedging Instruments under ASC 815		Derivatives and Hedging Activities Not Designated as Hedging Instruments under ASC 815	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
Other current assets				
Foreign currency exchange derivatives	$ 27	$ 41	$ —	$ 49
Commodity derivatives	9	4	—	—
Other noncurrent assets				
Interest rate swaps	—	1	—	—
Equity swap	—	—	55	—
Total assets	$ 36	$ 46	$ 55	$ 49
Other current liabilities				
Foreign currency exchange derivatives	$ 21	$ 48	$ 25	$ 18
Commodity derivatives	1	—	—	—
Liabilities held for sale				
Foreign currency exchange derivatives	—	—	—	5
Current portion of long-term debt				
Fixed rate debt swapped to floating	—	551	—	—
Long-term debt				
Foreign currency denominated debt	2,058	938	—	—
Fixed rate debt swapped to floating	—	301	—	—
Noncurrent liabilities held for sale				
Foreign currency denominated debt	—	1,119	—	—
Total liabilities	$ 2,080	$ 2,957	$ 25	$ 23

Counterparty Credit Risk

The use of derivative financial instruments exposes the Company to counterparty credit risk. The Company has established policies and procedures to limit the potential for counterparty credit risk, including establishing limits for credit exposure and continually assessing the creditworthiness of counterparties. As a matter of practice, the Company deals with major banks worldwide having strong investment grade long-term credit ratings. To further reduce the risk of loss, the Company generally enters into International Swaps and Derivatives Association ("ISDA") master netting agreements with substantially all of its counterparties. The Company's derivative contracts do not contain any credit risk related contingent features and do not require collateral or other security to be furnished by the Company or the counterparties. The Company's exposure to credit risk associated with its derivative instruments is measured on an individual counterparty basis, as well as by groups of counterparties that share similar attributes. The Company does not anticipate any non-performance by any of its counterparties, and the concentration of risk with financial institutions does not present significant credit risk to the Company.

The Company enters into ISDA master netting agreements with counterparties that permit the net settlement of amounts owed under the derivative contracts. The master netting agreements generally provide for net settlement of all outstanding contracts with a counterparty in the case of an event of default or a termination event. The Company has not elected to offset the fair value positions of the derivative contracts recorded in the consolidated statements of financial position. Collateral is generally not required of the Company or the counterparties under the master netting agreements. As of September 30, 2017 and 2016 , no cash collateral was received or pledged under the master netting agreements.

The gross and net amounts of derivative assets and liabilities were as follows (in millions):

	Fair Value of Assets		Fair Value of Liabilities	
	September 30, 2017	September 30, 2016	September 30, 2017	September 30, 2016
Gross amount recognized	$ 91	$ 95	$ 2,105	$ 2,980
Gross amount eligible for offsetting	(16)	(21)	(16)	(21)
Net amount	$ 75	$ 74	$ 2,089	$ 2,959

Derivatives Impact on the Statements of Income and Statements of Comprehensive Income

The following table presents the effective portion of pre-tax gains (losses) recorded in other comprehensive income (loss) related to cash flow hedges for the fiscal years ended September 30, 2017 , 2016 and 2015 (in millions):

	Year Ended September 30,		
Derivatives in ASC 815 Cash Flow Hedging Relationships	2017	2016	2015
Foreign currency exchange derivatives	$ (1)	$ (18)	$ (5)
Commodity derivatives	14	3	(19)
Total	$ 13	$ (15)	$ (24)

The following table presents the location and amount of the effective portion of pre-tax gains (losses) on cash flow hedges reclassified from AOCI into the Company's consolidated statements of income for the fiscal years ended September 30, 2017 , 2016 and 2015 (in millions):

		Year Ended September 30,		
Derivatives in ASC 815 Cash Flow Hedging Relationships	Location of Gain (Loss) Recognized in Income on Derivative	2017	2016	2015
Foreign currency exchange derivatives	Cost of sales	$ 25	$ 9	$ 25
Foreign currency exchange derivatives	Income (loss) from discontinued operations	—	(30)	(24)
Commodity derivatives	Cost of sales	8	(12)	(11)
Forward treasury locks	Net financing charges	—	$ 1	$ 1
Total		$ 33	$ (32)	$ (9)

The following table presents the location and amount of pre-tax gains (losses) on fair value hedges recognized in the Company's consolidated statements of income for the fiscal years ended September 30, 2017 , 2016 and 2015 (in millions):

		Year Ended September 30,		
Derivatives in ASC 815 Fair Value Hedging Relationships	Location of Gain (Loss) Recognized in Income on Derivative	2017	2016	2015
Interest rate swap	Net financing charges	$ (1)	$ (5)	$ 7
Fixed rate debt swapped to floating	Net financing charges	2	5	(7)
Total		$ 1	$ —	$ —

The following table presents the location and amount of pre-tax gains (losses) on derivatives not designated as hedging instruments recognized in the Company's consolidated statements of income for the fiscal years ended September 30, 2017 , 2016 and 2015 (in millions):

		Year Ended September 30,		
Derivatives Not Designated as Hedging Instruments under ASC 815	Location of Gain (Loss) Recognized in Income on Derivative	2017	2016	2015
Foreign currency exchange derivatives	Cost of sales	$ (1)	$ (20)	$ 2
Foreign currency exchange derivatives	Net financing charges	44	21	(37)
Foreign currency exchange derivatives	Income tax provision	(3)	4	—
Foreign currency exchange derivatives	Income (loss) from discontinued operations	5	(30)	20
Equity swap	Selling, general and administrative	(3)	14	(9)
Total		$ 42	$ (11)	$ (24)

The effective portion of pre-tax gains (losses) recorded in foreign currency translation adjustment ("CTA") within other comprehensive income (loss) related to net investment hedges were $(138) million , $(82) million and $16 million for the years ended September 30, 2017 , 2016 and 2015 , respectively. For the years ended September 30, 2017 , 2016 and 2015 , no gains or

losses were reclassified from CTA into income for the Company's outstanding net investment hedges, and no gains or losses were recognized in income for the ineffective portion of cash flow hedges.

11. FAIR VALUE MEASUREMENTS

ASC 820, "Fair Value Measurement," defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820 also establishes a three-level fair value hierarchy that prioritizes information used in developing assumptions when pricing an asset or liability as follows:

Level 1: Observable inputs such as quoted prices in active markets for identical assets or liabilities;

Level 2: Quoted prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs where there is little or no market data, which requires the reporting entity to develop its own assumptions.

ASC 820 requires the use of observable market data, when available, in making fair value measurements. When inputs used to measure fair value fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement.

Recurring Fair Value Measurements

The following tables present the Company's fair value hierarchy for those assets and liabilities measured at fair value as of September 30, 2017 and 2016 (in millions):

	Fair Value Measurements Using:			
	Total as of September 30, 2017	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Other current assets				
Foreign currency exchange derivatives	$ 27	$ —	$ 27	$ —
Commodity derivatives	9	—	9	—
Exchange traded funds (fixed income) [1]	14	14	—	—
Other noncurrent assets				
Investments in marketable common stock	10	10	—	—
Deferred compensation plan assets	92	92	—	—
Exchange traded funds (fixed income) [1]	155	155	—	—
Exchange traded funds (equity) [1]	100	100	—	—
Equity swap	55	—	55	—
Total assets	$ 462	$ 371	$ 91	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 46	$ —	$ 46	$ —
Commodity derivatives	1	—	1	—
Total liabilities	$ 47	$ —	$ 47	$ —

	Fair Value Measurements Using:			
	Total as of September 30, 2016	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Other current assets				
Foreign currency exchange derivatives	$ 90	$ —	$ 90	$ —
Commodity derivatives	4	—	4	—
Exchange traded funds (fixed income) [1]	15	15	—	—
Other noncurrent assets				
Interest rate swaps	1	—	1	—
Investments in marketable common stock	3	3	—	—
Deferred compensation plan assets	81	81	—	—
Exchange traded funds (fixed income) [1]	163	163	—	—
Exchange traded funds (equity) [1]	86	86	—	—
Total assets	$ 443	$ 348	$ 95	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 66	$ —	$ 66	$ —
Liabilities held for sale				
Foreign currency exchange derivatives	5	—	5	—
Current portion of long-term debt				
Fixed rate debt swapped to floating	551	—	551	—
Long-term debt				
Fixed rate debt swapped to floating	301	—	301	—
Total liabilities	$ 923	$ —	$ 923	$ —

[1] Classified as restricted investments for payment of asbestos liabilities. See Note 23, "Commitments and Contingencies" of the notes to consolidated financial statements for further details.

Valuation Methods

Foreign currency exchange derivatives : The foreign currency exchange derivatives are valued under a market approach using publicized spot and forward prices.

Commodity derivatives : The commodity derivatives are valued under a market approach using publicized prices, where available, or dealer quotes.

Interest rate swaps and related debt : The interest rate swaps and related debt balances are valued under a market approach using publicized swap curves.

Equity swaps : The equity swaps are valued under a market approach as the fair value of the swaps is equal to the Company’s stock price at the reporting period date.

Deferred compensation plan assets : Assets held in the deferred compensation plans will be used to pay benefits under certain of the Company's non-qualified deferred compensation plans. The investments primarily consist of mutual funds which are publicly traded on stock exchanges and are valued using a market approach based on the quoted market prices.

Investments in marketable common stock and exchange traded funds : Investments in marketable common stock and exchange traded funds are valued using a market approach based on the quoted market prices, where available, or broker/dealer quotes of identical or comparable instruments. There was an unrealized gain recorded on these investments of $5 million for the year ended September 30, 2017 within AOCI in the consolidated statements of financial position. There was an unrealized loss recorded on these investments of $1 million for the year ended September 30, 2016 within AOCI in the consolidated statements of financial position.

The fair values of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values. The fair value of long-term debt was $12.7 billion and $15.7 billion at September 30, 2017 and 2016, respectively. The fair value of public debt was $8.6 billion and $9.7 billion at September 30, 2017 and September 30, 2016, respectively, which was determined primarily using market quotes classified as Level 1 inputs within the ASC 820 fair value hierarchy. The fair value of other long-term debt was $4.1 billion and $6.0 billion at September 30, 2017 and September 30, 2016, respectively, which was determined based on quoted market prices for similar instruments classified as Level 2 inputs within the ASC 820 fair value hierarchy.

12. STOCK-BASED COMPENSATION

On September 2, 2016, the shareholders of the Company approved the Johnson Controls International plc 2012 Share and Incentive Plan (the "Plan"). The original effective date of this Plan was October 1, 2012. The Plan was amended and restated as of November 17, 2014 and was amended and restated again in connection with the Merger that was consummated on September 2, 2016 (the “Amendment Effective Date”). The amendment and restatement is intended to reflect the assumption into this Plan of the remaining share reserves under the Johnson Controls, Inc. 2012 Omnibus Incentive Plan and the Johnson Controls, Inc. 2003 Stock Plan for Outside Directors (the “Legacy Johnson Controls Plans”) as of the Amendment Effective Date. Following the Amendment Effective Date, no further awards may be made under the Legacy Johnson Controls Plans. The types of awards authorized by the Plan comprise of stock options, stock appreciation rights, performance shares, performance units and other stock-based awards. The Compensation Committee of the Company's Board of Directors will determine the types of awards to be granted to individual participants and the terms and conditions of the awards. The Plan provides that 76 million shares of the Company's common stock are reserved for issuance under the 2012 Plan, and 41 million shares remain available for issuance at September 30, 2017.

Pursuant to the Merger Agreement, outstanding stock options held by Tyco employees on September 2, 2016 (the “Merger Date”) were converted into options to acquire the Company's shares using a 0.955 -for-one share consolidation ratio in a manner designed to preserve the intrinsic value of such awards. In addition, pursuant to the Merger Agreement, nonvested restricted stock held by Tyco employees on the Merger Date were converted into nonvested restricted stock of the Company using the 0.955 -for-one share consolidation ratio in a manner designed to preserve the intrinsic value of such awards. Outstanding performance share awards held by Tyco employees on the Merger Date were converted to nonvested restricted stock of the Company at the target performance level, and adjusted to reflect the 0.955 -for-one consolidation ratio. Except for the conversion of stock options, nonvested restricted stock and performance share awards discussed herein, the material terms of the awards remained unchanged. The modifications made to the awards upon the Merger Date constituted modifications under the authoritative guidance for accounting for stock compensation. This guidance requires the Company to revalue the awards upon the Merger close and allocate the revised fair value between purchase consideration and continuing expense based on the ratio of service performed through the Merger Date over the total service period of the awards. The revised fair value allocated to post-merger services resulted in incremental expense which is recognized over the remaining service period of the awards. The portion of Tyco awards earned as of the Merger Date included as purchase consideration was $224 million . The total value of Tyco awards not earned as of the Merger Date was $101 million , which will be expensed over the remaining future vesting period. Refer to Note 2, “Merger Transaction,” of the notes to consolidated financial statements for further information regarding the Merger.

Pursuant to the Merger Agreement, outstanding stock options held by JCI Inc. employees on the Merger Date were converted one-for-one into options to acquire the Company's shares in a manner designed to preserve the intrinsic value of such awards. In addition, pursuant to the Merger Agreement, nonvested restricted stock held by JCI Inc. employees on the Merger Date was converted one-for-one into nonvested restricted stock of the Company in a manner designed to preserve the intrinsic value of such awards. Outstanding performance share awards held by JCI Inc. employees on the Merger Date were converted to nonvested restricted stock of the Company based on certain performance factors. Except for the conversion of stock options, nonvested restricted stock and performance share awards discussed herein, the material terms of the awards remained unchanged, and no incremental fair value resulted from the conversion. References to the Company’s stock throughout Note 12 refer to stock of JCI Inc. prior to the Merger Date and to stock of the Company subsequent to the Merger Date.

In connection with the Adient spin-off, pursuant to the Employee Matters Agreement between the Company and Adient, outstanding stock options and SARs held on October 31, 2016 (the “Spin Date”) by employees remaining with the Company were converted into options and SARs of the Company using a 1.085317 -for-one share ratio, which is based on the pre-spin and post-spin closing prices of the Company’s ordinary shares. The exercise prices for options and SARs were converted using the inverse ratio in a manner designed to preserve the intrinsic value of such awards. In addition, pursuant to the Employee Matters Agreement, nonvested restricted stock held on the Spin Date by employees remaining with the Company were converted into nonvested restricted stock of the Company using the 1.085317 -for-one share ratio in a manner designed to preserve the intrinsic value of such awards. There were no performance share awards outstanding as of the Spin Date. Employees remaining with the Company did not receive stock-based compensation awards of Adient as a result of the spin-off. Except for the conversion of awards and related exercise prices

discussed herein, the material terms of the awards remained unchanged. No incremental fair value resulted from the conversion of the awards; therefore, no additional compensation expense was recorded related to the award modification.

Also in connection with the spin-off transaction, pursuant to the Employee Matters Agreement, employees of Adient were entitled to receive stock-based compensation awards of the Company and Adient in replacement of previously outstanding awards of the Company granted prior to the Spin Date. These awards include stock options, SARs and nonvested restricted stock. Upon the Spin Date, the existing awards held by Adient employees were converted into new awards of the Company and Adient on a pro rata basis and further adjusted based on a formula designed to preserve the intrinsic value of such awards. Additional compensation expense, if any, resulting from the modification of awards held by Adient employees is to be recorded by Adient.

The Company has four share-based compensation plans, which are described below. For the fiscal year ended September 30, 2017 , compensation cost charged against income for continuing operations, excluding the offsetting impact of outstanding equity swaps, for those plans was approximately $134 million , all of which was recorded in selling, general and administrative expenses. For the fiscal year ended September 30, 2016, compensation cost charged against income for continuing operations, excluding the offsetting impact of outstanding equity swaps, for those plans was approximately $160 million , of which $121 million was recorded in selling, general and administrative expenses and $39 million was recorded in restructuring and impairment costs. For the fiscal year ended September 30, 2015, compensation cost charged against income for continuing operations, excluding the offsetting impact of outstanding equity swaps, for those plans was approximately $69 million , all of which was recorded in selling, general and administrative expenses. The total income tax benefit recognized for continuing operations in the consolidated statements of income for share-based compensation arrangements was approximately $53 million , $56 million and $28 million for the fiscal years ended September 30, 2017 , 2016 and 2015 , respectively. The Company applies a non-substantive vesting period approach whereby expense is accelerated for those employees that receive awards and are eligible to retire prior to the award vesting.

Stock Options

Stock options are granted with an exercise price equal to the market price of the Company’s stock at the date of grant. Stock option awards typically vest between two and three years after the grant date and expire ten years from the grant date.

The fair value of each option is estimated on the date of grant using a Black-Scholes option valuation model that uses the assumptions noted in the following table. The expected life of options represents the period of time that options granted are expected to be outstanding, assessed separately for executives and non-executives. The risk-free interest rate for periods during the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant. For fiscal 2017, expected volatility is based on historical volatility of certain peer companies over the most recent period corresponding to the expected life as of the grant date. For fiscal 2016 and fiscal 2015, expected volatility is based on the historical volatility of the Company's stock and other factors. The expected dividend yield is based on the expected annual dividend as a percentage of the market value of the Company’s ordinary shares as of the grant date. The Company uses historical data to estimate option exercises and employee terminations within the valuation model.

	Year Ended September 30,		
	2017	2016	2015
Expected life of option (years)	4.75 & 6.5	6.4	6.6
Risk-free interest rate	1.23% - 1.93%	1.64% - 1.70%	1.61% - 1.93%
Expected volatility of the Company’s stock	24.60%	36.00%	36.00%
Expected dividend yield on the Company’s stock	2.21%	2.11%	2.02%

A summary of stock option activity at September 30, 2017 , and changes for the year then ended, is presented below:

	Weighted Average Option Price	Shares Subject to Option	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Outstanding, September 30, 2016	$ 32.07	22,332,233		
Spin conversion	31.02	1,547,096		
Granted	41.73	2,841,686		
Exercised	28.33	(5,919,790)		
Forfeited or expired	42.33	(1,070,782)		
Outstanding, September 30, 2017	$ 32.76	19,730,443	4.9	$ 187
Exercisable, September 30, 2017	$ 33.16	15,054,034	4.0	$ 180

The weighted-average grant-date fair value of options granted during the fiscal years ended September 30, 2017 , 2016 and 2015 was $7.81 , $13.14 and $15.51 , respectively.

The total intrinsic value of options exercised during the fiscal years ended September 30, 2017 , 2016 and 2015 was approximately $81 million , $39 million and $227 million , respectively.

In conjunction with the exercise of stock options granted, the Company received cash payments for the fiscal years ended September 30, 2017 , 2016 and 2015 of approximately $157 million , $70 million and $275 million , respectively.

The Company has elected to utilize the alternative transition method for calculating the tax effects of stock-based compensation. The alternative transition method includes computational guidance to establish the beginning balance of the additional paid-in capital pool ("APIC Pool") related to the tax effects of employee stock-based compensation, and a simplified method to determine the subsequent impact on the APIC Pool for employee stock-based compensation awards that are vested and outstanding upon adoption of ASC 718, "Compensation - Stock Compensation." The tax benefit from the exercise of stock options, which is recorded in capital in excess of par value, was $4 million , $11 million and $59 million for the fiscal years ended September 30, 2017 , 2016 and 2015 , respectively. The Company does not settle stock options granted under share-based payment arrangements for cash.

At September 30, 2017 , the Company had approximately $21 million of total unrecognized compensation cost related to nonvested stock options granted for continuing operations. That cost is expected to be recognized over a weighted-average period of 1.9 years.

Stock Appreciation Rights ("SARs")

SARs vest under the same terms and conditions as stock option awards; however, they are settled in cash for the difference between the market price on the date of exercise and the exercise price. As a result, SARs are recorded in the Company’s consolidated statements of financial position as a liability until the date of exercise.

The fair value of each SAR award is estimated using a similar method described for stock options. The fair value of each SAR award is recalculated at the end of each reporting period and the liability and expense are adjusted based on the new fair value.

The assumptions used to determine the fair value of the SAR awards at September 30, 2017 were as follows:

Expected life of SAR (years)	0.5 - 5.5
Risk-free interest rate	1.06% - 1.98%
Expected volatility of the Company’s stock	24.60%
Expected dividend yield on the Company’s stock	2.21%

A summary of SAR activity at September 30, 2017 , and changes for the year then ended, is presented below:

	Weighted Average SAR Price	Shares Subject to SAR	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Outstanding, September 30, 2016	$ 30.49	1,201,165		
Spin conversion	28.06	29,241		
Granted	41.73	15,693		
Exercised	29.62	(290,378)		
Forfeited or expired	39.17	(62,410)		
Outstanding, September 30, 2017	$ 27.02	893,311	3.8	$ 12
Exercisable, September 30, 2017	$ 26.40	853,260	3.5	$ 12

In conjunction with the exercise of SARs granted, the Company made payments of $4 million , $8 million and $19 million during the fiscal years ended September 30, 2017 , 2016 and 2015 , respectively.

Restricted (Nonvested) Stock

The Plan provides for the award of restricted stock or restricted stock units to certain employees. These awards are typically share settled unless the employee is a non-U.S. employee or elects to defer settlement until retirement at which point the award would be settled in cash. Restricted awards typically vest after three years from the grant date. The Plan allows for different vesting terms on specific grants with approval by the Board of Directors. The value of restricted awards is based on the closing market value of the Company’s ordinary shares on the date of grant.

A summary of the status of the Company’s nonvested restricted stock awards at September 30, 2017 , and changes for the fiscal year then ended, is presented below:

	Weighted Average Price	Shares/Units Subject to Restriction
Nonvested, September 30, 2016	$ 47.27	9,566,044
Spin conversion	43.88	482,312
Granted	41.66	1,773,465
Vested	40.83	(3,045,375)
Forfeited	44.53	(1,814,740)
Nonvested, September 30, 2017	$ 44.48	6,961,706

At September 30, 2017 , the Company had approximately $101 million of total unrecognized compensation cost related to nonvested restricted stock arrangements granted for continuing operations. That cost is expected to be recognized over a weighted-average period of 1.7 years.

Performance Share Awards

The Plan permits the grant of performance-based share unit ("PSU") awards. The PSUs are generally contingent on the achievement of pre-determined performance goals over a three-year performance period as well as on the award holder's continuous employment until the vesting date. The PSUs are also indexed to the achievement of specified levels of total shareholder return versus a peer group over the performance period. Each PSU that is earned will be settled with shares of the Company's ordinary shares following the completion of the performance period, unless the award holder elected to defer a portion or all of the award until retirement which would then be settled in cash.

The fair value of each PSU is estimated on the date of grant using a Monte Carlo simulation that uses the assumptions noted in the following table. The risk-free interest rate for periods during the contractual life of the PSU is based on the U.S. Treasury yield curve in effect at the time of grant. Expected volatility is based on historical volatility of certain peer companies over the most recent three-year period as of the grant date.

	Year Ended September 30, 2017
Risk-free interest rate	1.40%
Expected volatility of the Company's stock	21.00%

A summary of the status of the Company's nonvested PSUs at September 30, 2017 , and changes for the fiscal year then ended, is presented below:

	Weighted Average Price	Shares/Units Subject to PSU
Nonvested, September 30, 2016	$ —	—
Granted	43.43	1,259,342
Forfeited	44.98	(139,954)
Nonvested, September 30, 2017	$ 43.24	1,119,388

13. EARNINGS PER SHARE

The Company presents both basic and diluted EPS amounts. Basic EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of ordinary shares outstanding during the reporting period. Diluted EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of ordinary shares and ordinary equivalent shares outstanding during the reporting period that are calculated using the treasury stock method for stock options, unvested restricted stock and unvested performance share awards. The treasury stock method assumes that the Company uses the proceeds from the exercise of stock option awards to repurchase ordinary shares at the average market price during the period. The assumed proceeds under the treasury stock method include the purchase price that the grantee will pay in the future, compensation cost for future service that the Company has not yet recognized and any windfall tax benefits that would be credited to capital in excess of par value when the award generates a tax deduction. If there would be a shortfall resulting in a charge to capital in excess of par value, such an amount would be a reduction of the proceeds. For unvested restricted stock and unvested performance share awards, assumed proceeds under the treasury stock method would include unamortized compensation cost and windfall tax benefits or shortfalls.

The following table reconciles the numerators and denominators used to calculate basic and diluted earnings per share (in millions):

	Year Ended September 30,		
	2017	2016	2015
Income (Loss) Available to Ordinary Shareholders			
Income from continuing operations	$ 1,654	$ 732	$ 814
Income (loss) from discontinued operations	(43)	(1,600)	749
Basic and diluted income (loss) available to shareholders	$ 1,611	$ (868)	$ 1,563
Weighted Average Shares Outstanding			
Basic weighted average shares outstanding	935.3	667.4	655.2
Effect of dilutive securities:			
Stock options, unvested restricted stock and unvested performance share awards	9.3	5.2	6.3
Diluted weighted average shares outstanding	944.6	672.6	661.5
Antidilutive Securities			
Options to purchase common shares	0.2	—	0.4

During the three months ended September 30, 2017 and 2016 , the Company declared a dividend of $0.25 and $0.29 , respectively, per share. During the twelve months ended September 30, 2017 and 2016 , the Company declared four quarterly dividends totaling $1.00 and $1.16 , respectively, per share.

14. EQUITY AND NONCONTROLLING INTERESTS

Share Capital

In September 2016, as a result of the Tyco Merger and further discussed within Note 2, "Merger Transaction," of the notes to consolidated financial statements, each outstanding share of common stock, par value $1.00 per share, of JCI Inc. common stock (other than shares held by JCI Inc., Tyco and certain of their subsidiaries) was converted into the right to receive either a cash consideration or a share consideration.

The shares outstanding as of the Merger date were calculated as follows (in millions, except share consolidation ratio and per share data):

Pre-merger Tyco shares outstanding	427.2
Share consolidation ratio	0.955
Post-share consolidation Tyco shares	408.0
Johnson Controls, Inc. shares outstanding	638.3
Cash contributed by Tyco used to purchase shares of Johnson Controls, Inc.	$ 3,864
Johnson Controls, Inc. per share consideration	$ 34.88
Reduction in shares due to cash consideration paid by Tyco	(110.8)
Adjusted Johnson Controls, Inc. shares outstanding (1:1 exchange ratio)	527.5
Shares outstanding at September 2, 2016	935.5
Par value	$ 9

Dividends

The authority to declare and pay dividends is vested in the Board of Directors. The timing, declaration and payment of future dividends to holders of the Company's ordinary shares will be determined by the Company's Board of Directors and will depend upon many factors, including the Company's financial condition and results of operations, the capital requirements of the Company's businesses, industry practice and any other relevant factors.

Under Irish law, dividends may only be paid (and share repurchases and redemptions must generally be funded) out of "distributable reserves." The creation of distributable reserves was accomplished by way of a capital reduction, which the Irish High Court approved on December 18, 2014 and as acquired in conjunction with the Tyco Merger.

Share Repurchase Program

Following the Tyco Merger, the Company adopted, subject to the ongoing existence of sufficient distributable reserves, the existing Tyco International plc $1 billion share repurchase program in September 2016. The share repurchase program does not have an expiration date and may be amended or terminated by the Board of Directors at any time without prior notice. During fiscal year 2017 , the Company repurchased approximately $651 million of its shares. As of September 30, 2017, approximately $349 million remains available under the share repurchase program. There were no shares repurchased between the closing of the Merger and September 30, 2016. Prior to the Merger, during fiscal year 2016 , the Company repurchased approximately $501 million of its shares under JCI Inc.'s $3.65 billion share repurchase program. During fiscal year 2015, the Company repurchased approximately $1.4 billion of its common stock.

Other comprehensive income includes activity relating to discontinued operations. The following schedules present changes in consolidated equity attributable to Johnson Controls and noncontrolling interests (in millions, net of tax):

	Equity Attributable to Johnson Controls International plc	Equity Attributable to Noncontrolling Interests	Total Equity
At September 30, 2014	$ 11,270	$ 251	$ 11,521
Total comprehensive income:			
Net income	1,563	65	1,628
Foreign currency translation adjustments	(799)	(3)	(802)
Realized and unrealized losses on derivatives	(11)	—	(11)
Pension and postretirement plans	(10)	—	(10)
Other comprehensive loss	(820)	(3)	(823)
Comprehensive income	743	62	805
Other changes in equity:			
Cash dividends - common stock ($1.04 per share)	(681)	—	(681)
Dividends attributable to noncontrolling interests	—	(57)	(57)
Repurchases of common stock	(1,362)	—	(1,362)
Change in noncontrolling interest share	—	(93)	(93)
Other, including options exercised	365	—	365
At September 30, 2015	10,335	163	10,498
Total comprehensive income (loss):			
Net income (loss)	(868)	168	(700)
Foreign currency translation adjustments	(105)	9	(96)
Realized and unrealized gains (losses) on derivatives	11	(1)	10
Unrealized losses on marketable securities	(1)	—	(1)
Pension and postretirement plans	(1)	—	(1)
Other comprehensive income (loss)	(96)	8	(88)
Comprehensive income (loss)	(964)	176	(788)
Other changes in equity:			
Result of contribution of Johnson Controls, Inc. to Johnson Controls International plc	15,808	—	15,808
Cash dividends - common stock ($1.16 per share)	(752)	—	(752)
Dividends attributable to noncontrolling interests	—	(93)	(93)
Repurchases of common stock	(501)	—	(501)
Change in noncontrolling interest share	—	726	726
Other, including options exercised	192	—	192
At September 30, 2016	24,118	972	25,090
Total comprehensive income (loss):			
Net income	1,611	164	1,775
Foreign currency translation adjustments	108	(18)	90
Realized and unrealized gains (losses) on derivatives	(14)	1	(13)
Realized and unrealized gains on marketable securities	5	—	5
Other comprehensive income (loss)	99	(17)	82
Comprehensive income	1,710	147	1,857
Other changes in equity:			
Cash dividends - ordinary shares ($1.00 per share)	(938)	—	(938)
Dividends attributable to noncontrolling interests	—	(56)	(56)
Repurchases of ordinary shares	(651)	—	(651)
Change in noncontrolling interest share	—	(5)	(5)
Spin-off of Adient	(4,038)	(138)	(4,176)
Other, including options exercised	246	—	246
At September 30, 2017	$ 20,447	$ 920	$ 21,367

The equity attributable to Johnson Controls International plc increased by $15.8 billion as a result of the Tyco Merger in fiscal 2016. The increase is primarily due to an increase to equity of $19.7 billion resulting from the total fair value of consideration transferred, partially offset by a decrease of $3.9 billion resulting from cash contributed by Tyco used to purchase shares of Johnson Controls, Inc.

As previously disclosed, on October 31, 2016, the Company completed the Adient spin-off. As a result of the spin-off, the Company divested net assets of approximately $4.0 billion.

As previously disclosed, on October 1, 2015, the Company formed a joint venture with Hitachi. In connection with the acquisition, the Company recorded equity attributable to noncontrolling interests of $679 million . Also, in connection with the Tyco Merger, the Company recorded equity attributable to noncontrolling interests of $34 million .

The Company consolidates certain subsidiaries in which the noncontrolling interest party has within their control the right to require the Company to redeem all or a portion of its interest in the subsidiary. The redeemable noncontrolling interests are reported at their estimated redemption value. Any adjustment to the redemption value impacts retained earnings but does not impact net income. Redeemable noncontrolling interests which are redeemable only upon future events, the occurrence of which is not currently probable, are recorded at carrying value.

The following schedules present changes in the redeemable noncontrolling interests (in millions):

	Year Ended September 30, 2017	Year Ended September 30, 2016	Year Ended September 30, 2015
Beginning balance, September 30	$ 234	$ 212	$ 194
Net income	44	48	51
Foreign currency translation adjustments	13	2	(23)
Realized and unrealized gains (losses) on derivatives	(1)	(1)	1
Dividends	(43)	(27)	(11)
Spin-off of Adient	(36)	—	—
Ending balance, September 30	$ 211	$ 234	$ 212

The following schedules present changes in AOCI attributable to Johnson Controls (in millions, net of tax):

	Year Ended September 30, 2017	Year Ended September 30, 2016	Year Ended September 30, 2015
Foreign currency translation adjustments			
Balance at beginning of period	$ (1,152)	$ (1,047)	$ (248)
Aggregate adjustment for the period (net of tax effect of $1, $(43) and $(44)) *	108	(105)	(799)
Adient spin-off impact (net of tax effect of $0)	563	—	—
Balance at end of period	(481)	(1,152)	(1,047)
Realized and unrealized gains (losses) on derivatives			
Balance at beginning of period	4	(7)	4
Current period changes in fair value (net of tax effect of $4, $(5) and $(7))	9	(10)	(17)
Reclassification to income (net of tax effect of $(10), $11 and $3) **	(23)	21	6
Adient spin-off impact (net of tax effect of $6)	16	—	—
Balance at end of period	6	4	(7)
Realize and unrealized gains (losses) on marketable securities			
Balance at beginning of period	(1)	—	—
Current period changes in fair value (net of tax effect of $1, $0 and $0)	5	(1)	—
Balance at end of period	4	(1)	—
Pension and postretirement plans			
Balance at beginning of period	(4)	(3)	7
Reclassification to income (net of tax effect of $0, $0 and $(3)) ***	—	(1)	(11)
Adient spin-off impact (net of tax effect of $0)	2	—	—
Other changes (net of tax effect of $0)	—	—	1
Balance at end of period	(2)	(4)	(3)
Accumulated other comprehensive loss, end of period	$ (473)	$ (1,153)	$ (1,057)

* During fiscal 2015, ($19) million of cumulative CTA were recognized as part of the divestiture-related gain recognized within discontinued operations as a result of the divestiture of GWS.

** Refer to Note 10, "Derivative Instruments and Hedging Activities," of the notes to consolidated financial statements for disclosure of the line items on the consolidated statements of income affected by reclassifications from AOCI into income related to derivatives.

*** Refer to Note 15, "Retirement Plans," of the notes to consolidated financial statements for disclosure of the components of the Company's net periodic benefit costs associated with its defined benefit pension and postretirement plans. For the year ended September 30, 2016 the amounts reclassified from AOCI into income for pension and postretirement plans were primarily recorded in selling, general and administrative expenses on the consolidated statements of income. For the year ended September 30, 2015 the amounts reclassified from AOCI into income for pension and postretirement plans were primarily recorded in selling, general and administrative expenses and income (loss) from discontinued operations, net of tax on the consolidated statements of income.

15. RETIREMENT PLANS

Pension Benefits

The Company has non-contributory defined benefit pension plans covering certain U.S. and non-U.S. employees. The benefits provided are primarily based on years of service and average compensation or a monthly retirement benefit amount. Certain of the Company's U.S. pension plans have been amended to prohibit new participants from entering the plans and no longer accrue benefits. Funding for U.S. pension plans equals or exceeds the minimum requirements of the Employee Retirement Income Security Act of 1974. Funding for non-U.S. plans observes the local legal and regulatory limits. Also, the Company makes contributions to union-trusteed pension funds for construction and service personnel.

For pension plans with accumulated benefit obligations ("ABO") that exceed plan assets, the projected benefit obligation ("PBO"), ABO and fair value of plan assets of those plans were $5,564 million , $5,465 million and $4,715 million , respectively, as of September 30, 2017 and $7,124 million , $6,966 million and $5,234 million , respectively, as of September 30, 2016 .

In fiscal 2017 , total employer contributions to the defined benefit pension plans were $342 million , of which $49 million were voluntary contributions made by the Company. The Company expects to contribute approximately $100 million in cash to its defined benefit pension plans in fiscal 2018 . Projected benefit payments from the plans as of September 30, 2017 are estimated as follows (in millions):

2018	$	332
2019		329
2020		329
2021		330
2022		338
2023-2027		1,737

Postretirement Benefits

The Company provides certain health care and life insurance benefits for eligible retirees and their dependents primarily in the U.S., Canada and Brazil. Most non-U.S. employees are covered by government sponsored programs, and the cost to the Company is not significant.

Eligibility for coverage is based on meeting certain years of service and retirement age qualifications. These benefits may be subject to deductibles, co-payment provisions and other limitations, and the Company has reserved the right to modify these benefits. Effective January 31, 1994, the Company modified certain U.S. salaried plans to place a limit on the Company's cost of future annual retiree medical benefits at no more than 150% of the 1993 cost.

The health care cost trend assumption does not have a significant effect on the amounts reported.

In fiscal 2017 , total employer contributions to the postretirement plans were $5 million . The Company expects to contribute approximately $5 million in cash to its postretirement plans in fiscal 2018 . Projected benefit payments from the plans as of September 30, 2017 are estimated as follows (in millions):

2018	$	19
2019		19
2020		19
2021		19
2022		18
2023-2027		76

In December 2003, the U.S. Congress enacted the Medicare Prescription Drug, Improvement and Modernization Act of 2003 ("Act") for employers sponsoring postretirement care plans that provide prescription drug benefits. The Act introduces a prescription drug benefit under Medicare as well as a federal subsidy to sponsors of retiree health care benefit plans providing a benefit that is at least actuarially equivalent to Medicare Part D.1. Under the Act, the Medicare subsidy amount is received directly by the plan sponsor and not the related plan. Further, the plan sponsor is not required to use the subsidy amount to fund postretirement benefits and may use the subsidy for any valid business purpose. Projected subsidy receipts are estimated to be approximately $2 million per year over the next ten years.

Savings and Investment Plans

The Company sponsors various defined contribution savings plans that allow employees to contribute a portion of their pre-tax and/or after-tax income in accordance with plan specified guidelines. Under specified conditions, the Company will contribute to certain savings plans based on the employees' eligible pay and/or will match a percentage of the employee contributions up to certain limits. Matching contributions charged to expense for continuing and discontinued operations amounted to $138 million , $128 million and $123 million for the fiscal years ended 2017 , 2016 and 2015 , respectively.

Multiemployer Benefit Plans

The Company contributes to multiemployer benefit plans based on obligations arising from collective bargaining agreements related to certain of its hourly employees in the U.S. These plans provide retirement benefits to participants based on their service to contributing employers. The benefits are paid from assets held in trust for that purpose. The trustees typically are responsible for determining the level of benefits to be provided to participants as well as for such matters as the investment of the assets and the administration of the plans.

The risks of participating in these multiemployer benefit plans are different from single-employer benefit plans in the following aspects:

- Assets contributed to the multiemployer benefit plan by one employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the multiemployer benefit plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If the Company stops participating in some of its multiemployer benefit plans, the Company may be required to pay those plans an amount based on its allocable share of the underfunded status of the plan, referred to as a withdrawal liability.

The Company participates in approximately 289 multiemployer benefit plans, primarily related to its Building Technologies & Solutions business in the U.S., none of which are individually significant to the Company. The number of employees covered by the Company's multiemployer benefit plans has remained consistent over the past three years, and there have been no significant changes that affect the comparability of fiscal 2017 , 2016 and 2015 contributions. The Company recognizes expense for the contractually-required contribution for each period. The Company contributed $67 million , $46 million and $45 million to multiemployer benefit plans in fiscal 2017 , 2016 and 2015 , respectively.

Based on the most recent information available, the Company believes that the present value of actuarial accrued liabilities in certain of these multiemployer benefit plans may exceed the value of the assets held in trust to pay benefits. Currently, the Company is not aware of any significant multiemployer benefits plans for which it is probable or reasonably possible that the Company will be obligated to make up any shortfall in funds. Moreover, if the Company were to exit certain markets or otherwise cease making

contributions to these funds, the Company could trigger a withdrawal liability. Currently, the Company is not aware of any multiemployer benefit plans for which it is probable or reasonably possible that the Company will have a significant withdrawal liability. Any accrual for a shortfall or withdrawal liability will be recorded when it is probable that a liability exists and it can be reasonably estimated.

Plan Assets

The Company's investment policies employ an approach whereby a mix of equities, fixed income and alternative investments are used to maximize the long-term return of plan assets for a prudent level of risk. The investment portfolio primarily contains a diversified blend of equity and fixed income investments. Equity investments are diversified across U.S. and non-U.S. stocks, as well as growth, value and small to large capitalizations. Fixed income investments include corporate and government issues, with short-, mid- and long-term maturities, with a focus on investment grade when purchased and a target duration close to that of the plan liability. Investment and market risks are measured and monitored on an ongoing basis through regular investment portfolio reviews, annual liability measurements and periodic asset/liability studies. The majority of the real estate component of the portfolio is invested in a diversified portfolio of high-quality, operating properties with cash yields greater than the targeted appreciation. Investments in other alternative asset classes, including hedge funds and commodities, diversify the expected investment returns relative to the equity and fixed income investments. As a result of our diversification strategies, there are no significant concentrations of risk within the portfolio of investments.

The Company's actual asset allocations are in line with target allocations. The Company rebalances asset allocations as appropriate, in order to stay within a range of allocation for each asset category.

The expected return on plan assets is based on the Company's expectation of the long-term average rate of return of the capital markets in which the plans invest. The average market returns are adjusted, where appropriate, for active asset management returns. The expected return reflects the investment policy target asset mix and considers the historical returns earned for each asset category.

The Company's plan assets at September 30, 2017 and 2016 , by asset category, are as follows (in millions):

Asset Category	Total as of September 30, 2017	Fair Value Measurements Using: Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Pension				
Cash and Cash Equivalents	$ 70	$ 2	$ 68	$ —
Equity Securities				
Large-Cap	652	375	277	—
Small-Cap	281	281	—	—
International - Developed	649	569	80	—
International - Emerging	51	24	27	—
Fixed Income Securities				
Government	270	243	27	—
Corporate/Other	917	851	66	—
Total Investments in the Fair Value Hierarchy	2,890	$ 2,345	$ 545	$ —
Investments Measured at Net Asset Value, as Practical Expedient:				
Real Estate Investments Measured at Net Asset Value*	275			
Total Plan Assets	$ 3,165			
Non-U.S. Pension				
Cash and Cash Equivalents	$ 55	$ 45	$ 10	$ —
Equity Securities				
Large-Cap	242	18	224	—
Mid-Cap	2	2	—	—
International - Developed	517	58	459	—
International - Emerging	13	—	13	—
Fixed Income Securities				
Government	618	74	544	—
Corporate/Other	569	292	277	—
Hedge Fund	112	—	112	—
Real Estate	24	24	—	—
Total Investments in the Fair Value Hierarchy	2,152	$ 513	$ 1,639	$ —
Investments Measured at Net Asset Value, as Practical Expedient:				
Real Estate Investments Measured at Net Asset Value*	29			
Total Plan Assets	$ 2,181			
Postretirement				
Cash and Cash Equivalents	$ 3	$ —	$ 3	$ —
Equity Securities				
Large-Cap	28	—	28	—
Small-Cap	9	—	9	—
International - Developed	21	—	21	—
International - Emerging	11	—	11	—
Fixed Income Securities				
Government	21	—	21	—

Corporate/Other	59	—	59	—
Commodities	15	—	15	—
Real Estate	10	—	10	—
Total Plan Assets	$ 177	$ —	$ 177	$ —

Asset Category	Total as of September 30, 2016	Fair Value Measurements Using: Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Pension				
Cash and Cash Equivalents	$ 38	$ 38	$ —	$ —
Equity Securities				
Large-Cap	692	499	193	—
Small-Cap	267	252	15	—
International - Developed	655	566	89	—
Fixed Income Securities				
Government	345	280	65	—
Corporate/Other	950	633	317	—
Total Investments in the Fair Value Hierarchy	2,947	$ 2,268	$ 679	$ —
Investments Measured at Net Asset Value, as Practical Expedient:				
Real Estate Investments Measured at Net Asset Value*	346			
Total Plan Assets	$ 3,293			
Non-U.S. Pension				
Cash and Cash Equivalents	$ 90	$ 59	$ 31	$ —
Equity Securities				
Large-Cap	317	22	295	—
International - Developed	453	52	401	—
International - Emerging	19	—	19	—
Fixed Income Securities				
Government	864	164	700	—
Corporate/Other	561	300	261	—
Hedge Fund	169	—	169	—
Real Estate	11	11	—	—
Total Investments in the Fair Value Hierarchy	2,484	$ 608	$ 1,876	$ —
Investments Measured at Net Asset Value, as Practical Expedient:				
Real Estate Investments Measured at Net Asset Value*	52			
Total Plan Assets	$ 2,536			
Postretirement				
Cash and Cash Equivalents	$ 7	$ —	$ 7	$ —
Equity Securities				
Large-Cap	31	—	31	—
Small-Cap	10	—	10	—
International - Developed	23	—	23	—
International - Emerging	12	—	12	—
Fixed Income Securities				
Government	23	—	23	—
Corporate/Other	65	—	65	—
Commodities	12	—	12	—

Real Estate	13	—	13	—
Total Plan Assets	$ 196	$ —	$ 196	$ —

* The fair value of certain investments in real estate do not have a readily determinable fair value and requires the fund managers to independently arrive at fair value by calculating net asset value ("NAV") per share. In order to calculate NAV per share, the fund managers value the real estate investments using any one, or a combination of, the following methods: independent third party appraisals, discounted cash flow analysis of net cash flows projected to be generated by the investment and recent sales of comparable investments. Assumptions used to revalue the properties are updated every quarter. Due to the fact that the fund managers calculate NAV per share, the Company utilizes a practical expedient for measuring the fair value of its real-estate investments, as provided for under ASC 820, "Fair Value Measurement." In applying the practical expedient, the Company is not required to further adjust the NAV provided by the fund manager in order to determine the fair value of its investment as the NAV per share is calculated in a manner consistent with the measurement principles of ASC 946, "Financial Services - Investment Companies," and as of the Company's measurement date. The Company believes this is an appropriate methodology to obtain the fair value of these assets. For the component of the real estate portfolio under development, the investments are carried at cost until they are completed and valued by a third party appraiser. In accordance with ASU No. 2015-07, "Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)," investments for which fair value is measured using the net asset value per share practical expedient should be disclosed separate from the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of total plan assets to the amounts presented in the notes to consolidated financial statements.

The following is a description of the valuation methodologies used for assets measured at fair value. Certain assets are held within commingled funds which are valued at the unitized NAV or percentage of the net asset value as determined by the manager of the fund. These values are based on the fair value of the underlying net assets owned by the fund.

Cash and Cash Equivalents: The fair value of cash is valued at cost.

Equity Securities: The fair value of equity securities is determined by direct quoted market prices. The underlying holdings are direct quoted market prices on regulated financial exchanges.

Fixed Income Securities: The fair value of fixed income securities is determined by direct or indirect quoted market prices. If indirect quoted market prices are utilized, the value of assets held in separate accounts is not published, but the investment managers report daily the underlying holdings. The underlying holdings are direct quoted market prices on regulated financial exchanges.

Commodities: The fair value of the commodities is determined by quoted market prices of the underlying holdings on regulated financial exchanges.

Hedge Funds: The fair value of hedge funds is accounted for by the custodian. The custodian obtains valuations from underlying managers based on market quotes for the most liquid assets and alternative methods for assets that do not have sufficient trading activity to derive prices. The Company and custodian review the methods used by the underlying managers to value the assets. The Company believes this is an appropriate methodology to obtain the fair value of these assets.

Real Estate: The fair value of Real Estate Investment Trusts ("REITs") is recorded as Level 1 as these securities are traded on an open exchange.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

There were no Level 3 assets as of September 30, 2017 or 2016 or any Level 3 asset activity during fiscal 2017 or 2016 .

Funded Status

The table that follows contains the ABO and reconciliations of the changes in the PBO, the changes in plan assets and the funded status (in millions):

	Pension Benefits				Postretirement Benefits	
	U.S. Plans		Non-U.S. Plans			
September 30,	2017	2016	2017	2016	2017	2016
Accumulated Benefit Obligation	$ 3,382	$ 4,118	$ 2,618	$ 3,359	$ —	$ —
Change in Projected Benefit Obligation						
Projected benefit obligation at beginning of year	4,169	3,022	3,522	1,447	242	211
Service cost	18	16	32	30	2	2
Interest cost	113	104	48	44	6	6
Plan participant contributions	—	—	3	1	4	6
Benefit obligations assumed in Tyco acquisition	—	974	—	1,635	—	30
Other acquisitions	—	—	—	279	—	2
Adient spin-off impact	(18)	—	(619)	—	(17)	—
Actuarial (gain) loss	(131)	355	(194)	295	(1)	5
Benefits and settlements paid	(732)	(301)	(116)	(116)	(25)	(22)
Estimated subsidy received	—	—	—	—	2	1
Curtailment	—	—	(19)	—	—	—
Other	—	(1)	(2)	(1)	—	1
Currency translation adjustment	—	—	66	(92)	1	—
Projected benefit obligation at end of year	$ 3,419	$ 4,169	$ 2,721	$ 3,522	$ 214	$ 242
Change in Plan Assets						
Fair value of plan assets at beginning of year	$ 3,293	$ 2,606	$ 2,536	$ 1,177	$ 196	$ 194
Actual return on plan assets	334	267	94	113	14	17
Plan assets acquired in Tyco acquisition	—	705	—	1,149	—	—
Other acquisitions	—	—	—	180	—	—
Adient spin-off impact	(16)	—	(440)	—	(13)	—
Employer and employee contributions	286	16	59	121	5	7
Benefits paid	(394)	(124)	(86)	(59)	(25)	(22)
Settlement payments	(338)	(177)	(30)	(57)	—	—
Other	—	—	(2)	—	—	—
Currency translation adjustment	—	—	50	(88)	—	—
Fair value of plan assets at end of year	$ 3,165	$ 3,293	$ 2,181	$ 2,536	$ 177	$ 196
Funded status	$ (254)	$ (876)	$ (540)	$ (986)	$ (37)	$ (46)
Amounts recognized in the statement of financial position consist of:						
Prepaid benefit cost - continuing operations	$ 46	$ 21	$ 27	$ 25	$ 64	$ 53
Prepaid benefit cost - discontinued operations	—	1	—	7	—	—
Accrued benefit liability - continuing operations	(300)	(896)	(567)	(832)	(101)	(95)
Accrued benefit liability - discontinued operations	—	(2)	—	(186)	—	(4)
Net amount recognized	$ (254)	$ (876)	$ (540)	$ (986)	$ (37)	$ (46)
Weighted Average Assumptions (1)						
Discount rate (2)	3.80%	3.70%	2.40%	1.90%	3.70%	3.30%
Rate of compensation increase	3.20%	3.20%	2.90%	2.75%	NA	NA

(1) Plan assets and obligations are determined based on a September 30 measurement date at September 30, 2017 and 2016 .

(2) The Company considers the expected benefit payments on a plan-by-plan basis when setting assumed discount rates. As a result, the Company uses different discount rates for each plan depending on the plan jurisdiction, the demographics of participants and the expected timing of benefit payments. For the U.S. pension and postretirement plans, the Company uses a discount rate provided by an independent third party calculated based on an appropriate mix of high quality bonds. For the non-U.S. pension and postretirement plans, the Company consistently uses the relevant country specific benchmark indices for determining the various discount rates. The Company has elected to utilize a full yield curve approach in the estimation of service and interest components of net periodic benefit cost (credit) for pension and other postretirement for plans that utilize a yield curve approach. The full yield curve approach applies the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows.

Accumulated Other Comprehensive Income

The amounts in AOCI on the consolidated statements of financial position, exclusive of tax impacts, that have not yet been recognized as components of net periodic benefit cost at September 30, 2017 and 2016 related to pension and postretirement benefits are not significant.

The amounts in AOCI expected to be recognized as components of net periodic benefit cost (credit) over the next fiscal related to pension and postretirement benefits are not significant.

Net Periodic Benefit Cost

The table that follows contains the components of net periodic benefit cost (in millions):

	Pension Benefits								
	U.S. Plans			Non-U.S. Plans			Postretirement Benefits		
Year ended September 30,	2017	2016	2015	2017	2016	2015	2017	2016	2015
Components of Net Periodic Benefit Cost (Credit):									
Service cost	$ 18	$ 16	$ 31	$ 32	$ 30	$ 32	$ 2	$ 2	$ 3
Interest cost	113	104	122	48	44	57	6	6	9
Expected return on plan assets	(229)	(191)	(181)	(92)	(61)	(71)	(10)	(10)	(12)
Net actuarial (gain) loss	(220)	268	387	(195)	237	14	(5)	(2)	21
Amortization of prior service cost (credit)	—	—	—	—	1	(1)	—	(1)	(1)
Curtailment gain	—	—	—	(19)	—	(15)	—	—	—
Settlement (gain) loss	(16)	11	1	(1)	6	—	—	—	—
Net periodic benefit cost (credit)	(334)	208	360	(227)	257	16	(7)	(5)	20
Net periodic benefit (cost) credit related to discontinued operations	—	(1)	(1)	—	(111)	1	—	(1)	(1)
Net periodic benefit cost (credit) included in continuing operations	$ (334)	$ 207	$ 359	$ (227)	$ 146	$ 17	$ (7)	$ (6)	$ 19
Expense Assumptions:									
Discount rate	3.70%	4.40%	4.35%	1.90%	3.10%	3.00%	3.30%	3.75%	4.35%
Expected return on plan assets	7.50%	7.50%	7.50%	4.60%	4.50%	4.50%	5.60%	5.45%	5.75%
Rate of compensation increase	3.20%	3.25%	3.25%	2.65%	3.30%	2.60%	NA	NA	NA

16. SIGNIFICANT RESTRUCTURING AND IMPAIRMENT COSTS

To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company commits to restructuring plans as necessary.

In fiscal 2017, the Company committed to a significant restructuring plan (2017 Plan) and recorded $367 million of restructuring and impairment costs in the consolidated statements of income. This is the total amount incurred to date and the total amount expected to be incurred for this restructuring plan. The restructuring actions related to cost reduction initiatives in the Company's Building Technologies & Solutions and Power Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. Of the restructuring and impairment costs recorded, $166 million related to Corporate, $74 million related to the Building Solutions EMEA/LA segment, $59 million related to the Building Solutions North America segment, $32 million related to the Global Products segment, $20 million related to the Power Solutions segment and $16 million related to the Building Solutions Asia Pacific segment. The restructuring actions are expected to be substantially complete in fiscal 2018.

The following table summarizes the changes in the Company's 2017 Plan reserve, included within other current liabilities in the consolidated statements of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments	Other	Currency Translation	Total
Original Reserve	$ 276	$ 77	$ 14	$ —	$ 367
Utilized—cash	(75)	—	—	—	(75)
Utilized—noncash	—	(77)	(1)	—	(78)
Adjustment to restructuring reserves	25	—	—	—	25
Balance at September 30, 2017	$ 226	$ —	$ 13	$ —	$ 239

In fiscal 2016, the Company committed to a significant restructuring plan (2016 Plan) and recorded $288 million of restructuring and impairment costs in the consolidated statements of income. The restructuring actions related to cost reduction initiatives in the Company's Building Technologies & Solutions and Power Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures, asset impairments and change-in-control payments. Of the restructuring and impairment costs recorded, $161 million related to Corporate, $66 million related to the Power Solutions segment, $44 million related to the Global Products segment and $17 million related to the Building Solutions EMEA/LA segment. The restructuring actions are expected to be substantially complete in fiscal 2018. Included in the reserve is $56 million of committed restructuring actions taken by Tyco for liabilities assumed as part of the Tyco acquisition.

Additionally, the Company recorded $332 million of restructuring and impairment costs within discontinued operations related to Adient in fiscal 2016.

The following table summarizes the changes in the Company's 2016 Plan reserve, included within other current liabilities in the consolidated statements of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments	Other	Currency Translation	Total
Original Reserve	$ 368	$ 190	$ 62	$ —	$ 620
Acquired Tyco restructuring reserves	78	—	—	—	78
Utilized—cash	(32)	—	—	—	(32)
Utilized—noncash	—	(190)	(32)	1	(221)
Balance at September 30, 2016	$ 414	$ —	$ 30	$ 1	$ 445
Adient spin-off impact	(194)	—	(22)	—	(216)
Utilized—cash	(86)	—	(2)	—	(88)
Utilized—noncash	—	—	—	1	1
Adjustment to restructuring reserves	(25)	—	—	—	(25)
Transfer to liabilities held for sale	(3)	—	—	—	(3)
Adjustment to acquired Tyco restructuring reserves	(22)	—	—	—	(22)
Balance at September 30, 2017	$ 84	$ —	$ 6	$ 2	$ 92

The Company's fiscal 2017 and 2016 restructuring plans included workforce reductions of approximately 6,100 employees (4,800 for the Building Technologies & Solutions business, 1,200 for Corporate and 100 for Power Solutions). Restructuring charges associated with employee severance and termination benefits are paid over the severance period granted to each employee or on a lump sum basis in accordance with individual severance agreements. As of September 30, 2017 , approximately 1,600 of the employees have been separated from the Company pursuant to the restructuring plans. In addition, the restructuring plans included ten plant closures in the Building Technologies & Solutions business. As of September 30, 2017 , four of the ten plants have been closed.

Company management closely monitors its overall cost structure and continually analyzes each of its businesses for opportunities to consolidate current operations, improve operating efficiencies and locate facilities in close proximity to customers. This ongoing analysis includes a review of its manufacturing, engineering and purchasing operations, as well as the overall global footprint for all its businesses.

17. IMPAIRMENT OF LONG-LIVED ASSETS

The Company reviews long-lived assets, including tangible assets and other intangible assets with definitive lives, for impairment whenever events or changes in circumstances indicate that the asset's carrying amount may not be recoverable. The Company conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets" and ASC 985-20, "Costs of software to be sold, leased, or marketed." ASC 360-10-15 requires the Company to group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the sum of the undiscounted future cash flows. If the undiscounted cash flows do not indicate the carrying amount of the asset is recoverable, an impairment charge is measured as the amount by which the carrying amount of the asset group exceeds its fair value based on discounted cash flow analysis or appraisals. ASC 985-20 requires the unamortized capitalized costs of a computer software product be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset shall be written off.

In fiscal 2017, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2017. As a result, the Company reviewed the long-lived assets for impairment and recorded $77 million of asset impairment charges within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charges, $30 million related to the Building Solutions North America segment, $20 million related to the Global Products segment, $19 million related to Corporate assets, $7 million related to the Power Solutions segment and $1 million related to the Building Solutions Asia Pacific segment. Refer to Note 16, "Significant

Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were measured, depending on the asset, under either an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

In the second, third and fourth quarters of fiscal 2016, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2016. As a result, the Company reviewed the long-lived assets for impairment and recorded $103 million of asset impairment charges within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charges, $64 million related to the Power Solutions segment, $24 million related to Corporate assets, $8 million related to the Global Products segment, $4 million related to the Building Solutions Asia Pacific segment and $3 million related to the Building Solutions EMEA/LA segment. In addition, the Company recorded $87 million of asset impairments within discontinued operations related to Adient in fiscal 2016. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were measured, depending on the asset, under either an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

In the fourth quarter of fiscal 2015, the Company concluded it had triggering events requiring assessment of impairment for certain of its long-lived assets in conjunction with its announced restructuring actions and the intention to spin-off the Automotive Experience business. As a result, the Company reviewed the long-lived assets for impairment and recorded a $156 million impairment charge within restructuring and impairment costs on the consolidated statements of income. Of the total impairment charge, $139 million related to Corporate assets, $16 million related to the Building Solutions EMEA/LA segment and $1 million related to the Building Solutions North America segment. In addition, the Company recorded $27 million of asset impairments within discontinued operations related to Adient in fiscal 2015. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairment was measured, depending on the asset, either under an income approach utilizing forecasted discounted cash flows or a market approach utilizing an appraisal to determine fair values of the impaired assets. These methods are consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

At September 30, 2017 , 2016 and 2015 , the Company concluded it did not have any other triggering events requiring assessment of impairment of its long-lived assets. Refer to Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements for discussion of the Company's goodwill impairment testing.

18. INCOME TAXES

The more significant components of the Company's income tax provision from continuing operations are as follows (in millions):

	Year Ended September 30,		
	2017	2016	2015
Tax expense at federal statutory rate	$ 895	$ 371	$ 326
State income taxes, net of federal benefit	23	(6)	(6)
Foreign income tax expense at different rates and foreign losses without tax benefits	(309)	(122)	(175)
U.S. tax on foreign income	(407)	(194)	39
Reserve and valuation allowance adjustments	(164)	—	(99)
U.S. credits and incentives	(3)	(14)	(7)
Impact of acquisitions and divestitures	571	163	—
Restructuring and impairment costs	65	28	—
Other	34	(29)	(7)
Income tax provision	$ 705	$ 197	$ 71

The U.S. federal statutory tax rate is being used as a comparison since the Company was a U.S. domiciled company in fiscal 2015 and 11 months of 2016 and due to the Company's current legal entity structure. The effective rate is below the U.S. statutory rate for fiscal 2017 primarily due to the benefits of continuing global tax planning initiatives, non-U.S. tax rate differentials, tax audit closures, and a tax benefit due to changes in entity tax status, partially offset by the jurisdictional mix of significant restructuring and impairment costs, Tyco Merger transaction / integration costs and the establishment of a deferred tax liability on the outside basis difference of the Company's investment in certain subsidiaries related to the divestiture of the Scott Safety business. The effective rate is below the U.S. statutory rate for fiscal 2016 primarily due to the benefits of continuing global tax planning initiatives and foreign tax rate differentials, partially offset by the jurisdictional mix of restructuring and impairment costs, and the tax impacts of the Merger and integration related costs. The effective rate is below the U.S. statutory rate for fiscal 2015 primarily due to the benefits of continuing global tax planning initiatives, income in certain non-U.S. jurisdictions with a tax rate lower than the U.S. statutory tax rate and adjustments due to tax audit resolutions.

Valuation Allowances

The Company reviews the realizability of its deferred tax asset valuation allowances on a quarterly basis, or whenever events or changes in circumstances indicate that a review is required. In determining the requirement for a valuation allowance, the historical and projected financial results of the legal entity or consolidated group recording the net deferred tax asset are considered, along with any other positive or negative evidence. Since future financial results may differ from previous estimates, periodic adjustments to the Company's valuation allowances may be necessary.

In the fourth quarter of fiscal 2017, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that it was more likely than not that certain deferred tax assets primarily in Canada, China and Mexico would not be able to be realized, and it was more likely than not that certain deferred tax assets in Germany would be realized. Therefore, the Company recorded $27 million of net valuation allowances as income tax expense in the three month period ended September 30, 2017.

As a result of the Tyco Merger in the fourth quarter of fiscal 2016, the Company recorded as part of the acquired liabilities of Tyco $2.4 billion of valuation allowances. Also in the fourth quarter of fiscal 2016, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that no other material changes were needed to its valuation allowances. Therefore, there was no impact to income tax expense due to valuation allowance changes in the three month period or year ended September 30, 2016.

In the fourth quarter of fiscal 2015, the Company performed an analysis related to the realizability of its worldwide deferred tax assets. As a result, and after considering tax planning initiatives and other positive and negative evidence, the Company determined that it was more likely than not that certain deferred tax assets primarily within Spain, Germany, and the United Kingdom would not be realized, and it is more likely than not that certain deferred tax assets of Poland and Germany will be realized. The impact of the net valuation allowance provision offset the benefit of valuation allowance releases and, as such, there was no net impact to income tax expense in the three month period ended September 30, 2015.

Uncertain Tax Positions

The Company is subject to income taxes in the U.S. and numerous foreign jurisdictions. Judgment is required in determining its worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of the Company's business, there are many transactions and calculations where the ultimate tax determination is uncertain. The Company is regularly under audit by tax authorities.

At September 30, 2017, the Company had gross tax effected unrecognized tax benefits for continuing operations of $2,173 million of which $2,047 million , if recognized, would impact the effective tax rate. Total net accrued interest at September 30, 2017 was approximately $99 million (net of tax benefit).

At September 30, 2016, the Company had gross tax effected unrecognized tax benefits for continuing operations of $1,706 million of which $1,604 million , if recognized, would impact the effective tax rate. Total net accrued interest at September 30, 2016 was approximately $84 million (net of tax benefit).

At September 30, 2015, the Company had gross tax effected unrecognized tax benefits for continuing operations of $ 1,052 million of which $997 million , if recognized, would impact the effective tax rate. Total net accrued interest at September 30, 2015 was approximately $33 million (net of tax benefit).

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in millions):

	Year Ended September 30,		
	2017	2016	2015
Beginning balance, October 1	$ 1,706	$ 1,052	$ 1,493
Additions for tax positions related to the current year	613	442	329
Additions for tax positions of prior years	116	15	23
Reductions for tax positions of prior years	(44)	(66)	(111)
Settlements with taxing authorities	(95)	(104)	(541)
Statute closings and audit resolutions	(264)	(30)	(141)
Acquisition of business	141	397	—
Ending balance, September 30	$ 2,173	$ 1,706	$ 1,052

During fiscal 2017, the Company settled a significant number of tax examinations impacting fiscal years 2006 to fiscal 2014. In the fourth quarter of fiscal 2017, income tax audit resolutions resulted in a net $191 million benefit to income tax expense.

During fiscal 2015, the Company settled a significant number of tax examinations in Germany, Mexico and the U.S., impacting fiscal years 1998 to fiscal 2012. The settlement of unrecognized tax benefits included cash payments for approximately $440 million and the loss of various tax attributes. The reduction for tax positions of prior years is substantially related to foreign exchange rates. In the fourth quarter of fiscal 2015, income tax audit resolutions resulted in a net $99 million benefit to income tax expense.

In the U.S., fiscal years 2010 through 2014 are currently under exam by the Internal Revenue Service ("IRS") for certain legal entities. Additionally, the Company is currently under exam in the following major non-U.S. jurisdictions for continuing operations:

Tax Jurisdiction	Tax Years Covered
Belgium	2015 - 2016
Brazil	2011 - 2012
Canada	2013 - 2014
China	2008 - 2016
France	2010 - 2015
Germany	2007 - 2015
Japan	2016
Spain	2010 - 2014
Switzerland	2011 - 2014
United Kingdom	2011 - 2014

It is reasonably possible that certain tax examinations and /or tax litigation will conclude within the next twelve months, which could be up to a $25 million impact to tax expense.

Other Tax Matters

During fiscal 2017, the Company recorded $428 million of transaction and integration costs which generated a $69 million tax benefit.

During fiscal 2017, the Company recorded a discrete non-cash tax charge of $490 million related to establishment of a deferred tax liability on the outside basis difference of the Company's investment in certain subsidiaries of the Scott Safety business. This business is reported as net assets held for sale given the announced sale to 3M Company. Refer to Note 3, "Acquisitions and Divestitures," and Note 4, "Discontinued Operations," of the notes to consolidated financial statements for additional information.

In the fourth quarter of fiscal 2017, the Company recorded a tax charge of $53 million due to a change in the deferred tax liability related to the outside basis of certain nonconsolidated subsidiaries.

In the first quarter of fiscal 2017, the Company recorded a discrete tax benefit of $101 million due to changes in entity tax status.

During fiscal 2017 , 2016 and 2015 , the Company incurred significant charges for restructuring and impairment costs. Refer to Note 16, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. A substantial portion of these charges do not generate a tax benefit due to the Company's current tax position in these jurisdictions and the underlying tax basis in the impaired assets, resulting in $65 million and $28 million incremental tax expense in fiscal 2017 and 2016 , respectively.

During the fourth quarter of fiscal 2016, the Company completed its Merger with Tyco. As a result of that transaction, the Company incurred incremental tax expense of $137 million . In preparation for the spin-off of the Automotive Experience business in the first quarter of fiscal 2017, the Company incurred incremental tax expense for continuing operations of $26 million in fiscal 2016.

As a result of the Tyco Merger in the fourth quarter of fiscal 2016, the Company recorded as part of the acquired liabilities of Tyco $290 million of post sale contingent tax indemnification liabilities which is generally recorded within other noncurrent liabilities in the consolidated statements of financial position. The liabilities are recorded at fair value and relate to certain tax related matters borne by the buyer of previously divested subsidiaries of Tyco which Tyco has indemnified certain parties and the amounts are probable of being paid. Of the $290 million recorded as of September 30, 2017 and 2016 , $255 million is related to prior divested businesses and the remainder relates to Tyco's tax sharing agreements from its 2007 and 2012 spin-off transactions. These are certain guarantees or indemnifications extended among Tyco, Medtronic, TE Connectivity, ADT and Pentair in accordance with the terms of the 2007 and 2012 separation and tax sharing agreements. In addition, the Company has recorded $11 million of tax indemnification liabilities as of September 30, 2017 related to other divestitures.

Impacts of Tax Legislation and Change in Statutory Tax Rates

On October 13, 2016, the U.S. Treasury and the IRS released final and temporary Section 385 regulations. These regulations address whether certain instruments between related parties are treated as debt or equity. The Company does not expect that the regulations will have a material impact on its consolidated financial statements.

The "look-through rule," under subpart F of the U.S. Internal Revenue Code, expired for the Company on September 30, 2015. The "look-through rule" had provided an exception to the U.S. taxation of certain income generated by non-U.S. subsidiaries. The rule was extended in December 2015 retroactive to the beginning of the Company's 2016 fiscal year. The retroactive extension was signed into legislation and was made permanent through the Company's 2020 fiscal year.

In the second quarter of fiscal 2015, tax legislation was adopted in Japan which reduced its statutory income tax rate. As a result of the law change, the Company recorded income tax expense of $17 million in the second quarter of fiscal 2015.

During the fiscal years ended 2017 , 2016 and 2015 , other tax legislation was adopted in various jurisdictions. These law changes did not have a material impact on the Company's consolidated financial statements.

Continuing Operations

Components of the provision for income taxes on continuing operations were as follows (in millions):

	Year Ended September 30,		
	2017	2016	2015
Current			
Federal	$ (225)	$ 169	$ (688)
State	(6)	5	(33)
Foreign	373	788	550
	142	962	(171)
Deferred			
Federal	593	(321)	410
State	41	(15)	(2)
Foreign	(71)	(429)	(166)
	563	(765)	242
Income tax provision	$ 705	$ 197	$ 71

Consolidated U.S. income from continuing operations before income taxes and noncontrolling interests for the fiscal years ended September 30, 2017 , 2016 and 2015 was income of $868 million , $943 million and $418 million , respectively. Consolidated foreign income from continuing operations before income taxes and noncontrolling interests for the fiscal years ended September 30, 2017 , 2016 and 2015 was income of $1,690 million , $119 million and $513 million , respectively.

Income taxes paid for the fiscal years ended September 30, 2017 , 2016 and 2015 were $1,756 million , $1,388 million and $1,163 million , respectively. At September 30, 2017 and 2016 , the Company recorded within the consolidated statements of financial position in other current liabilities approximately $625 million and $1,505 million , respectively, of accrued income tax liabilities for continuing operations.

The Company has not provided U.S. or non-U.S. income taxes on approximately $16 billion of outside basis differences of consolidated subsidiaries of Johnson Controls International plc. The reduction of the outside basis differences via the sale or liquidation of these subsidiaries and/or distributions could create taxable income. The Company's intent is to reduce the outside basis differences only when it would be tax efficient. Given the numerous ways in which the basis differences may be reduced, it is not practicable to estimate the amount of unrecognized withholding taxes and deferred tax liability on the outside basis differences. In fiscal 2017, the Company did provide U.S. income tax expense related to the establishment of a deferred tax liability on the outside basis difference of the Company's investment in certain subsidiaries of the Scott Safety business as a result of the planned divestiture.

Deferred taxes were classified in the consolidated statements of financial position as follows (in millions):

	September 30,	
	2017	2016
Other noncurrent assets	2,360	2,467
Other noncurrent liabilities	(1,733)	(1,542)
Net deferred tax asset	$ 627	$ 925

Temporary differences and carryforwards which gave rise to deferred tax assets and liabilities included (in millions):

	September 30,	
	2017	2016
Deferred tax assets		
Accrued expenses and reserves	$ 891	$ 1,175
Employee and retiree benefits	13	438
Net operating loss and other credit carryforwards	5,490	4,483
Research and development	188	85
Joint ventures and partnerships	—	49
Other	26	19
	6,608	6,249
Valuation allowances	(3,838)	(3,400)
	2,770	2,849
Deferred tax liabilities		
Property, plant and equipment	247	87
Subsidiaries, joint ventures and partnerships	789	—
Intangible assets	1,107	1,837
	2,143	1,924
Net deferred tax asset	$ 627	$ 925

At September 30, 2017 , the Company had available net operating loss carryforwards of approximately $16.6 billion , of which $6.5 billion will expire at various dates between 2018 and 2037 , and the remainder has an indefinite carryforward period. The Company had available U.S. foreign tax credit carryforwards at September 30, 2017 of $468 million which will expire at various dates between 2020 and 2024 or carried back to fiscal period 2016. The valuation allowance, generally, is for loss carryforwards

for which realization is uncertain because it is unlikely that the losses will be realized given the lack of sustained profitability and/or limited carryforward periods in certain countries.

As of September 30, 2017, deferred tax assets of approximately $180 million relate to certain operating loss carryforwards resulting from the exercise of employee stock options and restricted stock vestings, the tax benefit of which, when recognized, will be accounted for as a credit to additional paid-in capital rather than a reduction of income tax provision. Such amount has been presented within the tax loss and carryforwards line in the table above.

19. SEGMENT INFORMATION

ASC 280, "Segment Reporting," establishes the standards for reporting information about segments in financial statements. In applying the criteria set forth in ASC 280, the Company has determined that it has five reportable segments for financial reporting purposes. The Company's five reportable segments are presented in the context of its two primary businesses - Building Technologies & Solutions and Power Solutions.

Effective July 1, 2017, the Company reorganized the reportable segments within its Building Technologies & Solutions business to align with its new management reporting structure and business activities. Prior to this reorganization, Building Technologies & Solutions was comprised of five reportable segments for financial reporting purposes: Systems and Service North America, Products North America, Asia, Rest of World and Tyco. As a result of this change, Building Technologies & Solutions is now comprised of four reportable segments for financial reporting purposes: Building Solutions North America, Building Solutions EMEA/LA, Building Solutions Asia Pacific and Global Products. Historical information has been revised to reflect the new Building Technologies & Solutions reportable segments.

A summary of the significant Building Technologies & Solutions reportable segment changes is as follows:

- The "Systems and Service North America" segment is now part of the new "Building Solutions North America" reportable segment.

- The North America Unitary Products business, Air Distribution Technologies business and refrigeration systems business, as well as HVAC products installed for Marine customers, previously included in the "Products North America" segment, are now part of the new reportable segment "Global Products." The systems and products installation business for U.S. Navy customers, previously included in the "Products North America" segment, is now part of the new "Building Solutions North America" reportable segment.

- The systems and service business within the former "Asia" segment is now part of the new "Building Solutions Asia Pacific" reportable segment. The HVAC products manufacturing business and the Johnson Controls-Hitachi joint venture, previously part of the "Asia" segment, are now part of the new "Global Products" reportable segment.

- The systems and service businesses in Europe, the Middle East and Latin America within the former "Rest of World" segment are now part of the new "Building Solutions EMEA/LA" reportable segment. The HVAC products manufacturing businesses, previously part of the "Rest of World" segment, are now part of the new "Global Products" reportable segment.

- As the Company has integrated the legacy Tyco business with its legacy Building Efficiency business for segment reporting purposes, Tyco is no longer a separate reportable segment. The Tyco businesses are now included throughout the new reportable segments.

Building Technologies & Solutions

- Building Solutions North America designs, sells, installs, and services HVAC and controls systems, integrated electronic security systems (including monitoring), and integrated fire detection and suppression systems for commercial, industrial, retail, small business, institutional and governmental customers in North America. Building Solutions North America also provides energy efficiency solutions and technical services, including inspection, scheduled maintenance, and repair and replacement of mechanical and control systems, to non-residential building and industrial applications in the North American marketplace.

- Building Solutions EMEA/LA designs, sells, installs, and services HVAC, controls, refrigeration, integrated electronic security, integrated fire detection and suppression systems, and provides technical services to markets in Europe, the Middle East, Africa and Latin America.

- Building Solutions Asia Pacific designs, sells, installs, and services HVAC, controls, refrigeration, integrated electronic security, integrated fire detection and suppression systems, and provides technical services to the Asia Pacific marketplace.

- Global Products designs and produces heating and air conditioning for residential and commercial applications, and markets products and refrigeration systems to replacement and new construction market customers globally. The Global Products business also designs, manufactures and sells fire protection and security products, including intrusion security, anti-theft devices, breathing apparatus and access control and video management systems, for commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. Global Products also includes the Johnson Controls-Hitachi joint venture, which was formed October 1, 2015, as well as the Scott Safety business, which was sold on October 4, 2017.

Power Solutions

Power Solutions services both automotive original equipment manufacturers and the battery aftermarket by providing advanced battery technology, coupled with systems engineering, marketing and service expertise.

Management evaluates the performance of its business segments primarily on segment earnings before interest, taxes and amortization ("EBITA"), which represents income from continuing operations before income taxes and noncontrolling interests, excluding general corporate expenses, intangible asset amortization, net financing charges, significant restructuring and impairment costs, and the net mark-to-market adjustments related to pension and postretirement plans.

Financial information relating to the Company's reportable segments is as follows (in millions):

	Year Ended September 30,		
	2017	2016	2015
Net Sales			
Building Technologies & Solutions			
Building Solutions North America	$ 8,341	$ 4,687	$ 4,270
Building Solutions EMEA/LA	3,595	1,613	1,549
Building Solutions Asia Pacific	2,444	1,736	1,651
Global Products	8,455	6,148	3,040
	22,835	14,184	10,510
Power Solutions	7,337	6,653	6,590
Total net sales	$ 30,172	$ 20,837	$ 17,100

	Year Ended September 30,		
	2017	2016	2015
Segment EBITA			
Building Technologies & Solutions			
Building Solutions North America (1)	$ 1,039	$ 494	$ 416
Building Solutions EMEA/LA (2)	290	74	45
Building Solutions Asia Pacific (3)	323	222	211
Global Products (4)	1,179	637	414
	2,831	1,427	1,086
Power Solutions (5)	1,427	1,327	1,241
Total segment EBITA	$ 4,258	$ 2,754	$ 2,327
Amortization of intangible assets	(489)	(116)	(74)
Corporate expenses (6)	(768)	(607)	(417)
Net financing charges	(496)	(289)	(274)
Restructuring and impairment costs	(367)	(288)	(215)
Net mark-to-market adjustments on pension and postretirement plans	420	(393)	(416)
Income from continuing operations before income taxes	$ 2,558	$ 1,061	$ 931

	September 30,		
	2017	2016	2015
Assets			
Building Technologies & Solutions (7)			
Building Solutions North America	$ 15,228	$ 15,554	$ 2,300
Building Solutions EMEA/LA (8)	4,885	4,649	1,022
Building Solutions Asia Pacific	2,575	2,521	978
Global Products (9)	14,018	15,782	5,083
	36,706	38,506	9,383
Power Solutions (10)	7,894	6,793	6,531
Assets held for sale	2,109	13,186	10,613
Unallocated	5,175	4,694	3,063
Total	$ 51,884	$ 63,179	$ 29,590

	Year Ended September 30,		
	2017	2016	2015
Depreciation/Amortization			
Building Technologies & Solutions			
Building Solutions North America	$ 272	$ 49	$ 24
Building Solutions EMEA/LA	140	14	10
Building Solutions Asia Pacific	37	11	9
Global Products	410	230	138
	859	304	181
Power Solutions	236	238	286
Corporate	64	80	60
Discontinued Operations	29	331	333
Total	$ 1,188	$ 953	$ 860

	Year Ended September 30,		
	2017	2016	2015
Capital Expenditures			
Building Technologies & Solutions			
Building Solutions North America	$ 107	$ 16	$ 17
Building Solutions EMEA/LA	98	19	17
Building Solutions Asia Pacific	27	7	8
Global Products	421	304	162
Global Workplace Solutions	—	—	13
	653	346	217
Automotive Experience			
Seating	62	392	356
Interiors	1	3	99
	63	395	455
Power Solutions	481	357	252
Corporate	146	151	211
Total	$ 1,343	$ 1,249	$ 1,135

(1) Building Solutions North America segment EBITA for the years ended September 30, 2017 and 2015 excludes $59 million and $2 million , respectively, of restructuring and impairment costs.

(2) Building Solutions EMEA/LA segment EBITA for the years ended September 30, 2017 , 2016 and 2015 excludes $74 million , $17 million and $9 million , respectively, of restructuring and impairment costs. For the years ended September 30, 2017 , 2016 and 2015 , EMEA/LA segment EBITA includes $5 million , $11 million and $14 million , respectively, of equity income.

(3) Building Solutions Asia Pacific segment EBITA for the years ended September 30, 2017 and 2015 excludes $16 million and $7 million , respectively, of restructuring and impairment costs. For the years ended September 30, 2017 and 2016 , Asia Pacific segment EBITA includes $1 million and $1 million , respectively, of equity income.

(4) Global Products segment EBITA for the years ended September 30, 2017 , 2016 and 2015 excludes $32 million , $44 million and $20 million , respectively, of restructuring and impairment costs. For the years ended September 30, 2017 , 2016 and 2015 , Global Products segment EBITA includes $151 million , $114 million and $9 million , respectively, of equity income.

(5) Power Solutions segment EBITA for the years ended September 30, 2017 , 2016 and 2015 excludes $20 million , $66 million and $11 million , respectively, of restructuring and impairment costs. For the years ended September 30, 2017 , 2016 and 2015 , Power Solutions segment EBITA includes $83 million , $48 million and $57 million , respectively, of equity income.

(6) Corporate expenses for the years ended September 30, 2017 , 2016 and 2015 excludes $166 million , $161 million and $166 million , respectively, of restructuring and impairment costs.

(7) Current year and prior year amounts exclude assets held for sale. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information regarding the Company's disposal groups classified as held for sale.

(8) Building Solutions EMEA/LA assets as of September 30 2017, 2016 and 2015, include $107 million , $103 million and $90 million , respectively, of investments in partially-owned affiliates.

(9) Global Products assets as of September 30 2017, 2016 and 2015, include $637 million , $520 million and $64 million , respectively, of investments in partially-owned affiliates.

(10) Power Solutions assets as of September 30 2017, 2016 and 2015, include $447 million , $367 million and $343 million , respectively, of investments in partially-owned affiliates.

In fiscal years 2017 , 2016 and 2015 , no customer exceeded 10% of consolidated net sales.

Geographic Segments

Financial information relating to the Company’s operations by geographic area is as follows (in millions):

	Year Ended September 30,		
	2017	2016	2015
Net Sales			
United States	$ 14,495	$ 9,633	$ 8,982
China	2,046	1,620	1,350
Japan	1,816	1,805	315
Germany	1,779	1,430	911
United Kingdom	928	291	309
Mexico	840	639	635
Other foreign	5,408	3,602	2,637
Other European countries	2,860	1,817	1,961
Total	$ 30,172	$ 20,837	$ 17,100
Long-Lived Assets (Year-end)			
United States	$ 3,155	$ 2,880	$ 2,056
China	535	484	415
Japan	180	188	8
Germany	290	287	304
United Kingdom	109	103	4
Mexico	489	457	368
Other foreign	821	785	252
Other European countries	542	448	276
Total	$ 6,121	$ 5,632	$ 3,683

Net sales attributed to geographic locations are based on the location of the assets producing the sales. Long-lived assets by geographic location consist of net property, plant and equipment.

20. NONCONSOLIDATED PARTIALLY-OWNED AFFILIATES

Investments in the net assets of nonconsolidated partially-owned affiliates are stated in the "Investments in partially-owned affiliates" line in the consolidated statements of financial position as of September 30, 2017 and 2016 . Equity in the net income of nonconsolidated partially-owned affiliates is stated in the "Equity income" line in the consolidated statements of income for the years ended September 30, 2017 , 2016 and 2015 .

The following table presents summarized financial data for the Company's nonconsolidated partially-owned affiliates. The amounts included in the table below represent 100% of the results of continuing operations of such nonconsolidated partially-owned affiliates accounted for under the equity method.

Summarized balance sheet data as of September 30 is as follows (in millions):

	2017	2016
Current assets	$ 4,034	$ 3,085
Noncurrent assets	1,513	1,436
Total assets	$ 5,547	$ 4,521
Current liabilities	$ 2,470	$ 1,864
Noncurrent liabilities	478	554
Noncontrolling interests	33	41
Shareholders' equity	2,566	2,062
Total liabilities and shareholders' equity	$ 5,547	$ 4,521

Summarized income statement data for the years ended September 30 is as follows (in millions):

	2017	2016	2015
Net sales	$ 6,445	$ 5,329	$ 3,527
Gross profit	1,510	1,323	718
Net income	517	415	195
Income attributable to noncontrolling interests	11	16	—
Net income attributable to the entity	506	399	195

21. GUARANTEES

Certain of the Company's subsidiaries at the business segment level have guaranteed the performance of third-parties and provided financial guarantees for uncompleted work and financial commitments. The terms of these guarantees vary with end dates ranging from the current fiscal year through the completion of such transactions and would typically be triggered in the event of nonperformance. Performance under the guarantees, if required, would not have a material effect on the Company's financial position, results of operations or cash flows.

The Company offers warranties to its customers depending upon the specific product and terms of the customer purchase agreement. A typical warranty program requires that the Company replace defective products within a specified time period from the date of sale. The Company records an estimate for future warranty-related costs based on actual historical return rates and other known factors. Based on analysis of return rates and other factors, the Company's warranty provisions are adjusted as necessary. The Company monitors its warranty activity and adjusts its reserve estimates when it is probable that future warranty costs will be different than those estimates.

The Company's product warranty liability for continuing operations is recorded in the consolidated statements of financial position in other current liabilities if the warranty is less than one year and in other noncurrent liabilities if the warranty extends longer than one year.

The changes in the carrying amount of the Company's total product warranty liability for continuing operations, including extended warranties for which deferred revenue is recorded, for the fiscal years ended September 30, 2017 and 2016 were as follows (in millions):

	Year Ended September 30,	
	2017	2016
Balance at beginning of period	$ 374	$ 288
Accruals for warranties issued during the period	312	314
Accruals from acquisitions and divestitures (1)	7	83
Accruals related to pre-existing warranties (including changes in estimates)	(4)	(17)
Settlements made (in cash or in kind) during the period	(280)	(297)
Currency translation	—	3
Balance at end of period	$ 409	$ 374

(1) The year ended September 30, 2017 includes $13 million of product warranties transferred to liabilities held for sale on the consolidated statements of financial position. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further information regarding the Company's disposal groups classified as held for sale.

As a result of the Tyco Merger in the fourth quarter of fiscal 2016, the Company recorded, as part of the acquired liabilities of Tyco, $290 million of post sale contingent tax indemnification liabilities which is generally recorded within other noncurrent liabilities in the consolidated statements of financial position. The liabilities are recorded at fair value and relate to certain tax related matters borne by the buyer of previously divested subsidiaries of Tyco which Tyco has indemnified certain parties and the amounts are probable of being paid. Of the $290 million recorded as of September 30, 2017 and 2016 , $255 million is related to prior divested businesses and the remainder relates to Tyco's tax sharing agreements from its 2007 and 2012 spin-off transactions. These are certain guarantees or indemnifications extended among Tyco, Medtronic, TE Connectivity, ADT and Pentair in accordance with the terms of the 2007 and 2012 separation and tax sharing agreements. In addition, the Company has recorded $11 million of tax indemnification liabilities as of September 30, 2017 related to other divestitures.

22. TYCO INTERNATIONAL FINANCE S.A.

TIFSA, a 100% owned subsidiary of the Company, has public debt securities outstanding, which as of September 30, 2016, were fully and unconditionally guaranteed by Johnson Controls and by Tyco Fire & Security Finance S.C.A. ("TIFSCA"), a wholly owned subsidiary of the Company and parent company TIFSA. During the first quarter of fiscal 2017, the guarantees were removed in connection with the previously disclosed debt exchange. The following tables present condensed consolidating financial information for Johnson Controls, TIFSCA, TIFSA and all other subsidiaries. Condensed financial information for the Company, TIFSCA and TIFSA on a stand-alone basis is presented using the equity method of accounting for subsidiaries. The Company has revised investments in affiliates and other shareholders' equity amounts for TIFSA and TIFSCA as of the year ended September 30, 2016. Within the condensed consolidating statement of financial position, investments in affiliates and other shareholders' equity for TIFSA and TIFSCA decreased by $1,485 million and $263 million , respectively, with the offset in the consolidating adjustments column. The impact of the changes to the consolidating figures was not significant and had no impact to the consolidated financials of the Company.

The TIFSA public debt securities were assumed as part of the Tyco acquisition. Therefore, no consolidating financial information for the year ended September 30, 2015 is presented related to the guarantee of the TIFSA public debt securities. Additional information regarding TIFSA and TIFSCA for the fiscal year ended September 25, 2015 and the period ended June 24, 2016 can be found in Tyco's Annual Report on Form 10-K filed with the SEC on November 13, 2015 (as recast in part in Tyco's Current Report on Form 8-K filed with the SEC on March 11, 2016) and Tyco's Quarterly report on Form 10-Q filed with the SEC on July 29, 2016, respectively.

CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS
For the Year Ended September 30, 2017
($ in millions)

	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Net sales	$ —	$ —	$ —	$ 30,172	$ —	$ 30,172
Cost of sales	—	—	—	20,833	—	20,833
Gross profit	—	—	—	9,339	—	9,339
Selling, general and administrative expenses	(13)	—	—	(6,145)	—	(6,158)
Restructuring and impairment costs	—	—	—	(367)	—	(367)
Net financing charges	(179)	(1)	(19)	(297)	—	(496)
Equity income (loss)	1,839	874	(35)	240	(2,678)	240
Intercompany interest and fees	(27)	245	11	(229)	—	—
Income (loss) from continuing operations before income taxes	1,620	1,118	(43)	2,541	(2,678)	2,558
Income tax provision	9	—	—	696	—	705
Income (loss) from continuing operations	1,611	1,118	(43)	1,845	(2,678)	1,853
Loss from sale of intercompany investment, net of tax	—	—	(935)	—	935	—
Loss from discontinued operations, net of tax	—	—	—	(34)	—	(34)
Net income (loss)	1,611	1,118	(978)	1,811	(1,743)	1,819
Income from continuing operations attributable to noncontrolling interests	—	—	—	199	—	199
Income from discontinued operations attributable to noncontrolling interests	—	—	—	9	—	9
Net income (loss) attributable to Johnson Controls	$ 1,611	$ 1,118	$ (978)	$ 1,603	$ (1,743)	$ 1,611

CONDENSED CONSOLIDATING STATEMENT OF COMPREHENSIVE INCOME
For the Year Ended September 30, 2017

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Net income (loss)	$ 1,611	$ 1,118	$ (978)	$ 1,811	$ (1,743)	$ 1,819
Other comprehensive income (loss), net of tax						
Foreign currency translation adjustments	108	(54)	20	137	(108)	103
Realized and unrealized losses on derivatives	(14)	—	—	(14)	14	(14)
Realized and unrealized gains (losses) on marketable securities	5	—	(4)	9	(5)	5
Other comprehensive income (loss)	99	(54)	16	132	(99)	94
Total comprehensive income (loss)	1,710	1,064	(962)	1,943	(1,842)	1,913
Comprehensive income attributable to noncontrolling interests	—	—	—	203	—	203
Comprehensive income (loss) attributable to Johnson Controls	$ 1,710	$ 1,064	$ (962)	$ 1,740	$ (1,842)	$ 1,710

CONDENSED CONSOLIDATING STATEMENT OF OPERATIONS
For the Year Ended September 30, 2016
($ in millions)

	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Net sales	$ —	$ —	$ —	$ 20,837	$ —	$ 20,837
Cost of sales	—	—	—	15,183	—	15,183
Gross profit	—	—	—	5,654	—	5,654
Selling, general and administrative expenses	(2)	(2)	(1)	(4,185)	—	(4,190)
Restructuring and impairment costs	—	—	—	(288)	—	(288)
Net financing charges	—	—	(6)	(283)	—	(289)
Equity income (loss)	(894)	(1,527)	(341)	174	2,762	174
Intercompany interest and fees	28	—	7	(35)	—	—
Income (loss) from continuing operations before income taxes	(868)	(1,529)	(341)	1,037	2,762	1,061
Income tax provision	—	—	—	197	—	197
Income (loss) from continuing operations	(868)	(1,529)	(341)	840	2,762	864
Loss from discontinued operations, net of tax	—	—	—	(1,516)	—	(1,516)
Net loss	(868)	(1,529)	(341)	(676)	2,762	(652)
Income from continuing operations attributable to noncontrolling interests	—	—	—	132	—	132
Income from discontinued operations attributable to noncontrolling interests	—	—	—	84	—	84
Net loss attributable to Johnson Controls	$ (868)	$ (1,529)	$ (341)	$ (892)	$ 2,762	$ (868)

CONDENSED CONSOLIDATING STATEMENT OF COMPREHENSIVE INCOME
For the Year Ended September 30, 2016

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Net loss	$ (868)	$ (1,529)	$ (341)	$ (676)	$ 2,762	$ (652)
Other comprehensive loss, net of tax						
Foreign currency translation adjustments	(105)	—	—	(94)	105	(94)
Realized and unrealized gains on derivatives	11	—	—	9	(11)	9
Realized and unrealized losses on marketable common stock	(1)	—	—	(1)	1	(1)
Pension and postretirement plans	(1)	—	—	(1)	1	(1)
Other comprehensive loss	(96)	—	—	(87)	96	(87)
Total comprehensive loss	(964)	(1,529)	(341)	(763)	2,858	(739)
Comprehensive income attributable to noncontrolling interests	—	—	—	225	—	225
Comprehensive loss attributable to Johnson Controls	$ (964)	$ (1,529)	$ (341)	$ (988)	$ 2,858	$ (964)

CONDENSED CONSOLIDATING STATEMENT OF FINANCIAL POSITION
For the Year Ended September 30, 2017

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Assets						
Cash and cash equivalents	$ —	$ 107	$ 382	$ 718	$ (886)	$ 321
Accounts receivable, net	—	—	—	6,666	—	6,666
Inventories	—	—	—	3,209	—	3,209
Intercompany receivables	1,580	1,732	55	4,470	(7,837)	—
Assets held for sale	—	—	—	189	—	189
Other current assets	14	—	1	1,892	—	1,907
Current assets	1,594	1,839	438	17,144	(8,723)	12,292
Property, plant and equipment - net	—	—	—	6,121	—	6,121
Goodwill	243	—	32	19,413	—	19,688
Other intangible assets - net	—	—	—	6,741	—	6,741
Investments in partially-owned affiliates	—	—	—	1,191	—	1,191
Investments in affiliates	19,487	31,594	21,132	—	(72,213)	—
Intercompany loans receivable	17,908	4,140	2,836	9,004	(33,888)	—
Noncurrent assets held for sale	—	—	—	1,920	—	1,920
Other noncurrent assets	56	—	7	3,868	—	3,931
Total assets	$ 39,288	$ 37,573	$ 24,445	$ 65,402	$ (114,824)	$ 51,884
Liabilities and Equity						
Short-term debt	$ 1,476	$ —	$ —	$ 624	$ (886)	$ 1,214
Current portion of long-term debt	307	—	18	69	—	394
Accounts payable	—	—	—	4,271	—	4,271
Accrued compensation and benefits	4	—	—	1,067	—	1,071
Deferred revenue	—	—	—	1,279	—	1,279
Liabilities held for sale	—	—	—	72	—	72
Intercompany payables	4,236	1,055	1,886	660	(7,837)	—
Other current liabilities	324	2	24	3,203	—	3,553
Current liabilities	6,347	1,057	1,928	11,245	(8,723)	11,854
Long-term debt	7,806	—	152	4,006	—	11,964
Pension and postretirement benefits	—	—	—	947	—	947
Intercompany loans payable	4,688	17,908	4,316	6,976	(33,888)	—
Noncurrent liabilities held for sale	—	—	—	173	—	173
Other noncurrent liabilities	—	—	24	5,344	—	5,368
Long-term liabilities	12,494	17,908	4,492	17,446	(33,888)	18,452
Redeemable noncontrolling interest	—	—	—	211	—	211
Ordinary shares	9	—	—	—	—	9
Ordinary shares held in treasury	(710)	—	—	—	—	(710)
Other shareholders' equity	21,148	18,608	18,025	35,580	(72,213)	21,148
Shareholders' equity attributable to Johnson Controls	20,447	18,608	18,025	35,580	(72,213)	20,447
Noncontrolling interests	—	—	—	920	—	920
Total equity	20,447	18,608	18,025	36,500	(72,213)	21,367
Total liabilities and equity	$ 39,288	$ 37,573	$ 24,445	$ 65,402	$ (114,824)	$ 51,884

CONDENSED CONSOLIDATING STATEMENT OF FINANCIAL POSITION
For the Year Ended September 30, 2016

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Assets						
Cash and cash equivalents	$ 11	$ —	$ 244	$ 324	$ —	$ 579
Accounts receivable, net	—	—	—	6,394	—	6,394
Inventories	—	—	—	2,888	—	2,888
Intercompany receivables	16	—	2	6,188	(6,206)	—
Assets held for sale	—	—	—	5,812	—	5,812
Other current assets	6	—	1	1,429	—	1,436
Current assets	33	—	247	23,035	(6,206)	17,109
Property, plant and equipment - net	—	—	—	5,632	—	5,632
Goodwill	—	—	274	20,750	—	21,024
Other intangible assets - net	—	—	—	7,540	—	7,540
Investments in partially-owned affiliates	—	—	—	990	—	990
Investments in affiliates	12,460	31,142	26,421	—	(70,023)	—
Intercompany loans receivable	18,680	—	13,336	15,631	(47,647)	—
Noncurrent assets held for sale	—	—	—	7,374	—	7,374
Other noncurrent assets	—	—	—	3,510	—	3,510
Total assets	$ 31,173	$ 31,142	$ 40,278	$ 84,462	$ (123,876)	$ 63,179
Liabilities and Equity						
Short-term debt	$ —	$ —	$ —	$ 1,078	$ —	$ 1,078
Current portion of long-term debt	—	—	—	628	—	628
Accounts payable	1	—	—	3,999	—	4,000
Accrued compensation and benefits	—	—	—	1,333	—	1,333
Deferred revenue	—	—	—	1,228	—	1,228
Liabilities held for sale	—	—	—	4,276	—	4,276
Intercompany payables	3,873	—	2,315	18	(6,206)	—
Other current liabilities	3	2	32	3,751	—	3,788
Current liabilities	3,877	2	2,347	16,311	(6,206)	16,331
Long-term debt	—	—	2,413	8,640	—	11,053
Pension and postretirement benefits	—	—	—	1,550	—	1,550
Intercompany loans payable	3,178	18,680	12,453	13,336	(47,647)	—
Noncurrent liabilities held for sale	—	—	—	3,888	—	3,888
Other noncurrent liabilities	—	—	22	5,011	—	5,033
Long-term liabilities	3,178	18,680	14,888	32,425	(47,647)	21,524
Redeemable noncontrolling interest	—	—	—	234	—	234
Ordinary shares	9	—	—	—	—	9
Ordinary shares held in treasury	(20)	—	—	—	—	(20)
Other shareholders' equity	24,129	12,460	23,043	34,520	(70,023)	24,129
Shareholders' equity attributable to Johnson Controls	24,118	12,460	23,043	34,520	(70,023)	24,118
Noncontrolling interests	—	—	—	972	—	972
Total equity	24,118	12,460	23,043	35,492	(70,023)	25,090
Total liabilities and equity	$ 31,173	$ 31,142	$ 40,278	$ 84,462	$ (123,876)	$ 63,179

CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS
For the Year Ended September 30, 2017

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Operating Activities						
Net cash provided (used) by operating activities	$ (129)	$ 182	$ 142	$ (183)	$ —	$ 12
Investing Activities						
Capital expenditures	—	—	—	(1,343)	—	(1,343)
Sale of property, plant and equipment	—	—	—	33	—	33
Acquisition of business, net of cash acquired	—	—	(6)	—	—	(6)
Business divestitures	—	—	—	220	—	220
Changes in long-term investments	—	—	(11)	(30)	—	(41)
Net change in intercompany loans receivable	(300)	—	—	(640)	940	—
Increase in intercompany investment in subsidiaries	(1,998)	(1,716)	(100)	—	3,814	—
Net cash used by investing activities	(2,298)	(1,716)	(117)	(1,760)	4,754	(1,137)
Financing Activities						
Increase (decrease) in short-term debt - net	1,476	—	—	(445)	(886)	145
Increase in long-term debt	1,856	—	—	9	—	1,865
Repayment of long-term debt	(183)	—	(20)	(1,094)	—	(1,297)
Debt financing costs	(17)	—	—	(1)	—	(18)
Stock repurchases	(651)	—	—	—	—	(651)
Payment of cash dividends	(702)	—	—	—	—	(702)
Proceeds from the exercise of stock options	157	—	—	—	—	157
Net change in intercompany loans payable	583	—	57	300	(940)	—
Increase in equity from parent	—	1,641	76	2,097	(3,814)	—
Change in noncontrolling interest share	—	—	—	8	—	8
Dividends paid to noncontrolling interests	—	—	—	(88)	—	(88)
Dividends from Adient spin-off	—	—	—	2,050	—	2,050
Cash transferred to Adient related spin-off	(87)	—	—	(578)	—	(665)
Cash paid to prior acquisitions	—	—	—	(75)	—	(75)
Other	(16)	—	—	4	—	(12)
Net cash provided by financing activities	2,416	1,641	113	2,187	(5,640)	717
Effect of currency translation on cash	—	—	—	54	—	54
Changes in cash held for sale	—	—	—	96	—	96
Increase (decrease) in cash and cash equivalents	(11)	107	138	394	(886)	(258)
Cash and cash equivalents at beginning of period	11	—	244	324	—	579
Cash and cash equivalents at end of period	$ —	$ 107	$ 382	$ 718	$ (886)	$ 321

CONDENSED CONSOLIDATING STATEMENT OF CASH FLOWS
For the Year Ended September 30, 2016

(in millions)	Johnson Controls International plc	Tyco Fire & Security Finance SCA	Tyco International Finance S.A.	Other Subsidiaries	Consolidating Adjustments	Total
Operating Activities						
Net cash provided by operating activities	$ 11	$ —	$ 639	$ 1,245	$ —	$ 1,895
Investing Activities						
Capital expenditures	—	—	—	(1,249)	—	(1,249)
Sale of property, plant and equipment	—	—	—	32	—	32
Acquisition of business, net of cash acquired	—	—	—	353	—	353
Business divestitures	—	—	—	32	—	32
Changes in long-term investments	—	—	57	(105)	—	(48)
Net change in intercompany loans	—	—	10	—	(10)	—
Other	—	—	—	(7)	—	(7)
Net cash provided (used) by investing activities	—	—	67	(944)	(10)	(887)
Financing Activities						
Increase (decrease) in short-term debt - net	—	—	(462)	1,018	—	556
Increase in long-term debt	—	—	—	1,501	—	1,501
Repayment of long-term debt	—	—	—	(1,299)	—	(1,299)
Debt financing costs	—	—	—	(45)	—	(45)
Stock repurchases	—	—	—	(501)	—	(501)
Payment of cash dividends	—	—	—	(915)	—	(915)
Proceeds from the exercise of stock options	3	—	—	67	—	70
Net intercompany loan borrowings (repayments)	—	—	—	(10)	10	—
Cash paid to acquire a noncontrolling interest	—	—	—	(2)	—	(2)
Dividends paid to noncontrolling interests	—	—	—	(306)	—	(306)
Other	(3)	—	—	11	—	8
Net cash used by financing activities	—	—	(462)	(481)	10	(933)
Effect of currency translation on cash	—	—	—	12	—	12
Changes in cash held for sale	—	—	—	(61)	—	(61)
Increase (decrease) in cash and cash equivalents	11	—	244	(229)	—	26
Cash and cash equivalents at beginning of period	—	—	—	553	—	553
Cash and cash equivalents at end of period	$ 11	$ —	$ 244	$ 324	$ —	$ 579

23. COMMITMENTS AND CONTINGENCIES

Environmental Matters

The Company accrues for potential environmental liabilities when it is probable a liability has been incurred and the amount of the liability is reasonably estimable. As of September 30, 2017 , reserves for environmental liabilities totaled $51 million , of which $10 million was recorded within other current liabilities and $41 million was recorded within other noncurrent liabilities in the consolidated statements of financial position. Reserves for environmental liabilities for continuing operations totaled $51 million at September 30, 2016 . Such potential liabilities accrued by the Company do not take into consideration possible recoveries of future insurance proceeds. They do, however, take into account the likely share other parties will bear at remediation sites. It is difficult to estimate the Company's ultimate level of liability at many remediation sites due to the large number of other parties that may be involved, the complexity of determining the relative liability among those parties, the uncertainty as to the nature and scope of the investigations and remediation to be conducted, the uncertainty in the application of law and risk assessment, the various choices and costs associated with diverse technologies that may be used in corrective actions at the sites, and the often quite lengthy periods over which eventual remediation may occur. Nevertheless, the Company does not currently believe that any claims, penalties or costs in connection with known environmental matters will have a material adverse effect on the Company's financial position, results of operations or cash flows. In addition, the Company has identified asset retirement obligations for environmental matters that are expected to be addressed at the retirement, disposal, removal or abandonment of existing owned facilities, primarily in the Power Solutions and Building Technologies & Solutions businesses. At September 30, 2017 and 2016 , the Company recorded conditional asset retirement obligations of $61 million and $74 million , respectively.

Asbestos Matters

The Company and certain of its subsidiaries, along with numerous other third parties, are named as defendants in personal injury lawsuits based on alleged exposure to asbestos containing materials. These cases have typically involved product liability claims based primarily on allegations of manufacture, sale or distribution of industrial products that either contained asbestos or were used with asbestos containing components.

As of September 30, 2017 , the Company's estimated asbestos related net liability recorded on a discounted basis within the Company's consolidated statements of financial position was $181 million . The net liability within the consolidated statements of financial position was comprised of a liability for pending and future claims and related defense costs of $573 million , of which $48 million was recorded in other current liabilities and $525 million was recorded in other noncurrent liabilities. The Company also maintained separate cash, investments and receivables related to insurance recoveries within the consolidated statements of financial position of $392 million , of which $53 million was recorded in other current assets, and $339 million was recorded in other noncurrent assets. Assets included $22 million of cash and $269 million of investments, which have all been designated as restricted. In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable; the amount of such recoveries recorded at September 30, 2017 was $101 million . As of September 30, 2016 , the Company's estimated asbestos related net liability recorded on a discounted basis within the Company's consolidated statements of financial position was $148 million . The net liability within the consolidated statements of financial position was comprised of a liability for pending and future claims and related defense costs of $548 million , of which $35 million was recorded in other current liabilities and $513 million was recorded in other noncurrent liabilities. The Company also maintained separate cash, investments and receivables related to insurance recoveries within the consolidated statements of financial position of $400 million , of which $41 million was recorded in other current assets, and $359 million was recorded in other noncurrent assets. Assets included $16 million of cash and $264 million of investments, which have all been designated as restricted. In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable; the amount of such recoveries recorded at September 30, 2016 was $120 million .

The Company's estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Company's historical claim experience, and estimates of the number and resolution cost of potential future claims that may be filed and is discounted to present value from 2068 (which is the Company's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be filed against Company affiliates). Asbestos related defense costs are included in the asbestos liability. The Company's legal strategy for resolving claims also impacts these estimates. The Company considers various trends and developments in evaluating the period of time (the look-back period) over which historical claim and settlement experience is used to estimate and value claims reasonably projected to be made through 2068. Annually, the Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy. The Company also evaluates the recoverability of its insurance receivable on

an annual basis. The Company evaluates all of these factors and determines whether a change in the estimate of its liability for pending and future claims and defense costs or insurance receivable is warranted.

The amounts recorded by the Company for asbestos-related liabilities and insurance-related assets are based on the Company's strategies for resolving its asbestos claims, currently available information, and a number of estimates and assumptions. Key variables and assumptions include the number and type of new claims that are filed each year, the average cost of resolution of claims, the identity of defendants, the resolution of coverage issues with insurance carriers, amount of insurance, and the solvency risk with respect to the Company's insurance carriers. Many of these factors are closely linked, such that a change in one variable or assumption will impact one or more of the others, and no single variable or assumption predominately influences the determination of the Company's asbestos-related liabilities and insurance-related assets. Furthermore, predictions with respect to these variables are subject to greater uncertainty in the later portion of the projection period. Other factors that may affect the Company's liability and cash payments for asbestos-related matters include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms of state or federal tort legislation and the applicability of insurance policies among subsidiaries. As a result, actual liabilities or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in the Company's calculations vary significantly from actual results.

Insurable Liabilities

The Company records liabilities for its workers' compensation, product, general and auto liabilities. The determination of these liabilities and related expenses is dependent on claims experience. For most of these liabilities, claims incurred but not yet reported are estimated by utilizing actuarial valuations based upon historical claims experience. At September 30, 2017 and 2016 , the insurable liabilities totaled $445 million and $422 million , respectively, of which $122 million and $60 million was recorded within other current liabilities, $22 million and $28 million was recorded within accrued compensation and benefits, and $301 million and $334 million was recorded within other noncurrent liabilities in the consolidated statements of financial position, respectively. The Company records receivables from third party insurers when recovery has been determined to be probable. The amount of such receivables recorded at September 30, 2017 was $46 million , of which $31 million was recorded within other current assets and $15 million was recorded within other noncurrent assets. Insurance receivables recorded at September 30, 2016 were $21 million , primarily recorded within other noncurrent assets. The Company maintains captive insurance companies to manage certain of its insurable liabilities.

Arbitration Award

In September 2017, the Company was subject to an unfavorable arbitration award of approximately $50 million relating to a contractual dispute with a subcontractor used by the Company at an airport construction project in Doha, Qatar. In connection with the unfavorable arbitration award, the Company recorded a charge of $50 million within selling, general and administrative expenses on the consolidated statements of income in the fourth quarter of fiscal 2017. The airport project is being managed by a steering committee. The Company and the subcontractor were working jointly to document claims for increased costs against the steering committee when the subcontractor initiated the arbitration proceeding against the Company. Pursuant to its arbitration proceeding against the Company, the subcontractor sought to recover costs it alleges it incurred due to project delays, additional work and related financing costs. While the award remains outstanding, it will accrue interest at a statutory rate of 9.56% .

In a related action, the Company has initiated an arbitration claim against the steering committee related to costs it incurred in connection with delays of the airport construction project, including costs related to the above award. The arbitrator is expected to issue a decision on the Company’s claims against the steering committee by the end of fiscal 2018.

Aqueous Film-Forming Foam Litigation

Two of our subsidiaries, Chemguard, Inc. ("Chemguard") and Tyco Fire Products L.P. ("Tyco Fire Products"), have been named, along with other defendant manufacturers, in a number of class action lawsuits relating to the use of fire-fighting foam products by the U.S. Department of Defense (the DOD) and others for fire suppression purposes and related training exercises. Plaintiffs generally allege that the firefighting foam products manufactured by defendants contain or break down into the chemicals perfluorooctane sulfonate ("PFOS") and perfluorooctanoic acid ("PFOA") and that the use of these products by others at various airbases and airports resulted in the release of these chemicals into the environment and ultimately into communities’ drinking water supplies neighboring those airports and airbases. Plaintiffs generally seek compensatory damages, including damages for alleged personal injuries, medical monitoring, and alleged diminution in property values, and also seek punitive damages and injunctive relief to address remediation of the alleged contamination. As of November 21, 2017, the Company is named in 12 putative class actions in federal courts in three states as set forth below:

Colorado

- *District of Colorado - Bell et al. v. The 3M Company et al.,* filed on September 18, 2016.
- *District of Colorado - Bell et al. v. The 3M Company et al.,* filed on September 18, 2016.
- *District of Colorado - Davis et al. v. The 3M Company et al.,* filed on September 22, 2016.

The above cases have been consolidated in the U.S. District Court for the District of Colorado, and a hearing on the plaintiffs' motion for class certification is scheduled for April 2018.

New York

- *Eastern District of New York - Green et al. v. The 3M Company et al.,* filed March 27, 2017 in Supreme Court of the State of New York, Suffolk County, prior to removal to federal court.
- *Southern District of New York - Adamo et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Southern District of New York - Fogarty et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Southern District of New York - Miller et al. v. The Port Authority of NY and NJ et al.,* filed August 11, 2017 in Supreme Court of the State of New York, Orange County, prior to removal to federal court.
- *Supreme Court of the State of New York, Suffolk County - Singer et al. v. The 3M Company et al.,* filed October 10, 2017.

Responses to the complaints have not been filed yet in any of the New York actions.

Pennsylvania

- *Eastern District of Pennsylvania - Bates et al. v. The 3M Company et al.,* filed September 15, 2016.
- *Eastern District of Pennsylvania - Grande et al. v. The 3M Company et al.,* filed October 13, 2016.
- *Eastern District of Pennsylvania - Yockey et al. v. The 3M Company et al.,* filed October 24, 2016.
- *Eastern District of Pennsylvania - Fearnley et al. v. The 3M Company et al.,* filed December 9, 2016.

The above cases have been consolidated in the U.S. District Court for the Eastern District of Pennsylvania. Defendants have moved to dismiss the complaint in the consolidated proceeding.

In addition to the putative class actions, Chemguard and Tyco Fire Products are also defendants in an action filed by two plaintiffs in the U.S. District Court for the Eastern District of Pennsylvania: Menkes et al. v. The 3M Company et al., (filed February 7, 2017). The Menkes plaintiffs assert substantive claims and allegations similar to the putative class allegations, but also include personal injury claim. The Company is also on notice of approximately 490 other possible individual product liability claims by filings made in Pennsylvania state court, but complaints have not been filed in those matters, and, under Pennsylvania's procedural rules, they may or may not result in lawsuits.

Chemguard and Tyco Fire Products are also defendants in two cases pending in the U.S. District Court for the District of Massachusetts: Town of Barnstable v. the 3M. Co., et al, (filed Nov. 21, 2016), and County of Barnstable v. the 3M. Co., et al, (filed January 9, 2017). These municipal plaintiffs generally allege that the use of the defendants' fire-fighting foam products at a fire training academy and municipal airport released PFOS and PFOA into the town's water supply wells, allegedly requiring remediation of the town and county property. The defendants have filed a motion to dismiss in County of Barnstable, which is currently pending before the court.

The Company is vigorously defending these cases and believes that it has meritorious defenses to class certification and the claims asserted. However, there are numerous factual and legal issues to be resolved in connection with these claims, and it is extremely difficult to predict the outcome or ultimate financial exposure, if any, represented by these matters, but there can be no assurance that any such exposure will not be material. The Company is also pursuing insurance coverage for these matters.

The Company is involved in various lawsuits, claims and proceedings incident to the operation of its businesses, including those pertaining to product liability, environmental, safety and health, intellectual property, employment, commercial and contractual matters, and various other casualty matters. Although the outcome of litigation cannot be predicted with certainty and some lawsuits, claims or proceedings may be disposed of unfavorably to us, it is management's opinion that none of these will have a material adverse effect on the Company's financial position, results of operations or cash flows. Costs related to such matters were not material to the periods presented.

24. RELATED PARTY TRANSACTIONS

In the ordinary course of business, the Company enters into transactions with related parties, such as equity affiliates. Such transactions consist of facility management services, the sale or purchase of goods and other arrangements.

The net sales to and purchases from related parties for continuing operations included in the consolidated statements of income were $954 million and $195 million , respectively, for fiscal 2017; $917 million and $184 million , respectively, for fiscal 2016; and $892 million and $95 million , respectively, for fiscal 2015.

The following table sets forth the amount of accounts receivable due from and payable to related parties for continuing operations in the consolidated statements of financial position (in millions):

	September 30,	
	2017	2016
Receivable from related parties	$ 108	$ 72
Payable to related parties	50	14

The Company has also provided financial support to certain of its VIE's, see Note 1, "Summary of Significant Accounting Policies," of the notes to consolidated financial statements for additional information.

JOHNSON CONTROLS INTERNATIONAL PLC AND SUBSIDIARIES
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
(In millions)

Year Ended September 30,	2017	2016	2015
Accounts Receivable - Allowance for Doubtful Accounts			
Balance at beginning of period	$ 173	$ 70	$ 64
Provision charged to costs and expenses	39	45	27
Reserve adjustments	(9)	(8)	(5)
Accounts charged off	(41)	(25)	(16)
Acquisition of businesses	18	91	1
Currency translation	2	—	(1)
Balance at end of period	$ 182	$ 173	$ 70
Deferred Tax Assets - Valuation Allowance			
Balance at beginning of period	$ 3,400	$ 1,151	$ 1,111
Allowance provision for new operating and other loss carryforwards	542	121	23
Allowance provision benefits	(157)	(331)	17
Acquisition of businesses	53	2,459	—
Balance at end of period	$ 3,838	$ 3,400	$ 1,151

ITEM 9 CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report. Based on such evaluations, the Company's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective in recording, processing, summarizing, and reporting, on a timely basis, information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act, and that information is accumulated and communicated to the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's internal control over financial reporting based on the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, the Company's management has concluded that, as of September 30, 2017 , the Company's internal control over financial reporting was effective.

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

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the Company's consolidated financial statements and the effectiveness of internal control over financial reporting as of September 30, 2017 as stated in its report which is included in Item 8 of this Form 10-K and is incorporated by reference herein.

Changes in Internal Control Over Financial Reporting

There have been no changes in the Company's internal control over financial reporting during the quarter ended September 30, 2017 , that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B OTHER INFORMATION

None.

PART III

In response to Part III, Items 10, 11, 12, 13 and 14, parts of the Company's definitive proxy statement (to be filed pursuant to Regulation 14A within 120 days after Registrant's fiscal year-end of September 30, 2017) for its annual meeting to be held on March 7, 2018, are incorporated by reference in this Form 10-K.

ITEM 10 DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information relating to directors and nominees of Johnson Controls is set forth under the caption "Proposal Number One" in Johnson Controls' proxy statement for its annual meeting of stockholders to be held on March 7, 2018 (the "Johnson Controls Proxy Statement") and is incorporated by reference herein. Information about executive officers is included in Part I, Item 4 of this Annual Report on Form 10-K. The information required by Items 405, 407(c)(3), (d)(4) and (d)(5) of Regulation S-K is contained under the captions "Section 16(a) Beneficial Ownership Reporting Compliance," "Governance of the Company - Nomination of Directors and Board Diversity," "Governance of the Company - Board Committees", and "Committees of the Board - Audit Committee" of the Johnson Controls Proxy Statement and such information is incorporated by reference herein.

Code of Ethics

Johnson Controls has adopted a code of ethics for directors, officers (including the Company's principal executive officer, principal financial officer and principal accounting officer) and employees, known as the Code of Ethics. The Code of Ethics is available in the "Investors - Corporate Governance" section of its website at www.johnsoncontrols.com. The Company posts any amendments to or waivers of its Code of Ethics (to the extent applicable to the Company's directors or executive officers) at the same location on the Company's website. In addition, copies of the Code of Ethics may be obtained in print without charge upon written request by any stockholder to the office of the Company at One Albert Quay, Cork, Ireland.

ITEM 11 EXECUTIVE COMPENSATION

The information required by Item 402 of Regulation S-K is contained under the captions "Compensation Discussion & Analysis" (excluding the information under the caption "Compensation Committee Report on Executive Compensation"), "Executive Compensation Tables" and "Compensation of Non-Employee Directors" of the Johnson Controls Proxy Statement. Such information is incorporated by reference.

The information required by Items 407(e)(4) and (e)(5) of Regulation S-K is contained under the captions "Committees of the Board - Compensation Committee Interlocks and Insider Participation" and "Compensation Discussion & Analysis - Compensation Committee Report on Executive Compensation" of the Johnson Controls Proxy Statement. Such information (other than the Compensation Committee Report on Executive Compensation, which shall not be deemed to be "filed") is incorporated by reference.

ITEM 12 SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information in the Johnson Controls Proxy Statement set forth under the caption "Security Ownership of Certain Beneficial Owners and Management" is incorporated herein by reference.

The following table provides information about the Company's equity compensation plans as of September 30, 2017 :

	(a)	(b)	(c)
	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Plan Category			
Equity compensation plans approved by shareholders	19,730,443	$ 32.76	41,343,816
Equity compensation plans not approved by shareholders	—	—	—
Total	19,730,443	$ 32.76	41,343,816

ITEM 13 CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information in the Johnson Controls Proxy Statement set forth under the captions "Committees of the Board," "Governance of the Company - Director Independence," and "Governance of the Company - Other Directorships, Conflicts and Related Party Transactions," is incorporated herein by reference.

ITEM 14 PRINCIPAL ACCOUNTING FEES AND SERVICES

The information in the Johnson Controls Proxy Statement set forth under "Proposal Number Two" related to the appointment of auditors is incorporated herein by reference.

PART IV

ITEM 15 EXHIBITS, FINANCIAL STATEMENT SCHEDULES

	Page in Form 10-K
(a) The following documents are filed as part of this Form 10-K:	
(1) Financial Statements	
Report of Independent Registered Public Accounting Firm	59
Consolidated Statements of Income for the years ended September 30, 2017, 2016 and 2015	60
Consolidated Statements of Comprehensive Income (Loss) for the years ended September 30, 2017, 2016 and 2015	61
Consolidated Statements of Financial Position at September 30, 2017 and 2016	62
Consolidated Statements of Cash Flows for the years ended September 30, 2017, 2016 and 2015	63
Consolidated Statements of Shareholders' Equity for the years ended September 30, 2017, 2016 and 2015	64
Notes to Consolidated Financial Statements	65
(2) Financial Statement Schedule	
For the years ended September 30, 2017, 2016 and 2015:	
Schedule II - Valuation and Qualifying Accounts	137
(3) Exhibits	
Reference is made to the separate exhibit index contained on pages 142 through 147 filed herewith.	

All other schedules are omitted because they are not applicable, or the required information is shown in the financial statements or notes thereto.

Financial statements of 50% or less-owned companies have been omitted because the proportionate share of their profit before income taxes and total assets are individually less than 20% of the respective cons olidated amounts, and investments in such companies are less than 20% of consolidated total assets. Refer to Note 20, "Non-Consolidated Partially-Owned Affiliates" of the notes to consolidated financial statements for the summarized financial data for the Company's nonconsolidated partially-owned affiliates.

ITEM 16 FORM 10-K SUMMARY

Not applicable.

SIGNATURES

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

JOHNSON CONTROLS INTERNATIONAL PLC

By /s/ Brian J. Stief
Brian J. Stief
Executive Vice President and
Chief Financial Officer

Date: November 21, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below as of November 21, 2017 , by the following persons on behalf of the registrant and in the capacities indicated:

/s/ George R. Oliver
George R. Oliver
Chairman and Chief Executive Officer
(Principal Executive Officer)

/s/ Brian J. Stief
Brian J. Stief
Executive Vice President and
Chief Financial Officer (Principal Financial Officer)

/s/ Suzanne M. Vincent
Suzanne M. Vincent
Vice President and Corporate Controller
(Principal Accounting Officer)

/s/ David P. Abney
David P. Abney
Director

/s/ Natalie A. Black
Natalie A. Black
Director

/s/ Mike Daniels
Mike Daniels
Director

/s/ Roy Dunbar
Roy Dunbar
Director

/s/ Brian Duppereault
Brian Duppereault
Director

/s/ Juan Pablo del Valle Perochena
Juan Pablo del Valle Perochena
Director

/s/ Jürgen Tinggren
Jürgen Tinggren
Director

/s/ Mark P. Vergnano
Mark P. Vergnano
Director

/s/ David Yost
David Yost
Director

Johnson Controls International plc
Index to Exhibits

(a) (1) and (2) Financial Statements and Supplementary Data - See Item 8
(b) Exhibit Index:

Exhibit	Title
2.1	Separation and Distribution Agreement, dated as of September 8, 2016, by and between Johnson Controls International plc and Adient Limited (incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed September 9, 2016)
2.2	Agreement and Plan of Merger by and among Johnson Controls, Inc., Johnson Controls International plc (formerly Tyco International plc) and Jagara Merger Sub LLC, dated as of January 24, 2016 (incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed January 27, 2016)
2.3	Merger Agreement, dated as of May 30, 2014, between Tyco International Ltd., and Johnson Controls International plc (formerly Tyco International plc) (Incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed on June 4, 2014)
3.1	Memorandum and Articles of Association of Johnson Controls International plc, as amended by special resolution dated September 8, 2014 and as amended by special resolution dated August 17, 2016 (incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed on September 6, 2016)
4.1	Assumption and Accession Agreement, dated as of November 17, 2014, by Johnson Controls International plc (formerly Tyco International plc) (incorporated by reference to Exhibit 4.1 to the registrant's current report on Form 8-K filed on November 17, 2014)
4.2	Indenture, dated December 28, 2016, between Johnson Controls International plc and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to the registrant's current report on Form 8-K filed on December 28, 2016)
4.3	First Supplemental Indenture, dated December 28, 2016, between Johnson Controls International plc, and U.S. Bank National Association, as trustee, and Elavon Financial Services DAC, UK Branch, as paying agent for the New Euro Notes attaching forms of 2.355% Senior Notes due 2017 (retired; no longer outstanding), 7.125% Senior Notes due 2017 (retired; no longer outstanding), 1.400% Senior Notes due 2017 (retired, no longer outstanding as of November 2, 2017), 5.000% Senior Notes due 2020, 4.25% Senior Notes due 2021, 3.750% Senior Notes due 2021, 3.625% Senior Notes due 2024, 6.000% Notes due 2036, 5.70% Senior Notes due 2041, 5.250% Senior Notes due 2041, 4.625% Senior Notes due 2044, 6.950% Debentures due December 1, 2045, 4.950% Senior Notes due 2064, 3.750% Notes due 2018, 4.625% Notes due 2023, 1.375% Notes due 2025, 3.900% Notes due 2026, and 5.125% Notes due 2045 (incorporated by reference to Exhibit 4.2 to the registrant's current report on Form 8-K filed on December 28, 2016)
4.4	Second Supplemental Indenture, dated February 7, 2017, between Johnson Controls International plc and U.S. Bank National Association, as trustee, attaching form of 4.500% Senior Notes due 2047 (incorporated by reference to Exhibit 4.2 to the registrant's Current Report on Form 8-K filed on February 7, 2017)
4.5	Third Supplemental Indenture, dated March 15, 2017, among Johnson Controls International plc, U.S. Bank National Association, as trustee and Elavon Financial Services DAC, UK Branch, as paying agent, attaching form of 1.000% Senior Notes due 2023 (incorporated by reference to Exhibit 4.2 to the registrant's Current Report on Form 8-K filed on March 15, 2017)
4.6	Miscellaneous long-term debt agreements and financing leases with banks and other creditors and debenture indentures.*
4.7	Miscellaneous industrial development bond long-term debt issues and related loan agreements and leases.*
10.1	Term Loan Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, Citigroup Global Markets Inc., Merrill, Lynch, Pierce, Fenner & Smith Incorporated, Wells Fargo Securities, LLC and JPMorgan Chase Bank N.A. as joint lead arrangers and joint bookrunners (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed March 16, 2016)

Johnson Controls International plc
Index to Exhibits

Exhibit	Title
10.2	Letter Amendment No. 1 dated as of September 1, 2016 to the Term Loan Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, Citigroup Global Markets Inc., Merrill, Lynch, Pierce, Fenner & Smith Incorporated, Wells Fargo Securities, LLC and JPMorgan Chase Bank N.A. as joint lead arrangers and joint bookrunners (filed herewith)
10.3	Letter Amendment No. 2 dated as of August 10, 2017 to the Term Loan Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, Citigroup Global Markets Inc., Merrill, Lynch, Pierce, Fenner & Smith Incorporated, Wells Fargo Securities, LLC and JPMorgan Chase Bank N.A. as joint lead arrangers and joint bookrunners (filed herewith)
10.4	Multi-Year Senior Unsecured Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, and Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Barclays Bank plc, Wells Fargo Securities, LLC and JPMorgan Chase Bank, N.A. as joint lead arrangers and joint bookrunners (incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed March 16, 2016)
10.5	Letter Amendment No. 1 dated as of September 1, 2016 to the Multi-Year Senior Unsecured Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, and Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Barclays Bank plc, Wells Fargo Securities, LLC and JPMorgan Chase Bank, N.A. as joint lead arrangers and joint bookrunners (filed herewith)
10.6	Letter Amendment No. 2 dated as of August 10, 2017 to the Multi-Year Senior Unsecured Credit Agreement, dated as of March 10, 2016, among Tyco International Holding S.à r.l., each of the initial lenders named therein, Citibank, N.A., as administrative agent, and Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Barclays Bank plc, Wells Fargo Securities, LLC and JPMorgan Chase Bank, N.A. as joint lead arrangers and joint bookrunners (filed herewith)
10.7	Credit Agreement, dated as of March 10, 2016, among Johnson Controls, Inc., the financial institutions parties thereto and JPMorgan Chase Bank, N.A., as administrative agent (incorporated by reference to Exhibit 4.2 to Johnson Controls, Inc.'s Current Report on Form 8-K filed March 16, 2016) (Commission File No. 1-5097)
10.8	Amendment No. 1 dated as of November 1, 2016 to the Credit Agreement, dated as of March 10, 2016, among Johnson Controls, Inc., Johnson Controls International plc, Tyco Fire & Security Finance S.C.A. and Tyco International Finance S.A., the financial parties thereto and JPMorgan Chase Bank, N.A., as administrative agent (filed herewith)
10.9	Transition Services Agreement, dated as of September 8, 2016, by and between Johnson Controls International plc and Adient Limited (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on September 9, 2016)
10.10	Tax Matters Agreement, dated as of September 8, 2016, by and between Johnson Controls International plc and Adient Limited (incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on September 9, 2016)
10.11	Employee Matters Agreement, dated as of September 8, 2016, by and between Johnson Controls International plc and Adient Limited (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on September 9, 2016)
10.12	Transitional Trademark License Agreement, dated as of September 8, 2016, by and between Johnson Controls International plc and Adient Limited (incorporated by reference to Exhibit 10.4 to the registrant's Current Report on Form 8-K filed on September 9, 2016)

Johnson Controls International plc
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Exhibit	Title
10.13	Tax Sharing Agreement, dated September 28, 2012 by and among Pentair Ltd., Johnson Controls International plc (formerly Tyco International Ltd.), Tyco International Finance S.A. and The ADT Corporation (Incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on October 1, 2012).
10.14	Non-Income Tax Sharing Agreement dated September 28, 2012 by and among Johnson Controls International plc (formerly Tyco International Ltd.), Tyco International Finance S.A. and The ADT Corporation (Incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on October 1, 2012).
10.15	Trademark Agreement, dated as of September 25, 2012, by and among ADT Services GmbH, ADT US Holdings, Inc., Johnson Controls International plc (formerly Tyco International Ltd.) and The ADT Corporation (Incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on October 1, 2012)
10.16	Form of Deed of Indemnification between Johnson Controls International plc (formerly Tyco International plc) and certain of its directors and officers (incorporated by reference to Exhibit 10.4 to the registrant's Current Report on Form 8-K filed on September 6, 2016)
10.17	Form of Indemnification Agreement between Tyco Fire & Security (US) Management, Inc. and certain directors and officers of Johnson Controls International plc (incorporated by reference to Exhibit 10.5 to the registrant's Current Report on Form 8-K filed on September 6, 2016)
10.18	Tyco International plc 2004 Share and Incentive Plan (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on November 17, 2014) **
10.19	Johnson Controls International plc 2012 Share and Incentive Plan, amended and restated as of March 8, 2017 (incorporated by reference to Exhibit 10.2 to the registrant's Quarterly Report on Form 10-Q filed on May 4, 2017) **
10.20	Johnson Controls International plc 2007 Stock Option Plan (incorporated by reference to Exhibit 10.7 to the registrant's Current Report on Form 8-K filed on September 6, 2016) **
10.21	Johnson Controls International plc Omnibus Incentive Plan (incorporated by reference to Exhibit 10.6 to the registrant's Current Report on Form 8-K filed on September 6, 2016) **
10.22	Tyco International Change in Control Severance Plan for Certain U.S. Officers and Executives (incorporated by reference to Exhibit 10.6 to the registrant's Current Report on Form 8-K filed on November 17, 2014) **
10.23	Johnson Controls International plc Severance and Change in Control Policy for Officers, effective as of September 2, 2016 (incorporated by reference to Exhibit 10.19 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **
10.24	Johnson Controls International plc Executive Deferred Compensation Plan, as amended and restated effective September 2, 2016 (incorporated by reference to Exhibit 10.20 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **
10.25	Johnson Controls International plc Executive Deferred Compensation Plan, as amended and restated effective January 1, 2018 (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on September 19, 2017) **
10.26	Johnson Controls International plc Senior Executive Deferred Compensation Plan effective as of January 1, 2018 (incorporated by reference to Exhibit 10.4 to the registrant's Current Report on Form 8-K filed on September 19, 2017) **
10.27	Johnson Controls, Inc. Deferred Compensation Plan for Certain Directors, as amended and restated effective January 5, 2016 (incorporated by reference to Exhibit 10.3 to Johnson Controls, Inc.'s Quarterly Report on Form 10-Q filed on February 2, 2016) (Commission File No. 1-5097) **

Johnson Controls International plc
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Exhibit	Title
10.28	Johnson Controls International plc Retirement Restoration Plan, as amended and restated effective September 2, 2016 (incorporated by reference to Exhibit 10.22 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **
10.29	Johnson Controls International plc Retirement Restoration Plan, as amended and restated effective January 1, 2018 (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on September 19, 2017) **
10.30	Tyco Supplemental Savings and Retirement Plan (incorporated by reference to Exhibit 10.5 to the registrant's Current Report on Form 8-K filed on November 17, 2014) **
10.31	Tyco Supplemental Savings and Retirement Plan as amended and restated effective January 1, 2018 (incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on September 19, 2017) **
10.32	Johnson Controls International plc Executive Compensation Incentive Recoupment Policy effective September 2, 2016 (incorporated by reference to Exhibit 10.24 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **
10.33	Amended and Restated Executive Employment Agreement, dated as of January 24, 2016, by and between Johnson Controls, Inc. and Alex A. Molinaroli (incorporated by reference to Exhibit 10.1 to Johnson Controls, Inc.'s Current Report on Form 8-K filed on January 27, 2016) (Commission File No. 1-5097) **
10.34	Amended and Restated Change of Control Executive Employment Agreement, dated as of January 24, 2016, by and between Johnson Controls, Inc. and Alex A. Molinaroli (incorporated by reference to Exhibit 10.2 to Johnson Controls, Inc.'s Current Report on Form 8-K filed on January 27, 2016) (Commission File No. 1-5097) **
10.35	Amendment to the Amended and Restated Change of Control Executive Employment Agreement, dated as of April 1, 2016, by and between Johnson Controls, Inc. and Alex Molinaroli (incorporated by reference to Exhibit 10.3 to Johnson Controls, Inc.'s Quarterly Report on Form 10-Q filed on April 29, 2016) (Commission File No. 1-5097) **
10.36	Amended and Restated Executive Employment Agreement, dated as of January 24, 2016, by and between Johnson Controls International plc (formerly Tyco International plc) and George Oliver (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on January 27, 2016) **
10.37	Employment Offer Letter, dated as of September 1, 2016, between Johnson Controls International plc (formerly Tyco International plc) and Judith Reinsdorf (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on September 6, 2016) **
10.38	Global Assignment Letter between Johnson Controls, Inc. and Trent Nevill dated as of April 1, 2016 (incorporated by reference to Exhibit 10.4 to Johnson Controls, Inc.'s Quarterly Report on Form 10-Q filed on April 29, 2016) (Commission File No. 1-5097) **
10.39	Form of employment agreement, including form of change in control agreement, between Johnson Controls, Inc. and Messrs. Stief, Jackson, Walicki, Nevill and Davis, as amended and restated July 28, 2010 (incorporated by reference to Exhibit 10.Y to Johnson Controls, Inc.'s Quarterly Report on Form 10-Q filed on August 3, 2010) (Commission File No. 1-5097) **
10.40	Form of letter agreement amending certain provisions of the employment agreement between Johnson Controls, Inc. and Messrs. Stief, Jackson, Walicki, Nevill and Davis (incorporated by reference to Exhibit 10.32 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **

Exhibit	Title
10.41	Form of terms and conditions for Option / SAR Awards, Restricted Stock / Unit Awards, Performance Share Awards under the Johnson Controls International plc 2012 Share and Incentive Plan for periods commencing on September 2, 2016 (incorporated by reference to Exhibit 10.33 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016 filed on November 23, 2016) **
10.42	Form of terms and conditions for Option / SAR Awards, and Restricted Stock / Unit Awards, under the Johnson Controls International plc 2012 Share and Incentive Plan for periods commencing on September 2, 2016 applicable to Messrs. Molinaroli, Oliver and Stief (incorporated by reference to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q filed on February 8, 2017) **
10.43	Terms of Unit Award under the Johnson Controls International plc 2012 Share and Incentive Plan for Brian J. Stief dated September 14, 2017 (incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on September 15, 2017) **
10.44	Terms of PSU Award under the Johnson Controls International plc 2012 Share and Incentive Plan for Brian J. Stief dated September 14, 2017 (incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on September 15, 2017) **
10.45	Terms of RSU Award under the Johnson Controls International plc 2012 Share and Incentive Plan for Brian J. Stief dated September 14, 2017 (incorporated by reference to Exhibit 10.3 to the registrant's Current Report on Form 8-K filed on September 15, 2017) **
10.46	Letter Agreement dated as of September 14, 2017 between Johnson Controls International plc and Brian J. Stief (incorporated by reference to Exhibit 10.4 to the registrant's Current Report on Form 8-K filed on September 15, 2017) **
10.47	Form of terms and conditions for Option Awards, Restricted Unit Awards, Performance Share Awards under the 2012 Share and Incentive Plan for fiscal 2016 (Incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on October 13, 2015) **
10.48	Form of terms and conditions for Option Awards, Restricted Unit Awards, Performance Share Awards under the 2012 Stock and Incentive Plan for fiscal 2015 (Incorporated by reference to Exhibit 10.9 to the registrant's Annual Report on Form 10-K for the fiscal year ended September 26, 2014 filed on November 14, 2014) **
10.49	Form of terms and conditions for Option Awards, Restricted Unit Awards, Performance Share Awards under the 2012 Stock and Incentive Plan for fiscal 2014 (Incorporated by reference to Exhibit 10.9 to the registrant's Annual Report on Form 10-K filed on for the year ended September 27, 2013 filed on November 14, 2013) **
10.50	Form of terms and conditions for Restricted Stock Unit Awards for Directors under the 2012 Stock and Incentive Plan (Incorporated by reference to Exhibit 10.13 to the registrant's Annual Report on Form 10-K for the year ended September 28, 2012 filed on November 16, 2012) **
10.51	Form of terms and conditions for Restricted Stock Unit Awards for Directors under the 2012 Stock and Incentive Plan for use beginning in 2017 (incorporated by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q filed on May 4, 2017) **
10.52	Form of stock option or stock appreciation right award agreement for Johnson Controls, Inc. 2007 Stock Option Plan effective September 20, 2011 (incorporated by reference to Exhibit 10.V to Johnson Controls, Inc.'s Annual Report on Form 10-K for the year ended September 30, 2011 filed on November 22, 2011) (Commission File No. 1-5097) **
10.53	Johnson Controls, Inc. 2012 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.1(a) to Johnson Controls, Inc.'s Current Report on Form 8-K filed January 28, 2013) (Commission File No. 1-5097) **

Johnson Controls International plc
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Exhibit	Title
10.54	Form of performance share unit agreement for Johnson Controls, Inc. 2012 Omnibus Incentive Plan for recipients who have not announced an intention to retire (incorporated by reference to Exhibit 10.1(a) to Johnson Controls, Inc.'s Current Report on Form 8-K filed November 21, 2013) (Commission File No. 1-5097) **
10.55	Form of performance share unit agreement for Johnson Controls, Inc. 2012 Omnibus Incentive Plan for recipients who have announced an intention to retire (incorporated by reference to Exhibit 10.1(d) to Johnson Controls, Inc.'s Current Report on Form 8-K filed November 21, 2013) (Commission File No. 1-5097) **
10.56	Form of restricted stock/restricted stock unit agreement for Johnson Controls, Inc. 2012 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.1(b) to Johnson Controls, Inc.'s Current Report on Form 8-K filed November 21, 2013) (Commission File No. 1-5097) **
10.57	Form of restricted stock/restricted stock unit agreement for Johnson Controls, Inc. 2012 Omnibus Incentive Plan reflecting pro rata vesting on retirement, filed herewith (incorporated by reference to Exhibit 10.BB to Johnson Controls, Inc.'s Annual Report on Form 10-K for the year ended September 30, 2015 filed on November 18, 2015) (Commission File No. 1-5097) **
10.58	Form of option/stock appreciation right agreement for Johnson Controls, Inc. 2012 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.1(c) to Johnson Controls, Inc.'s Current Report on Form 8-K filed November 21, 2013) (Commission File No. 1-5097) **
12.1	Statement of Computation of Earnings to Fixed Charges
21.1	Subsidiaries of Johnson Controls International plc (filed herewith)
23.1	Consent of Independent Public Accounting Firm (filed herewith)
31.1	Certification by the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
31.2	Certification by the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith)
32.1	Certification by the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
101	Financial statements from the Annual Report on Form 10-K of Johnson Controls International plc for the fiscal year ended September 30, 2017 formatted in XBRL: (i) the Consolidated Statements of Financial Position, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statements of Cash Flow, (v) the Consolidated Statements of Shareholders' Equity Attributable to Johnson Controls Ordinary Shareholders and (vi) Notes to Consolidated Financial Statements (filed herewith)

* These instruments are not being filed as exhibits herewith because none of the long-term debt instruments authorizes the issuance of debt in excess of 10% of the total assets of Johnson Controls International plc and its subsidiaries on a consolidated basis. Johnson Controls International plc agrees to furnish a copy of each agreement to the Securities and Exchange Commission upon request.

** Management contract or compensatory plan.

Exhibit 10.2

EXECUTION VERSION

LETTER AMENDMENT No. 1

Dated as of September 1, 2016

To the banks, financial institutions and other institutional lenders (collectively, the "Lenders") parties to the Credit Agreement referred to below and to Citibank, N.A., as agent (the "Administrative Agent") for the Lenders

Ladies and Gentlemen:

We refer to the Term Loan Credit Agreement dated as of March 10, 2016 (the " Credit Agreement ") among the undersigned and you. Capitalized terms not otherwise defined in this Letter Amendment have the same meanings as specified in the Credit Agreement.

It is hereby agreed by you and us as follows:

The Credit Agreement is, effective as of the date of this Letter Amendment, hereby amended as follows:

(a) Section 5.01(a) is amended by adding to the end thereof a proviso to read as follows:

provided, that (i) the fiscal year of the Borrower for 2016 shall be deemed to end on September 2, 2016 (and the audited financial statements for the fiscal year ended on such date shall consist of 11 months) and (ii) the fiscal year of the Borrower for 2017 and subsequent years shall end on September 30 of such year (and the audited financial statements for the fiscal year ending on September 30, 2017 shall consist of 13 months), it being understood that, as a result of the period changes set forth in this proviso, the previous fiscal year's figures set forth in comparative form in any affected annual financial statements may reflect a fiscal year with a different number of months .

(b) Section 5.01(b) is amended by adding to the end thereof a proviso to read as follows:

provided, that (i) the fiscal quarter of the Borrower ending December 31, 2016 shall be deemed to begin on September 2, 2016 (and the financial statements for such fiscal quarter shall consist of four months), it being understood that, as a result of the period change set forth in this proviso, the figures set forth in comparative form for the applicable prior periods in the financial statements for such fiscal quarter, or in future quarterly financial statements containing comparative figures covering such fiscal quarter, may reflect a fiscal quarter with a different number of months; and (ii) the financial statements for the fiscal quarter ending December 31, 2016 shall be accompanied by a schedule, certified by the chief financial officer of the chief accounting officer of the Borrower or a Designated Officer, setting forth the statement of operations, shareholders' equity and cash flows for the Borrower for the period from September 2,

2016 to September 30, 2016. For the avoidance of doubt, the fiscal quarter of the Borrower deemed ended on September 2, 2016 shall consist of two months.

(c) The first sentence of Section 5.06 is amended and restated in its entirety to read as follows:

The proceeds of the Loans made to the Borrower under this Agreement will be used, directly or indirectly, to pay all or a portion of the cash consideration payable under the Merger Agreement, and to pay fees and expenses incurred in connection with the Merger and/or the Transactions.

This Letter Amendment shall become effective as of the date first above written when, and only when, on or before September 1, 2016, the Administrative Agent shall have received counterparts of this Letter Amendment executed by the undersigned and the Required Lenders. This Letter Amendment is a Loan Document and is subject to the provisions of Section 9.02 of the Credit Agreement.

On and after the effectiveness of this Letter Amendment, each reference in the Credit Agreement to “this Agreement”, “hereunder”, “hereof” or words of like import referring to the Credit Agreement, and each reference in the Notes and each of the other Loan Documents to “the Credit Agreement”, “thereunder”, “thereof” or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement, as amended by this Letter Amendment.

The Credit Agreement, the Notes and each of the other Loan Documents, as specifically amended by this Letter Amendment, are and shall continue to be in full force and effect and are hereby in all respects ratified and confirmed. The execution, delivery and effectiveness of this Letter Amendment shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents.

If you agree to the terms and provisions hereof, please evidence such agreement by executing and returning at least two counterparts of this Letter Amendment to Frank Oliver, Shearman & Sterling LLP, 599 Lexington Avenue, New York, New York 10022, frank.oliver@shearman.com.

This Letter Amendment may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of a signature page to this Letter Amendment by telecopier shall be effective as delivery of a manually executed counterpart of this Letter Amendment.

This Letter Amendment shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

TYCO INTERNATIONAL HOLDING S.ÀR.L.

By: /s/ Peter Schieser Name: Peter Schieser Title: General Manager

CITIBANK, N.A., as Administrative Agent

By: /s/ Brian Reed
Name: Brian Reed
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CITIBANK, N.A.,

By: /s/ Brian Reed
Name: Brian Reed
Title: Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF AMERICA, N.A.

By: /s/ Chris DiBiase
Name: Chris DiBiase
Title: Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: JPMORGAN CHASE BANK, N.A.

By: /s/ Gene Riego de Dios
Name: Gene Riego de Dios
Title: Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WELLS FARGO BANK, NATIONAL ASSOCIATION

By: /s/ John D. Brady
Name: John D. Brady
Title: Managing Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH

By: /s/ Cara Younger
Name: Cara Younger
Title: Director

By: /s/ Cristina Cignoli
Name: Cristina Cignoli
Title: Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF CHINA, NEW YORK BRANCH

By: /s/ Haifeng Xu
Name: Haifeng Xu
Title: Executive Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: COMMERZBANK AG, NEW YORK BRANCH

By: /s/ Michael Ravelo
Name: Michael Ravelo
Title: Director

By: /s/ Vanessa De La Ossa
Name: Vanessa De La Ossa
Title: Assistant Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: /s/ Kaye Ea
Name: Kaye Ea
Title: Managing Director

By: /s/ Gordon Yip
Name: Gordon Yip
Title: Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DANSKE BANK A/S

By: /s/ Merete Ryvald
Name: Merete Ryvald
Title: Chief Loan Manager

By: /s/ Gert Carstens
Name: Gert Carstens
Title: Senior Loan Manager

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED, NEW YORK BRANCH

By: /s/ Kan Chen
Name: Kan Chen
Title: Vice President

By: /s/ Linjia Zhou
Name: Linjia Zhou
Title: Executive Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: ING BANK, A BRANCH OF ING-DIBA AG

By: /s/ W. Jansen
Name: W. Jansen
Title: Director

By: /s/ Berthold
Name: Berthold
Title: Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INTESA SANPAOLO BANK LUXEMBOURG S.A.

By: /s/ Antonio Greppi
Name: Antonio Greppi
Title: Head of Corporate & Financial Institutions

By: /s/ Cristiano Patalocchi
Name: Cristiano Patalocchi
Title: CRO

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: TD BANK, N.A.

By: /s/ Jason Siewert
Name: Jason Siewert
Title: Senior Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NEW YORK MELLON

By: /s/ David Wirl
Name: David Wirl
Title: Managing Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF TOKYO-MITSUBISHI UFJ, LTD.

By: /s/ Thomas Danielson
Name: Thomas Danielson
Title: Authorized Signatory

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: U.S. BANK NATIONAL ASSOCIATION

By: /s/ Monica A. Stariha
Name: Monica A. Stariha
Title: Vice President

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: UNICREDIT BANK AG, NEW YORK BRANCH

By: /s/ Thilo Huber
Name: Thilo Huber
Title: Director

By: /s/ Betsy Hudson
Name: Betsy Hudson
Title: Associate Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: STANDARD CHARTERED BANK

By: /s/ Steven Aloupis
Name: Steven Aloupis A2388
Title: Managing Director
Loan Syndications

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NOVA SCOTIA

By: /s/ Mauricio Saishio
Name: Mauricio Saishio
Title: Director

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CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BNP PARIBAS

By: /s/ Melissa Dykl
Name: Melissa Dykl
Title: Director

By: /s/ Richard Pace
Name: Richard Pace
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: STATE BANK OF INDIA, NEW YORK

By: /s/ Manoranjan Pahda
Name: Manoranjan Pahda
Title: VP & Head (CMC)

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF EAST ASIA, LIMITED, NEW YORK BRANCH

By: /s/ James Hua
Name: James Hua
Title: SVP

By: /s/ Danny Leung
Name: Danny Leung
Title: SVP

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE NORTHERN TRUST COMPANY

By: /s/ Peter J. Hallan
Name: Peter J. Hallan
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: AGRICULTURAL BANK OF CHINA LTD., NEW YORK BRANCH

By: /s/ Zhang Jian
Name: Zhang Jian
Title: Head of Corporate Banking Department

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CITY NATIONAL BANK

By: /s/ Diane Morgan
Name: Diane Morgan
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: FIRST HAWAIIAN BANK

By: /s/ Jeffrey Inouye
Name: Jeffrey Inouye
Title: Vice President

EXHIBIT 10.3

EXECUTION COPY

LETTER AMENDMENT No. 2

Dated as of August 10, 2017

To the banks, financial institutions and other institutional lenders (collectively, the "Lenders") parties to the Credit Agreement referred to below and to Citibank, N.A., as agent (the "Administrative Agent") for the Lenders

Ladies and Gentlemen:

We refer to the Term Loan Credit Agreement dated as of March 10, 2016 (as amended by Letter Amendment No. 1 dated as of September 1, 2016, the " Credit Agreement ") among the undersigned and you. Capitalized terms not otherwise defined in this Letter Amendment have the same meanings as specified in the Credit Agreement.

It is hereby agreed by you and us as follows:

The Credit Agreement is, effective as of the date of this Letter Amendment, hereby amended as follows:

(a) The definition of "Interest Period: in Section 1.01 is amended by (i) by deleting the phrase "ending on the date that is one, two, three or six months" and substituting therefor the phrase "ending on the date that is one week or one, two, three or six months" and (ii) by adding in clause (b) thereof immediately after the phrase "the next succeeding Business Day unless" the phrase ", in the case of an Interest Period of one or more whole months,".

(b) Section 5.01(a) is amended by deleting the phrase "setting forth in each case in comparative form the figures for the previous fiscal year,".

This Letter Amendment shall become effective as of the date first above written when, and only when, on or before August 10, 2017, the Administrative Agent shall have received counterparts of this Letter Amendment executed by the undersigned and the Required Lenders. This Letter Amendment is a Loan Document and is subject to the provisions of Section 9.02 of the Credit Agreement.

On and after the effectiveness of this Letter Amendment, each reference in the Credit Agreement to "this Agreement", "hereunder", "hereof" or words of like import referring to the Credit Agreement, and each reference in the Notes and each of the other Loan Documents to "the Credit Agreement", "thereunder", "thereof" or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement, as amended by this Letter Amendment.

The Credit Agreement, the Notes and each of the other Loan Documents, as specifically amended by this Letter Amendment, are and shall continue to be in full force and effect and are hereby in all respects ratified and confirmed. The execution, delivery and effectiveness of this

Letter Amendment shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents.

If you agree to the terms and provisions hereof, please evidence such agreement by executing and returning a counterpart of this Letter Amendment to Susan L. Hobart, shobart@shearman.com.

This Letter Amendment may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of a signature page to this Letter Amendment by telecopier shall be effective as delivery of a manually executed counterpart of this Letter Amendment.

This Letter Amendment shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

TYCO INTERNATIONAL HOLDING S.ÀR.L.

By: /s/ Peter Schieser Name: Peter Schieser Title: General Manager

CITIBANK, N.A., as Administrative Agent

By: /s/ Sameer Nanabhai
Name: Sameer Nanabhai
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CHINA CITIC BANK INTERNATIONAL LTD., LOS ANGELES BRANCH

By: /s/ Chun Ye (by Desmond Chan)
Name: Chun Ye
Title: Branch Manager/Deputy Country Head U.S.A.

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF AMERICA N.A.

By: /s/ Christopher Wozniak
Name: Christopher Wozniak
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: JPMORGAN CHASE BANK, N.A.

By: /s/ Robert P. Kellas
Name: Robert P. Kellas
Title: Executive Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WELLS FARGO BANK, N.A.

By: /s/ Charles W. Reed
Name: Charles W. Reed
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: COMMERZBANK AG, NEW YORK BRANCH

By: /s/ Michael Ravelo
Name: Michael Ravelo
Title: Managing Director

By: /s/ Tak Cheng
Name: Tak Cheng
Title: Assistant Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: /s/ Jill Wong
Name: Jill Wong
Title: Director

By: /s/ Gordon Yip
Name: Gordon Yip
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DANSKE BANK A/S

By: /s/ Merete Ryvald
Name: Merete Ryvald
Title: Chief Loan Manager

By: /s/ Jørgen Linnet
Name: Jørgen Linnet
Title: Chief Loan Manager

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INTESA SANPAOLO BANK LUXEMBOURG S.A.

By: /s/ Antonio Greppi
Name: Antonio Greppi
Title: Head of Corporate & Financial Institutions

By: /s/ Paolo Enrico Pernice
Name: Paolo Enrico Pernice
Title: Chief Financial Officer

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NEW YORK MELLON CORPORATION

By: /s/ Daniel Koller
Name: Daniel Koller
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF TOKYO-MITSUBISHI UFJ, LTD.

By: /s/ Thomas Danielson
Name: Thomas Danielson
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: U.S. BANK NATIONAL ASSOCIATION

By: /s/ Monica A. Stariha
Name: Monica A. Stariha
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: UNICREDIT BANK AG, NEW YORK BRANCH

By: /s/ Peter Daugavietis
Name: Peter Daugavietis
Title: Associate Director

By: /s/ Ken Hamilton
Name: Ken Hamilton
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH

By: /s/ Cristina Cignoli
Name: Cristina Cignoli
Title: Director

By: /s/ Mauricio Benitez
Name: Mauricio Benitez
Title: Executive Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NOVA SCOTIA

By: /s/ Diane Emanuel
Name: Diane Emanuel
Title: Managing Director & Co-Head

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE NORTHERN TRUST COMPANY

By: /s/ Carol Zatorski
Name: Carol Zatorski
Title: Senior Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BNP PARIBAS

By: /s/ Pawel Zelezik
Name: Pawel Zelezik
Title: Vice President

By: /s/ Kwang Kyun Choi
Name: Kwang Kyun Choi
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WESTPAC BANKING CORPORATION

By: /s/ Richard Yarnold
Name: Richard Yarnold
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF CHINA, NEW YORK BRANCH

By: /s/ Raymond Qiao
Name: Raymond Qiao
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: ING BANK, A BRANCH OF ING-DIBA AG

By: /s/ Berthold
Name: Berthold
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: TD BANK, N.A.

By: /s/ Steve Levi
Name: Steve Levi
Title: Senior Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: STATE BANK OF INDIA, NEW YORK

By: /s/ Manoranjan Panda
Name: Manoranjan Panda
Title: VP and Head (CMC)

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: AGRICULTURAL BANK OF CHINA LTD., NEW YORK BRANCH

By: /s/ Jian Zhang
Name: Jian Zhang
Title: Head of Corporate Banking

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: IBERIABANK, AS SUCCESSOR BY MERGER TO SABADELL UNITED BANK

By: /s/ Mark S. Long
Name: Mark S. Long
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: KFW IPEX BANK GMBH

By: /s/ Sebastian Eberle
Name: Sebastian Eberle
Title: Director

By: /s/ Nergiz Selmo
Name: Nergiz Selmo
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANQUE INTERNATIONALE À LUXEMBOURG

By: /s/ Jeffrey Dentzer
Name: Jeffrey Dentzer
Title: Managing Director

By: /s/ Gilles Prim
Name: Gilles Prim
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CITY NATIONAL BANK

By: /s/ Diane Morgan
Name: Diane Morgan
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: FIRST HAWAIIAN BANK

By: /s/ Jeffrey Inouye
Name: Jeffrey Inouye
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CHINA CONSTRUCTION BANK (LONDON) LIMITED

By: /s/ Li Biao
Name: Li Biao
Title: CEO

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: PT. BANK NEGARA INDONESIA (PERSERO) TBK, NEW YORK AGENCY

By: /s/ Jerry Phillips
Name: Jerry Phillips
Title: Relationship Manager

By: /s/ Oswald Tambunan
Name: Oswald Tambunan
Title: General Manager

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Term Loan Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: FIRST NATIONAL BANK

By: /s/ Nathan Johns
Name: Nathan Johns
Title: Vice President

EXHIBIT 10.5

EXECUTION VERSION

LETTER AMENDMENT No. 1

Dated as of September 1, 2016

To the banks, financial institutions and other institutional lenders (collectively, the "Lenders") parties to the Credit Agreement referred to below and to Citibank, N.A., as agent (the "Administrative Agent") for the Lenders

Ladies and Gentlemen:

We refer to the Multi-Year Senior Unsecured Credit Agreement dated as of March 10, 2016 (the " Credit Agreement ") among the undersigned and you. Capitalized terms not otherwise defined in this Letter Amendment have the same meanings as specified in the Credit Agreement.

It is hereby agreed by you and us as follows:

The Credit Agreement is, effective as of the date of this Letter Amendment, hereby amended as follows:

(a) Section 5.01(a) is amended by adding to the end thereof a proviso to read as follows:

provided, that (i) the fiscal year of the Borrower for 2016 shall be deemed to end on September 2, 2016 (and the audited financial statements for the fiscal year ended on such date shall consist of 11 months) and (ii) the fiscal year of the Borrower for 2017 and subsequent years shall end on September 30 of such year (and the audited financial statements for the fiscal year ending on September 30, 2017 shall consist of 13 months), it being understood that, as a result of the period changes set forth in this proviso, the previous fiscal year's figures set forth in comparative form in any affected annual financial statements may reflect a fiscal year with a different number of months .

(b) Section 5.01(b) is amended by adding to the end thereof a proviso to read as follows:

provided, that (i) the fiscal quarter of the Borrower ending December 31, 2016 shall be deemed to begin on September 2, 2016 (and the financial statements for such fiscal quarter shall consist of four months), it being understood that, as a result of the period change set forth in this proviso, the figures set forth in comparative form for the applicable prior periods in the financial statements for such fiscal quarter, or in future quarterly financial statements containing comparative figures covering such fiscal quarter, may reflect a fiscal quarter with a different number of months; and (ii) the financial statements for the fiscal quarter ending December 31, 2016 shall be accompanied by a schedule, certified by the chief financial officer of the chief accounting officer of the Borrower or a Designated Officer, setting forth

the statement of operations, shareholders' equity and cash flows for the Borrower for the period from September 2, 2016 to September 30, 2016. For the avoidance of doubt, the fiscal quarter of the Borrower deemed ended on September 2, 2016 shall consist of two months.

This Letter Amendment shall become effective as of the date first above written when, and only when, on or before September 1, 2016, the Administrative Agent shall have received counterparts of this Letter Amendment executed by the undersigned and the Required Lenders. This Letter Amendment is a Loan Document and is subject to the provisions of Section 9.02 of the Credit Agreement.

On and after the effectiveness of this Letter Amendment, each reference in the Credit Agreement to "this Agreement", "hereunder", "hereof" or words of like import referring to the Credit Agreement, and each reference in the Notes and each of the other Loan Documents to "the Credit Agreement", "thereunder", "thereof" or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement, as amended by this Letter Amendment.

The Credit Agreement, the Notes and each of the other Loan Documents, as specifically amended by this Letter Amendment, are and shall continue to be in full force and effect and are hereby in all respects ratified and confirmed. The execution, delivery and effectiveness of this Letter Amendment shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents.

If you agree to the terms and provisions hereof, please evidence such agreement by executing and returning at least two counterparts of this Letter Amendment to Frank Oliver, Shearman & Sterling LLP, 599 Lexington Avenue, New York, New York 10022, frank.oliver@shearman.com.

This Letter Amendment may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of a signature page to this Letter Amendment by telecopier shall be effective as delivery of a manually executed counterpart of this Letter Amendment.

This Letter Amendment shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

TYCO INTERNATIONAL HOLDING S.ÀR.L.

By: /s/ Peter Schieser Name: Peter Schieser Title: General Manager

CITIBANK, N.A., as Administrative Agent

By: /s/ Brian Reed
Name: Brian Reed
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CITIBANK, N.A.

By: /s/ Brian Reed
Name: Brian Reed
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF AMERICA, N.A.

By: /s/ Chris Dibiase
Name: Chris Dibiase
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BARCLAYS BANK PLC

By: /s/ Evan Moriarty
Name: Evan Moriarty
Title: Assistant Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: JPMORGAN CHASE BANK, N.A.

By: /s/ Gene Riego de Dios
Name: Gene Riego de Dios
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WELLS FARGO BANK, NATIONAL ASSOCIATION

By: /s/ John D. Brady
Name: John D. Brady
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANCO BILBAO VIZCAYA ARGENTARIA, S.A. NEW YORK BRANCH

By: /s/ Cristina Cignoli
Name: Cristina Cignoli
Title: Vice President

By: /s/ Luca Sacchi
Name: Luca Sacchi
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: COMMERZBANK AG, NEW YORK BRANCH

By: /s/ Michael Ravelo
Name: Michael Ravelo
Title: Director

By: /s/ Vanessa De La Ossa
Name: Vanessa De La Ossa
Title: Assistant Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CREDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: /s/ Kaye Ea
Name: Kaye Ea
Title: Managing Director

By: /s/ Gordon Yip
Name: Gordon Yip
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DANSKE BANK A/S

By: /s/ Merete Ryvald
Name: Merete Ryvald
Title: Chief Loan Manager

By: /s/ Gert Carstens
Name: Gert Carstens
Title: Senior Loan Manager

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED, NEW YORK BRANCH

By: /s/ Kan Chen
Name: Kan Chen
Title: Vice President

By: /s/ Linjia Zhou
Name: Linjia Zhou
Title: Executive Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: ING BANK N.V., DUBLIN BRANCH

By: /s/ Sean Hassett
Name: Sean Hassett
Title: Director

By: /s/ Shaun Hawley
Name: Shaun Hawley
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INTESA SANPAOLO BANK LUXEMBOURG S.A.

By: /s/ Antonio Greppi
Name: Antonio Greppi
Title: Head of Corporate & Financial Institutions

By: /s/ Cristiano Patalocchi
Name: Cristiano Patalocchi
Title: CRO

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NEW YORK MELLON

By: /s/ David Wirl
Name: David Wirl
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF TOKYO-MITSUBISHI UFJ, LTD.

By: /s/ Thomas Danielson
Name: Thomas Danielson
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: TORONTO DOMINION (TEXAS) LLC

By: /s/ Annie Dorval
Name: Annie Dorval
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: U.S. BANK NATIONAL ASSOCIATION

By: /s/ Monica A. Stariha
Name: Monica A. Stariha
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: UNICREDIT BANK AG, NEW YORK BRANCH

By: /s/ Thilo Huber
Name: Thilo Huber
Title: Director

By: /s/ Betsy Hudson
Name: Betsy Hudson
Title: Associate Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BNP PARIBAS

By: /s/ Melissa Dykl
Name: Melissa Dykl
Title: Director

By: /s/ Richard Pace
Name: Richard Pace
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DEUTSCHE BANK AG NEW YORK BRANCH

By: /s/ Virginia Cosenza
Name: Virginia Cosenza
Title: Vice President

By: /s/ Ross Levitsky
Name: Ross Levitsky
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: STANDARD CHARTERED BANK

By: /s/ Steven Aloupis
Name: Steven Aloupis A2388
Title: Managing Director
Loan Syndications

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NOVA SCOTIA

By: /s/ Mauricio Saishio
Name: Mauricio Saishio
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE NORTHERN TRUST COMPANY

By: /s/ Peter J. Hallan
Name: Peter J. Hallan
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 1 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WESTPAC BANKING CORPORATION

By: /s/ Su-Lin Watson
Name: Su-Lin Watson
Title: Director

EXHIBIT 10.6

EXECUTION COPY

LETTER AMENDMENT No. 2

Dated as of August 10, 2017

To the banks, financial institutions and other institutional lenders (collectively, the "Lenders") parties to the Credit Agreement referred to below and to Citibank, N.A., as agent (the "Administrative Agent") for the Lenders

Ladies and Gentlemen:

We refer to the Multi-Year Senior Unsecured Credit Agreement dated as of March 10, 2016 (as amended by Letter Amendment No. 1 dated as of September 1, 2016, the " Credit Agreement ") among the undersigned and you. Capitalized terms not otherwise defined in this Letter Amendment have the same meanings as specified in the Credit Agreement.

It is hereby agreed by you and us as follows:

The Credit Agreement is, effective as of the date of this Letter Amendment, hereby amended as follows:

(a) The definition of "Interest Period: in Section 1.01 is amended by (i) by deleting the phrase "ending on the date that is one, two, three or six months" and substituting therefor the phrase "ending on the date that is one week or one, two, three or six months" and (ii) by adding in clause (a) thereof immediately after the phrase "the next succeeding Business Day unless" the phrase ", in the case of an Interest Period of one or more whole months,".

(b) Section 5.01(a) is amended by deleting the phrase "setting forth in each case in comparative form the figures for the previous fiscal year,".

This Letter Amendment shall become effective as of the date first above written when, and only when, on or before August 10, 2017, the Administrative Agent shall have received counterparts of this Letter Amendment executed by the undersigned and the Required Lenders. This Letter Amendment is a Loan Document and is subject to the provisions of Section 9.02 of the Credit Agreement.

On and after the effectiveness of this Letter Amendment, each reference in the Credit Agreement to "this Agreement", "hereunder", "hereof" or words of like import referring to the Credit Agreement, and each reference in the Notes and each of the other Loan Documents to "the Credit Agreement", "thereunder", "thereof" or words of like import referring to the Credit Agreement, shall mean and be a reference to the Credit Agreement, as amended by this Letter Amendment.

The Credit Agreement, the Notes and each of the other Loan Documents, as specifically amended by this Letter Amendment, are and shall continue to be in full force and effect and are hereby in all respects ratified and confirmed. The execution, delivery and effectiveness of this Letter Amendment

shall not, except as expressly provided herein, operate as a waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute a waiver of any provision of any of the Loan Documents.

If you agree to the terms and provisions hereof, please evidence such agreement by executing and returning a counterpart of this Letter Amendment to Susan L. Hobart, shobart@shearman.com.

This Letter Amendment may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Delivery of an executed counterpart of a signature page to this Letter Amendment by telecopier shall be effective as delivery of a manually executed counterpart of this Letter Amendment.

This Letter Amendment shall be governed by, and construed in accordance with, the laws of the State of New York.

Very truly yours,

TYCO INTERNATIONAL HOLDING S.ÀR.L.

By: /s/ Peter Schieser Name: Peter Schieser Title: General Manager

CITIBANK, N.A., as Administrative Agent

By: /s/ Sameer Nanabhai

Name: Sameer Nanabhai
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CITIBANK, N.A.

By: /s/ Sameer Nanabhai
Name: Sameer Nanabhai
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANK OF AMERICA N.A.

By: /s/ Christopher Wozniak
Name: Christopher Wozniak
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: JPMORGAN CHASE BANK, N.A.

By: /s/ Robert P. Kellas
Name: Robert P. Kellas
Title: Executive Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WELLS FARGO BANK, N.A.

By: /s/ Charles W. Reed
Name: Charles W. Reed
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BARCLAYS BANK PLC

By: /s/ Vanessa Kurbatskiy
Name: Vanessa Kurbatskiy
Title: Assistant Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: COMMERZBANK AG, NEW YORK BRANCH

By: /s/ Michael Ravelo
Name: Michael Ravelo
Title: Managing Director

By: /s/ Tak Cheng
Name: Tak Cheng
Title: Assistant Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: /s/ Jill Wong
Name: Jill Wong
Title: Director

By: /s/ Gordon Yip
Name: Gordon Yip
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DANSKE BANK A/S

By: /s/ Merete Ryvald
Name: Merete Ryvald
Title: Chief Loan Manager

By: /s/ Jørgen Linnet
Name: Jørgen Linnet
Title: Chief Loan Manager

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: INTESA SANPAOLO BANK LUXEMBOURG S.A.

By: /s/ Antonio Greppi
Name: Antonio Greppi
Title: Head of Corporate & Financial Institutions

By: /s/ Paulo Enrico Pernice
Name: Paulo Enrico Pernice
Title: Chief Financial Officer

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NEW YORK MELLON CORPORATION

By: /s/ Daniel Koller
Name: Daniel Koller
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF TOKYO-MITSUBISHI UFJ, LTD.

By: /s/ Thomas Danielson
Name: Thomas Danielson
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: U.S. BANK NATIONAL ASSOCIATION

By: /s/ Monica A. Stariha
Name: Monica A. Stariha
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: UNICREDIT BANK AG, NEW YORK BRANCH

By: /s/ Peter Daugavietis
Name: Peter Daugavietis
Title: Associate Director

By: /s/ Ken Hamilton
Name: Ken Hamilton
Title: Managing Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BANCO BILBAO VIZAYA ARTENTARIA, S.A. NEW YORK BRANCH

By: /s/ Cristina Cignoli
Name: Cristina Cignoli
Title: Director

By: /s/ Mauricio Benitez
Name: Mauricio Benitez
Title: Executive Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: GOLDMAN SACHS BANK USA

By: /s/ Chris Lam
Name: Chris Lam
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: ING BANK N.V., DUBLIN BRANCH

By: /s/ Sean Hassett
Name: Sean Hassett
Title: Director

By: /s/ Padraig Matthews
Name: Padraig Matthews
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: TORONTO DOMINION (TEXAS) LLC

By: /s/ Annie Dorval
Name: Annie Dorval
Title: Authorized Signatory

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE BANK OF NOVA SCOTIA

By: /s/ Diane Emanuel
Name: Diane Emanuel
Title: Managing Director & Co-Head

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: THE NORTHERN TRUST COMPANY

By: /s/ Carol Zatorski
Name: Carol Zatorski
Title: Senior Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: BNP PARIBAS

By: /s/ Pawel Zelezik
Name: Pawel Zelezik
Title: Vice President

By: /s/ Kwang Kyun Choi
Name: Kwang Kyun Choi
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: WESTPAC BANKING CORPORATION

By: /s/ Richard Yarnold
Name: Richard Yarnold
Title: Director

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: DEUTESCHE BANK AG NEW YORK BRANCH

By: /s/ Ming K. Chu
Name: Ming K. Chu
Title: Director

By: /s/ Virginia Cosenza
Name: Virginia Cosenza
Title: Vice President

SIGNATURE PAGE

CONSENT to Letter Amendment No. 2 to the Multi-Year Unsecured Credit Agreement dated as of March 10, 2016 of TYCO INTERNATIONAL HOLDING S.ÀR.L.

Name of Lender: STANDARD CHARTERED BANK

By: /s/ Daniel Mattern
Name: Daniel Mattern
Title: Associate Director

EXHIBIT 10.8

STRICTLY CONFIDENTIAL
EXECUTION VERSION

AMENDMENT NO. 1 TO CREDIT AGREEMENT

This AMENDMENT NO. 1 TO CREDIT AGREEMENT, dated as of November 1, 2016 (this " Amendment "), is entered into among JOHNSON CONTROLS, INC., a Wisconsin corporation (" JCI "), JOHNSON CONTROLS INTERNATIONAL PLC, an Irish public limited company (formerly known as Tyco International plc, an Irish public limited company) (" JCI PLC "), TYCO FIRE & SECURITY FINANCE S.C.A., a partnership limited by share incorporated under the laws of Luxembourg, (" TFSCA ") and TYCO INTERNATIONAL FINANCE S.A., a limited company incorporated under the laws of Luxembourg (" TIFSA " and together with TFSCA and JCI PLC, the " Existing Parent Guarantors "), the Lenders signatory hereto, the Issuing Lenders signatory hereto, and JPMORGAN CHASE BANK, N.A., as administrative agent for the Lenders (in such capacity, the " Administrative Agent ") under the Credit Agreement, dated as of March 10, 2016 (as amended, supplemented or otherwise modified from time to time prior to the date hereof, the " Credit Agreement "), among JCI, the Existing Parent Guarantors, the Lenders from time to time party thereto and the Administrative Agent.

RECITALS:

A. JCI PLC, JCI and TIFSA intend to commence one or more offers to exchange (a) at least a majority in aggregate principal amount of JCI's outstanding, unsecured, unsubordinated registered notes and (b) at least a majority in aggregate principal amount of TIFSA's outstanding, unsecured, unsubordinated registered notes, in each case, for unsecured, unsubordinated notes of the Parent (which notes shall not have the benefits of any Guarantee by a Subsidiary of the Parent).

B. JCI has requested that the Lenders and Issuing Lenders amend the Credit Agreement from and after the date hereof as set forth herein; and the undersigned Lenders and Issuing Lenders, on the terms and subject to the conditions set forth herein, are willing to consent to the foregoing.

C. In consideration of the mutual execution hereof and other good and valuable consideration, the parties hereto hereby agree as follows:

SECTION 1. Defined Terms . Capitalized terms which are defined in the Credit Agreement (as amended hereby) and not otherwise defined herein have the meanings given in the Credit Agreement (as amended hereby).

SECTION 2. Amendments . Each of the parties hereto agrees that, subject to the satisfaction of the conditions set forth in Section 3 below, the Credit Agreement shall be amended to delete the stricken text (indicated textually in the same manner as the following example: ~~stricken text~~) and to add the double-underlined text (indicated textually in the same manner as the following example: double-underlined text) as set forth in the pages of the Credit Agreement attached as Exhibit A hereto.

SECTION 3. Effectiveness. This Amendment will become effective upon satisfaction (or waiver in accordance with Section 11.05 (Amendments and Waivers) of the Credit Agreement) of the following conditions precedent:

(a) The Administrative Agent shall have received from the Loan Parties, the Lenders and the Issuing Lenders an executed counterpart of this Amendment (or photocopies thereof sent by fax, pdf or other electronic means, each of which shall be enforceable with the same effect as a signed original).

(b) After giving effect to this Amendment, the representations and warranties made by the Principal Borrower contained in Section 4 below shall be true in all respects and no Default shall have occurred and be continuing or shall occur after giving effect to this Amendment.

SECTION 4. Representations and Warranties. The Principal Borrower represents and warrants, as of the date hereof, that, after giving effect to the provisions of this Amendment, that (a) each of the representations and warranties made by the Principal Borrower in Article 4 (Representations and Warranties of the Loan Parties) of the Credit Agreement is true in all material respects on and as of the date hereof as if made on and as of the date hereof, except to the extent any such representation and warranty (i) expressly relates to an earlier date in which case such representation and warranty shall be true and correct in all material respects as of such earlier date or (ii) is qualified by materiality, in which case such representation and warranty shall be true and correct in all respects, and (b) no Default has occurred and is continuing.

SECTION 5. Continuing Effect of the Credit Agreement. The execution, delivery and effectiveness of this Amendment shall not, except as expressly provided herein, operate as an amendment or waiver of any right, power or remedy of any Lender or the Administrative Agent under any of the Loan Documents, nor constitute an amendment or waiver of any other provision of any of the Loan Documents. Subject to the express terms of this Amendment, the Credit Agreement remains in full force and effect, and the Loan Parties and the Lenders party hereto acknowledge and agree that all of their obligations hereunder and under the Credit Agreement shall be valid and enforceable and shall not be impaired or limited by the execution or effectiveness of this Amendment except to the extent specified herein.

SECTION 6. Miscellaneous. The provisions of Sections 11.03 (Expenses; Indemnification), 11.08 (Governing Law; Submission to Jurisdiction), 11.09 (Counterparts; Integration; Severability), 11.10 (Waiver of Jury Trial); 11.11 (Confidentiality) and 11.14 (Acknowledgement and Consent to Bail-In of EEA Financial Institutions) of the Credit Agreement shall apply with like effect to this Amendment. All representations and warranties contained herein shall survive the execution and delivery of this Amendment and will bind and inure to the benefit of the respective successors and assigns of the parties hereto, whether so expressed or not. This Amendment shall constitute a Loan Document for all purposes under the Credit Agreement.

[remainder of page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered by their proper and duly authorized officers as of the day and year first above written.

JOHNSON CONTROLS, INC.

By: /s/ Brian J. Stief
Name: Brian Stief
Title: Executive Vice President and Chief Financial Officer

By: /s/ Frank A Voltolina
Name: Frank A Voltolina
Title: Vice President and Treasurer

JOHNSON CONTROLS PLC

By: /s/ Brian J. Stief
Name: Brian J. Stief
Title: Executive Vice President and Chief Financial Officer

By: /s/Frank A Voltolina
Name: Frank A Voltolina
Title: Vice President and Treasurer

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

TYCO FIRE & SECURITY FINANCE S.C.A.

By: /s/Peter Schieser
Name: Peter Schieser
Title: Manager

TYCO INTERNATIONAL FINANCE S.A.,

By: /s/Peter Schieser
Name: Peter Schieser
Title: Manager

JPMORGAN CHASE BANK, N.A., as Administrative Agent and as a Lender and Issuing Bank

By: /s/ Robert P. Kellas
Name: Robert P. Kellas
Title: Executive Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

BANK OF AMERICA, N.A., as a Lender and Issuing Bank

By: /s/Christopher Wozniak
Name: Christopher Wozniak
Title: Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

BARCLAYS BANK PLC., as a Lender and Issuing Bank

By: /s/Evan Moriarty
Name: Evan Moriarty
Title: Assistant Vice President

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

CITIBANK, N.A., as a Lender and Issuing Bank

By: /s/Brian Reed
Name: Brian Reed
Title: Vice President

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

WELLS FARGO BANK, N.A., as a Lender and Issuing Bank

By: /s/John Brady
Name: John Brady
Title: Managing Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

Banco Bilbao Vizcaya Argentaria, S.A. New York Branch

as a Lender

By: /s/ Brian Crowley
Name:Brian Crowley
Title: Managing Director

By: /s/Cara Younger
Name: Cara Younger
Title: Director

The Bank of Nova Scotia
as a Lender

By: /s/Michelle C. Phillips
Name: Michelle C. Phillips
Title: Execution Head & Director

The Bank of New York Mellon Corporation
as a Lender

By: /s/Daniel Koller
Name: Daniel Koller
Title: Authorized Signatory

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

BNP Paribas
as a Lender

By: /s/ Pawel Zelezik
Name: Pawel Zelezik
Title: Vice President

By: /s/ Kwang Kyun Choi
Name: Kwang Kyun Choi
Title: Vice President

Commerzbank AG, New York Branch
as a Lender

By: /s/Michael Ravelo
Name: Michael Ravelo
Title: Director

By: /s/Vanessa De La Ossa
Name: Vanessa De La Ossa
Title: Assistant Vice President

Credit Agricole Corporate and Investment Bank
as a Lender

By: /s/Kaye Ea
Name: Kaye Ea
Title: Managing Director

By: /s/Gordon Yip
Name: Gordon Yip
Title: Director

Danske Bank A/S
as a Lender

By: /s/ Merete Ryvald
Name: Merete Ryvald
Title: Chief Loan Manager

By: /s/ Gert Carstens
Name: Gert Carstens
Title: Senior Loan Manager

Deutsche Bank AG New York Branch
as a Lender

By: /s/ Ming K. Chu
Name: Ming K. Chu
Title: Director

By: /s/ Virginia Cosenza
Name:Virginia Cosenza
Title: Vice President

Goldman Sachs Bank USA
as a Lender

By: /s/ Reg Williams
Name: Reg Williams
Title: Authorized Signatory

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

Industrial and Commercial Bank of China Limited, New York Branch

as a Lender

By: /s/ Kan Chen
Name: Kan Chen
Title: Vice President

By: /s/ Linjia Zhou
Name: Linjia Zhou
Title: Executive Director

ING Bank N.V., Dublin Branch
as a Lender

By: /s/ Emma Condon-Kraeft
Name: Emma Condon-Kraeft
Title: Vice President

By: /s/ Sean Hassett
Name: Sean Hassett
Title: Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

Intesa Sampaolo S.p.A.
as a Lender

By: /s/ William S. Denton
Name: William S. Denton
Title: Global Relationship Manager

By: /s/ Francesco Di Mario
Name: Francesco Di Mario
Title: F.V.P. & Head of Credit

Standard Chartered Bank
as a Lender

By: /s/ Steven Aloupis
Name: Steven Aloupis
Title: Managing Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

The Bank of Tokyo-Mitsubishi UFJ, LTD.
as a Lender

By: /s/ Thomas Danielson
Name: Thomas Danielson
Title: Authorized Signatory

The Northern Trust Company
as a Lender

By: /s/ Peter J. Hallan
Name: Peter J. Hallan
Title: Vice President

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

Toronto Dominion (Texas) LLC
as a Lender

By: /s/ Annie Dorval
Name: Annie Dorval
Title: Authorized Signatory

U.S. Bank National Association
as a Lender

By: /s/ Caroline V. Krider
Name: Caroline V. Krider
Title: Senior Vice President

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

UniCredit Bank AG, New York Branch
as a Lender

By: /s/Ken Hamilton
Name: Ken Hamilton
Title: Managing Director

By: /s/ Eleni Athanasatos
Name: Eleni Athanasatos
Title: Associate Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

Westpac Banking Corporation
as a Lender

By: /s/ Su-Lin Watson
Name: Su-Lin Watson
Title: Director

[Signature Page to Amendment to Johnson Controls, Inc. Credit Agreement]

STRICTLY CONFIDENTIAL
EXECUTION VERSION
(conformed to Amendment No.1
dated as of November 1, 2016)

US$2,000,000,000

CREDIT AGREEMENT

dated as of

March 10, 2016

among

Johnson Controls, Inc.,
as initial Principal Borrower,

The Guarantors Referred to Herein,

The Eligible Subsidiaries Referred to Herein,

The Lenders Parties Hereto

and

JPMorgan Chase Bank, N.A.,
as Administrative Agent.

JPMorgan Chase Bank, N.A.,
Merrill Lynch, Pierce, Fenner & Smith Incorporated ,
Barclays Bank PLC,
Citigroup Global Markets Inc.
and
Wells Fargo Securities, LLC,
Joint Lead Arrangers and Joint Bookrunners

Bank of America, N.A. ,
Syndication Agent

Barclays Bank PLC,
Citibank, N.A.
and
Wells Fargo Bank, National Association,
Documentation Agents

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PRICING SCHEDULE

SCHEDULE 2.19 - Letter of Credit Fronting Sublimit
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“ **Group of Loans** ” means, at any time, a group of Loans consisting of (i) all Loans to the same Borrower which are Base Rate Loans at such time or (ii) all Loans which are Euro-Currency Loans in the same currency to the same Borrower having the same Interest Period at such time, *provided* that, if a Loan of any particular Lender is converted to or made as a Base Rate Loan pursuant to Article 8, such Loan shall be included in the same Group of Loans or Groups of Loans from time to time as it would have been in if it had not been so converted or made.

“ **Guarantee** ” by any Person means, without duplication, any obligation, contingent or otherwise, of such Person directly or indirectly guaranteeing any Debt of any other Person and, without limiting the generality of the foregoing, any obligation, direct or indirect, contingent or otherwise, of such Person (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Debt (whether arising by virtue of partnership arrangements, by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or to maintain financial statement conditions or otherwise) or (ii) entered into for the purpose of assuring in any other manner the holder of such Debt of the payment thereof or to protect such holder against loss in respect thereof (in whole or in part); *provided* that the term Guarantee shall not include endorsements for collection or deposit in the ordinary course of business. The term “ **Guarantee** ” used as a verb has a corresponding meaning. It is understood that the amount of any Guarantee of or by any Person shall be deemed to be the lower of (a) the amount of Debt in respect of which such Guarantee exists and (b) the maximum amount for which such Person may be liable pursuant to the instrument embodying such Guarantee.

“ **Guarantors** ” means each of (i) from and after the Closing Date and prior to the Transfer Date , the Parent and the other Parent Guarantors, (ii) prior to the Transfer Date, JCI, as the Principal Borrower and (iii) from and after the Transfer Date, ~~TIFSA~~ the Parent , as the Principal Borrower; and “ **Guarantor** ” means any one of them.

“ **Hazardous Materials** ” means all explosive or radioactive substances or wastes and all hazardous or toxic substances, wastes or other pollutants, including petroleum or petroleum distillates, asbestos or asbestos containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other substances or wastes of any nature regulated pursuant to any Environmental Law.

“ **Holding Company** ” means a corporation or other legal entity organized under the laws of a country that is a member of the Organization for Economic Cooperation and Development which becomes the direct or indirect owner of the equity interests of the Parent and its Subsidiaries pursuant to a Holding Company Reorganization.

“ **Holding Company Reorganization** ” means a transaction or series of transactions pursuant to which the Parent becomes a direct or indirect wholly-owned subsidiary of the Holding Company.

“ **Increased Commitments** ” has the meaning set forth in Section 2.20(a).

“ **Indemnified Person** ” has the meaning set forth in Section 11.03(b).

“ **Initial Issuing Lender** ” means each of JPMorgan Chase Bank, N.A., Bank of America, N.A., Barclays Bank PLC, Citibank, N.A. and Wells Fargo Bank, National Association.

“ **Interest Period** ” means, with respect to each Euro-Currency Loan, the period commencing on the date of borrowing specified in the applicable Notice of Borrowing or on the date specified in an applicable Notice of Interest Rate Election and ending one, two, three or six months thereafter (or such other period of time as may at the time be mutually agreed by the Borrower and all of the Lenders), as the Borrower may elect in such notice; *provided* that:

(a) any Interest Period which would otherwise end on a day which is not a Euro-Currency Business Day shall be extended to the next succeeding Euro-Currency Business Day unless such Euro-Currency Business Day falls in another calendar month, in which case such Interest Period shall end on the next preceding Euro-Currency Business Day; and

(b) any Interest Period which begins on the last Euro-Currency Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last Euro-Currency Business Day of a calendar month; and

(c) any Interest Period applicable to any Loan of any Lender which would otherwise end after the Termination Date for such Lender shall end on the Termination Date for such Lender.

“ **Intermediate Holding Company** ” means at any time prior to the Transfer Date any Subsidiary of the Parent that holds, directly or indirectly, capital stock of ~~the Principal Borrower~~ JCI .

“ **Internal Revenue Code** ” means the Internal Revenue Code of 1986, as amended, or any successor statute.

“ **Issuing Lender** ” means each Initial Issuing Lender and any other Lender that may agree to issue letters of credit hereunder pursuant to an instrument in form reasonably satisfactory to the Principal Borrower, such Lender and the Administrative Agent, in its capacity as issuer of a Letter of Credit hereunder.

Unless the contest otherwise requires, any reference herein to a " **Lender** " includes each Issuing Lender.

" **JCI** " means Johnson Controls, Inc., a Wisconsin corporation, and its successors.

~~" **JCI Intermediate Holding Company** " means at any time any Subsidiary of TIFSA that holds, directly or indirectly, capital stock of JCI.~~

" **LC Sublimit** " means (i) as to aggregate Letter of Credit Liabilities with respect to all Letters of Credit, $200,000,000 and (ii) as to aggregate Letter of Credit Liabilities with respect to the Letters of Credit issued by any individual Issuing Lender, such Issuing Lender's Letter of Credit Fronting Sublimit.

" **LC Termination Date** " means, at any time, the fifth Business Day prior to the earliest Termination Date then in effect as to any Lender.

" **Lead Arrangers** " means JPMorgan Chase Bank, N.A., Merrill Lynch, Pierce Fenner & Smith Incorporated, Barclays Bank PLC, Citigroup Global Markets Inc. and Wells Fargo Securities LLC in their capacity as joint lead arrangers and joint bookrunners for the credit facility provided hereunder.

" **Lender** " means each Person listed in the Commitment Schedule, each Additional Lender or Assignee which becomes a Lender pursuant to Section 2.20 or 11.06(c), and their respective successors.

" **Lender Affiliate** " means, (a) with respect to any Lender, (i) an Affiliate of such Lender or (ii) any entity (whether a corporation, partnership, trust or otherwise) that is engaged in making, purchasing, holding or otherwise investing in bank loans and similar extensions of credit in the ordinary course of its business and is administered or managed by such Lender or an Affiliate of such Lender and (b) with respect to any Lender that is a fund which invests in bank loans and similar extensions of credit, any other fund that invests in bank loans and similar extensions of credit and is managed by the same investment advisor as such Lender or by an Affiliate of such investment advisor. As used in this definition, (x) " **Affiliate** " means, with respect to a specified Person, another Person that directly, or indirectly through one or more intermediaries, Controls or is Controlled by or is under common Control with such specified Person and (y) " **Control** " means possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a Person, whether through the ability to exercise voting power, by contract or otherwise (and " **Controlled** " has a meaning correlative thereto).

" **Lender Parent** " means, with respect to any Lender, any Person controlling such Lender.

“ **New York Office** ” means the office of the Administrative Agent identified on the signature pages hereof as its New York office, or such other office of the Administrative Agent as it may specify for such purpose by notice to the other parties hereto.

“ **Notes** ” means promissory notes of a Borrower, substantially in the form of Exhibit A hereto, evidencing the obligation of such Borrower to repay the Loans made to it, and “ **Note** ” means any one of such promissory notes issued hereunder.

“ **Notice of Borrowing** ” has the meaning set forth in Section 2.02.

“ **Notice of Interest Rate Election** ” has the meaning set forth in Section 2.15(a).

“ **Notice of Issuance** ” has the meaning set forth in Section 2.19(c).

“ **NYFRB** ” means the Federal Reserve Bank of New York.

“ **Other Connection Taxes** ” means, with respect to the Administrative Agent or a Lender, Taxes imposed as a result of a present or former connection between the Administrative Agent or such Lender and the jurisdiction imposing such Tax (other than connections arising from the Administrative Agent or such Lender having executed, delivered, become a party to, performed its obligations under, received payments under, received or perfected a security interest under, engaged in any other transaction pursuant to or enforced any Loan Document, or sold or assigned an interest in any Loan or Loan Document).

“ **Other Currency** ” has the meaning set forth in Section 2.18.

“ **Other Taxes** ” has the meaning set forth in Section 8.04(b).

“ **Outstanding Amount** ” means, as to any Lender at any time, the sum of (i) the aggregate Dollar Amount of Loans made by it outstanding at such time plus (ii) the aggregate Dollar Amount of its Letter of Credit Liabilities at such time.

“ **Parent** ” means ~~Tyco~~ Johnson Controls International plc, with company number 543654, an Irish public limited company ~~(which intends to change its corporate name to Johnson Controls plc upon or shortly after the consummation of the Merger)~~ , and its successors; *provided* that upon consummation of a Holding Company Reorganization in compliance with Section 5.09, the Holding Company shall thereafter be the Parent for purposes hereof, except that any reference made to the Parent as of a specific date prior to any such Holding Company Reorganization shall continue to refer to ~~Tyco~~ Johnson Controls International plc.

“ **Parent Guarantor** ” means , from and after the Closing Date and prior to the Transfer Date, each of (i) the Parent, (ii) Tyco Fire & Security Finance S.C.A., a partnership limited by shares (*société en commandite par actions*) incorporated under the laws of Luxembourg, having its registered office at 29, Avenue de la Porte Neuve, L - 2227 Luxembourg and registered with the Luxembourg trade and company register under number B 190265, and its successors, (iii) ~~prior to the occurrence of the Transfer Event,~~ TIFSA and (iv) any Intermediate Holding Company that (x) on the Closing Date, Guarantees any Debt of the Parent or any of the Parent’s Subsidiaries or (y) becomes a Parent Guarantor after the Closing Date and prior to the Transfer Date pursuant to Section 5.11.

“ **Parent Guarantor Joinder Agreement** ” means a joinder agreement in the form attached hereto as Exhibit H.

“ **Participant** ” has the meaning set forth in Section 11.06(b).

“ **Participant Register** ” has the meaning set forth in Section 11.06(b).

“ **Participating Member States** ” means those members of the European Union from time to time which adopt a single, shared currency.

“ **Payee** ” has the meaning set forth in Section 2.18.

“ **PBGC** ” means the Pension Benefit Guaranty Corporation or any entity succeeding to any or all of its functions under ERISA.

“ **Permitted Party** ” has the meaning set forth in Section 11.11(a).

“ **Person** ” means an individual, a corporation, a limited liability company, a partnership, an association, a trust, a limited liability company or any other entity or organization, including a government or political subdivision or an agency or instrumentality thereof.

“ **Plan** ” means at any time an employee pension benefit plan (other than a Multiemployer Plan) which is covered by Title IV of ERISA or subject to the minimum funding standards under Section 412 of the Internal Revenue Code and either (i) is maintained, or contributed to, by any member of the ERISA Group for employees of any member of the ERISA Group or (ii) has at any time within the preceding five years been maintained, or contributed to, by any Person which was at such time a member of the ERISA Group for employees of any Person which was at such time a member of the ERISA Group.

“ **Pricing Schedule** ” means the Schedule attached hereto identified as such.

“ **Prime Rate** ” means the rate of interest publicly announced by JPMorgan Chase Bank, N.A. in New York City from time to time as its Prime Rate.

“ **Principal Borrower** ” means (i) from the Signing Date to the Transfer Date, JCI and (ii) thereafter, ~~TIFSA~~ the Parent .

“ **Principal Borrower Joinder Agreement** ” means a joinder agreement in the form attached hereto as Exhibit J.

“ **Proceeding** ” has the meaning set forth for such term in Section 11.03(b).

“ **Qualified Exchange Offer** ” means one or more offers to exchange in which (a) at least a majority in aggregate principal amount of JCI’s then outstanding, unsecured, unsubordinated registered notes ~~as of the Signing Date~~ and (b) at least a majority in aggregate principal amount of TIFSA’s then outstanding, unsecured, unsubordinated registered notes, in each case, are accepted in exchange for unsecured, unsubordinated notes of ~~TIFSA~~ the Parent (which notes shall not have the benefits of any Guarantee by a Subsidiary of ~~TIFSA~~ the Parent).

“ **Quarterly Payment Date** ” means each March 31, June 30, September 30 and December 31.

“ **Rate Fixing Date** ” has the meaning set forth in Section 2.06(b).

“ **Register** ” has the meaning set forth in Section 11.06(c).

“ **Regulation U** ” means Regulation U of the Board of Governors of the Federal Reserve System, as in effect from time to time.

“ **Reimbursement Obligation** ” has the meaning set forth in Section 2.19(e).

“ **Related Person** ” has the meaning set forth in Section 11.03(b).

“ **Required Currency** ” has the meaning set forth in Section 2.18.

“ **Required Financial Information** ” means, at any time:

(i)(a) audited consolidated balance sheets and related statements of income, stockholders’ equity and cash flows of the Parent and its Consolidated Subsidiaries (prior to the Merger) and of JCI and its Consolidated Subsidiaries (prior to the Merger), in each case for each fiscal year ended after September 25, 2015 and September 30, 2015, respectively, and at least 60 days prior to the Closing Date; (b) unaudited consolidated balance sheets and related statements of income, stockholders’ equity and cash flows of the Parent and its Consolidated

(k) no Default shall have occurred and be continuing on the Closing Date;

(l) the representations and warranties of the Principal Borrower contained in this Agreement shall be true in all material respects on and as of the Closing Date, except to the extent any such representation and warranty (i) expressly relates to an earlier date in which case such representation and warranty shall be true and correct in all material respects as of such earlier date or (ii) is qualified by materiality, in which case such representation and warranty shall be true and correct in all respects; and

(m) the Administrative Agent shall have received a certificate from an officer of JCI certifying to the accuracy of the conditions precedent contained in clauses (g), (h)(ii), (k) and (l) above;

provided that the obligations of the Lenders to make Loans and of the Issuing Lenders to issue Letters of Credit hereunder shall not become effective unless all of the foregoing conditions are satisfied (or waived), if at all, not later than October 24, 2016 (or, if the Outside Date (as defined in the Merger Agreement as in effect on February 17, 2016) shall have been extended to a later date pursuant to Section 8.1(c) thereof, such later date (but in any event not later than January 24, 2017)). The Administrative Agent shall promptly notify the Principal Borrower, the Lenders and each other party to this Agreement of the Closing Date, and such notice shall be conclusive and binding.

Section 3.03 . *Transfer Event* . The succession of ~~TIFSA~~ the Parent to all of the rights and obligations of JCI under this Agreement as the Principal Borrower, and the concurrent release of (x) JCI from all of the rights and obligations under this Agreement as the Principal Borrower and (y) ~~TIFSA~~ the Parent from all of the rights and obligations under this Agreement as a Parent Guarantor, shall not occur until the date on which each of the following conditions is satisfied (or waived in accordance with Section 11.05):

(a) the Closing Date shall have occurred;

(b) JCI ~~and~~ , TIFSA and the Parent shall have completed a Qualified Exchange Offer;

(c) receipt by the Administrative Agent of a Principal Borrower Joinder Agreement, duly executed by ~~TIFSA~~ the Parent ;

(d) immediately before and after the Transfer Date, no Default shall have occurred and be continuing; and

(e) the Administrative Agent shall have received a certificate from an officer or a ~~manager~~ director of ~~TIFSA~~ the Parent certifying to the accuracy of the conditions precedent contained in clauses (b) and (d).

Upon the satisfaction (or waiver) of the conditions set forth in this Section 3.03, (x) ~~TIFSA~~ the Parent shall automatically become the Principal Borrower under this Agreement ~~,~~ and accede to all of JCI's rights and obligations under this Agreement in its capacity as the Principal Borrower ~~and be released from all of the rights and obligations under this Agreement as a Parent Guarantor~~ , (y) JCI shall automatically and without further action by any party be released from all of its obligations as, and shall cease to be, the Principal Borrower and (z) each ~~JCI Intermediate Holding Company that is then a~~ Parent Guarantor (~~if any~~ including the Parent) shall automatically and without further action by any party be released from all of its obligations as, and shall cease to be, a Parent Guarantor (the " **Transfer Event** ").

~~To the extent applicable, each Luxembourg Guarantor hereby expressly accepts and confirms (including for the purposes of article 1279 of the Luxembourg civil code) that notwithstanding any assignment, substitution of debtor, subrogation, novation or other transfer made by JCI, in its capacity as Principal Borrower, in accordance with the provisions of this Agreement, the guarantee given by such Luxembourg Guarantor under this Agreement shall be preserved and shall continue to guarantee any present and/or future (as applicable) liabilities incurred under this Agreement by JCI and TIFSA, each in its respective capacity as the previous Principal Borrower and the new Principal Borrower.~~

Section 3.04 . *Borrowings and Issuances of Letters of Credit.* The obligation of any Lender to make a Loan on the occasion of any Borrowing and the obligation of an Issuing Lender to issue, renew, extend or increase any Letter of Credit is subject to the satisfaction of the following conditions:

(a) receipt by the Administrative Agent of a Notice of Borrowing as required by Section 2.02 or receipt by the applicable Issuing Lender of a Notice of Issuance as required by Section 2.19(c), as the case may be;

(b) [reserved];

(c) the fact that, immediately before and after such Borrowing or issuance of such Letter of Credit, no Default shall have occurred and be continuing; and

(d) the fact that the representations and warranties of the Principal Borrower and, if the applicable Borrower is other than the Principal Borrower, the Borrower, contained in this Agreement (except the representations and warranties set forth

in Sections 4.04(~~b~~ c), 4.05 and 4.07) shall be true in all material respects on and as of the date of such Borrowing or issuance, renewal, extension or increase, as applicable, except to the extent any such representation and warranty (i) expressly relates to an earlier date in which case such representation and warranty shall be true and correct in all material respects as of such earlier date or (ii) is qualified by materiality, in which case such representation and warranty shall be true and correct in all respects.

Each Borrowing and issuance of a Letter of Credit hereunder shall be deemed to be a representation and warranty by the Borrower (and by the Principal Borrower if it is not the Borrower) on the date of such Borrowing as to the facts specified in clauses 3.04(c) and 3.04(d).

Section 3.05 . *First Borrowing by Each Eligible Subsidiary.*

(a) The obligation of each Lender to make a Loan, and the obligation of an Issuing Lender to issue a Letter of Credit, on the occasion of the first Borrowing by or issuance of a Letter of Credit for the account of each Eligible Subsidiary is subject to the receipt by the Administrative Agent of the following documents:

(i) an opinion of counsel for such Eligible Subsidiary (which may include internal counsel for such Eligible Subsidiary) (covering customary legal matters for an unsecured bank loan financing); and

(ii) receipt by the Administrative Agent of: (i) c opies of such Eligible Subsidiary's charter (or equivalent formation document) and by-laws (or equivalent organizational document), and any amendments thereto, certified in each instance by its Secretary or Assistant Secretary (or analogous Person with respect to such Eligible Subsidiary), (ii) c opies of the resolutions or similar authorizing documentation of the governing body of such Eligible Subsidiary authorizing such Eligible Subsidiary to enter into and perform its obligations under the Loan Documents, certified by its Secretary or Assistant Secretary (or analogous Person with respect to such Eligible Subsidiary), (iii) a good standing certificate (or the equivalent thereof, if any, in any foreign jurisdiction) from the jurisdiction of formation of such Eligible Subsidiary and (iv) a customary certificate of the Secretary or Assistant Secretary of such Eligible Subsidiary (or analogous Person with respect to such Eligible Subsidiary) certifying the names and true signatures of such Eligible Subsidiary's authorized persons, officers and employees authorized to sign this Agreement and the other documents to be delivered by such Eligible Subsidiary hereunder.

(b) Following the giving of any Election to Participate, if the designation of such Eligible Subsidiary obligates the Administrative Agent or any

grossed-up for the customary fees and expenses incurred in connection with such refinancing, extension, renewal or refunding and except as a result of the capitalization or accretion of interest) and is not secured by any additional assets;

(g) Liens arising in the ordinary course of its business which (i) do not secure Debt, (ii) in the case of judgment, attachment or other similar Liens in connection with legal proceedings, do not secure any obligation in an amount exceeding $200,000,000 and (iii) do not in the aggregate materially detract from the value of its assets or materially impair the use thereof in the operation of its business;

(h) Liens on proceeds of any assets permitted to be subject to any Lien permitted by this Section 5.08;

(i) Liens arising in connection with the defeasance of Debt as contemplated by the definition of Debt;

(j) Liens on any amounts held by a trustee or other escrow agent under any indenture or other debt agreement issued in escrow pursuant to customary escrow arrangements pending the release thereof, or under any indenture or other debt agreement pursuant to customary discharge, redemption or defeasance provisions; and

(k) ~~(j)~~ Liens not otherwise permitted by the foregoing clauses of this Section 5.08 securing Debt in an aggregate principal amount at any time outstanding not to exceed on the date of incurrence thereof 10% of Consolidated Shareholders' Equity.

For purposes of determining compliance with this Section 5.08, no Default shall be deemed to have occurred solely as a result of changes in exchange rates for an obligation denominated in a currency other than Dollars (provided that calculations made for a subsequent obligation incurred shall take into account such changes in exchange rates) occurring after the time any Lien is created or assumed.

Section 5.09. *Consolidation, Mergers and Sales of Assets.* No Loan Party shall (i) consolidate or merge with or into any other Person or (ii) sell, lease or otherwise transfer, directly or indirectly, all or substantially all of the assets of the Parent and its Consolidated Subsidiaries, taken as a whole, to any other Person; *provided* that (A) a Loan Party may consolidate or merge with another Person (other than a Loan Party) if such Loan Party is the entity surviving such consolidation or merger and if, immediately after giving effect to such merger, no Default shall have occurred and be continuing, (B) any Loan Party may consolidate or merge with any other Loan Party if immediately after giving effect to such consolidation or merger, no Default shall have occurred and be

continuing; *provided* that, in any such consolidation or merger to which the Principal Borrower is a party, if the Principal Borrower is not the Person surviving such merger, such surviving Person (1) is a corporation or other legal entity organized under the laws of a country that is a member of the Organization for Economic Cooperation and Development and (2) shall have assumed all obligations of the Principal Borrower under this Agreement and any Note pursuant to an instrument reasonably satisfactory in form and substance to the Administrative Agent, (C) any Eligible Subsidiary may consolidate or merge with any other Eligible Subsidiary, so long as an Eligible Subsidiary is the Person surviving such consolidation or merger, (D) the Parent may consummate a Holding Company Reorganization so long as after giving effect thereto, (v) no Default shall have occurred and be continuing, (w) the Holding Company shall have assumed, pursuant to an instrument in form and substance reasonably satisfactory to the Administrative Agent, the obligations of the Parent under this Agreement, (x) the Administrative Agent shall have received an opinion of counsel with respect to the Holding Company (which, in the case of certain customary matters pertaining to the Holding Company, may include internal counsel for the Holding Company) (covering customary legal matters for an unsecured bank loan financing) and such other evidence of compliance herewith as the Administrative Agent may reasonably request in form and substance reasonably satisfactory to the Administrative Agent and (y) the Parent shall have provided the Administrative Agent and the Lenders 30 days prior notice of the Holding Company Reorganization, and the Holding Company shall, promptly upon the request of the Administrative Agent or any Lender, supply such documentation and other information relating to such Holding Company that is required by bank regulatory authorities under applicable "know your customer" and anti-money laundering rules and regulations, including without limitation, the Act and (E) any Loan Party (other than the Parent) may sell, lease or otherwise transfer its assets to the Parent or to a Consolidated Subsidiary.

Section 5.10. *Use of Proceeds.* The proceeds of the Loans made under this Agreement will be used by the Borrowers for general business purposes. None of such proceeds will be used, directly or indirectly, for the purpose, whether immediate, incidental or ultimate, of buying or carrying any "margin stock" within the meaning of Regulation U.

Section 5.11. *Additional Parent Guarantors* . ~~No~~ Prior to the Transfer Date, no Intermediate Holding Company will Guarantee, or suffer to exist any Guarantee of, any Debt of the Parent or any of the Parent's Subsidiaries unless such Intermediate Holding Company is , or ~~,~~ simultaneously with Guaranteeing such Debt, executes a Parent Guarantor Joinder Agreement and becomes , a Guarantor.

ARTICLE 6
DEFAULTS

Section 6.01. *Events of Default.* If, on or after the Closing Date, one or more of the following events (each an " **Event of Default** ") shall have occurred and be continuing:

(a) any principal of any Loan or any Reimbursement Obligation shall not be paid when due, or any interest, any fees or any other amount payable hereunder, shall not be paid within five Domestic Business Days of the due date therefor;

(b) any Loan Party shall fail to observe or perform any covenant contained in Sections 5.07 to 5.10, inclusive;

(c) any Loan Party shall fail to observe or perform any covenant or agreement contained in this Agreement (other than those covered by clause (a) or (b) above) for 30 days after written notice thereof has been given to the Principal Borrower by the Administrative Agent at the request of any Lender;

(d) the guaranty provided by any Guarantor under Section 10.01 of this Agreement shall cease to be in full force and effect (other than, for the avoidance of doubt, in accordance with the terms of this Agreement) ;

(e) any representation, warranty, certification or statement made by any Loan Party in this Agreement or in any certificate, financial statement or other document delivered pursuant to this Agreement shall prove to have been incorrect in any material respect when made (or deemed made);

(f) any Loan Party or any Consolidated Subsidiary shall fail to make any payment in respect of any Material Debt when due or within any applicable grace period;

(g) any event or condition shall occur which results in the acceleration of the maturity of any Material Debt or enables (any applicable grace or cure period having expired) the holder of such Debt or any Person acting on such holder's behalf to accelerate the maturity thereof; *provided* that none of the following shall give rise to a Default: (i) the obligation of any Loan Party or any Subsidiary thereof to prepay or repurchase, or offer to prepay or repurchase, Debt of an acquired Person pursuant to change-of-control provisions in the documentation governing such Debt, (ii) any Default under Debt of an acquired Person that is cured, or which Debt is repaid, within 60 days after the consummation of the acquisition of such Person; (iii) Debt that becomes due as a result of the voluntary transfer of assets securing such Debt; and (iv) prepayments

(c) The Principal Borrower agrees to indemnify each Lender and the Administrative Agent for the full amount of Taxes or Other Taxes (including, without limitation, any Taxes or Other Taxes imposed or asserted by any jurisdiction on amounts payable under this Section 8.04) paid or payable by such Lender or the Administrative Agent (as the case may be) and any liability (including penalties, interest and expenses) arising therefrom or with respect thereto; *provided* , the Principal Borrower shall not be obligated to indemnify any party hereunder pursuant to this Section for penalties, interest or similar liabilities arising therefrom or with respect thereto to the extent such penalties, interest or similar liabilities are attributable to the gross negligence or willful misconduct by such party. In addition, the Principal Borrower agrees to indemnify the Administrative Agent and each Lender for all Excluded Taxes and any liability (including penalties, interest and expenses) arising therefrom or with respect thereto, in each case to the extent that such Excluded Taxes result from any payment or indemnification pursuant to this Section 8.04(c) for Taxes or Other Taxes imposed by any jurisdiction other than the United States, Ireland or Luxembourg. This indemnification shall be made within 15 days from the date such Lender or the Administrative Agent (as the case may be) makes demand therefor.

(d) Any Lender that is entitled to an exemption from or reduction of withholding Tax with respect to payments made under any Loan Document shall deliver to the Principal Borrower and the Administrative Agent, at the time or times reasonably requested by the Principal Borrower or the Administrative Agent, such properly completed and executed documentation , or information, reasonably requested by the Principal Borrower or the Administrative Agent as will permit such payments to be made without withholding or at a reduced rate of withholding , or evidence entitlement to exemption from or reduction of withholding tax . In addition, any Lender, if requested by the Principal Borrower or the Administrative Agent, shall deliver such other documentation prescribed by applicable law or reasonably requested by the Principal Borrower or the Administrative Agent , or information reasonably requested by the Principal Borrower or the Administrative Agent, as will enable the Principal Borrower or the Administrative Agent to determine whether or not such Lender is subject to any withholding (including backup withholding) or information reporting requirements. Notwithstanding anything to the contrary in the preceding two sentences, the completion, execution and submission of such documentation (other than such documentation set forth in Sections 8.04(e), (f), (g) and (h) below) shall not be required if in the Lender ’s judgment such completion, execution or submission would subject such Lender to any material unreimbursed cost or expense or would materially prejudice the legal or commercial position of such Lender.

(e) Without limiting the foregoing, at the times indicated herein, each Lender organized under the laws of a jurisdiction outside the United States shall

were to fail to comply with the applicable reporting requirements of FATCA (including those contained in Section 1471(b) or 1472(b) of the Internal Revenue Code, as applicable), such Lender shall deliver to the Principal Borrower and the Administrative Agent at the time or times prescribed by law and at such time or times reasonably requested by the Principal Borrower or the Administrative Agent such documentation prescribed by applicable law (including as prescribed by Section 1471(b)(3)(C)(i) of the Internal Revenue Code) and such additional documentation reasonably requested by the Principal Borrower or the Administrative Agent as may be necessary for the Principal Borrower or the Administrative Agent to comply with its obligations under FATCA, to determine that such Lender has or has not complied with such Lender's obligations under FATCA or to determine the amount to deduct and withhold from such payment. Solely for the purposes of this Section 8.04(g), "FATCA" shall include any amendments made to FATCA after the date of this Agreement, whether or not included in the definition of FATCA.

(h) Each Lender agrees that if any form , information or certification it previously delivered expires or becomes obsolete or inaccurate in any respect, it shall update such form or certification or promptly notify the Principal Borrower and the Administrative Agent in writing of its legal inability to do so.

(i) For any period with respect to which a Lender has failed to provide the Principal Borrower with the appropriate form or information in accordance with Section 8.04(d) or (e) (unless such failure is excused by the terms of Section 8.04(d) or (e)), such Lender shall not be entitled to indemnification under Section 8.04(a) or 8.04(c) with respect to Taxes imposed as a result of such Lender's failure to provide such form or information ; *provided* , *however* , that should a Lender, which is otherwise exempt from or subject to a reduced rate of withholding tax, become subject to Taxes because of its failure to deliver a form or information required hereunder, the Principal Borrower shall take such steps as such Lender shall reasonably request to assist such Lender to recover such Taxes.

(j) Each Lender shall severally indemnify the Administrative Agent for any Taxes and Excluded Taxes (but only to the extent that the Principal Borrower has not already indemnified the Administrative Agent for such Taxes and Excluded Taxes and without limiting the obligation, if any, of the Principal Borrower to do so), in each case attributable to such Lender that are paid or payable by the Administrative Agent in connection with any Loan Document, and any reasonable expenses arising therefrom or with respect thereto. This indemnification shall be made within 15 days from the date the Administrative Agent makes demand therefor.

(k) Each party's obligations under this Section 8.04 shall survive any assignment of rights by, or the replacement of, a Lender, the termination of the

Commitments and the repayment, satisfaction or discharge of all other obligations under any Loan Document.

(l) If the Administrative Agent or a Lender determines, in its sole discretion, that it has received a refund of any Taxes, Excluded Taxes or Other Taxes as to which it has been indemnified by the Principal Borrower or with respect to which the Principal Borrower has paid additional amounts pursuant to this Section, it shall pay over such refund to Principal Borrower (but only to the extent of indemnity payments made, or additional amounts paid, by the Principal Borrower under this Section with respect to the Taxes, Excluded Taxes or Other Taxes giving rise to such refund), net of all out-of-pocket expenses with respect to such refund of the Administrative Agent or such Lender and without interest (other than any interest paid by the relevant Governmental Authority with respect to such refund); *provided* that the Principal Borrower, upon the request of the Administrative Agent or such Lender, agrees to repay the amount paid over to the Principal Borrower (plus any penalties, interest or other charges imposed by the relevant Governmental Authority) to the Administrative Agent or such Lender in the event the Administrative Agent or such Lender is required to repay such refund to such Governmental Authority. This Section shall not be construed to require the Administrative Agent or any Lender to make available its tax returns (or any other information relating to its taxes which it deems confidential) to the Principal Borrower or any other Person.

Section 8.05. *Base Rate Loans Substituted for Affected Euro-Currency Loans.* If (i) the obligation of any Lender to make, or to continue or convert outstanding Loans as or to, Euro-Currency Loans to any Borrower in any currency has been suspended pursuant to Section 8.02 or (ii) any Lender has demanded compensation under Section 8.03 or 8.04 with respect to its Euro-Currency Loans in any currency and the Principal Borrower shall, by at least five Euro-Dollar Business Days' prior notice to such Lender through the Administrative Agent, have elected that the provisions of this Section shall apply to such Lender, then, unless and until such Lender notifies the Principal Borrower that the circumstances giving rise to such suspension or demand for compensation no longer exist, all Loans which would otherwise be made by such Lender as (or continued as or converted to) Euro-Currency Loans in such currency to such Borrower shall instead be Base Rate Loans (in the case of Alternative Currency Loans, in the same Dollar Amount as the Euro-Currency Loan that such Lender would otherwise have made in the Alternative Currency) on which interest and principal shall be payable contemporaneously with the related Euro-Currency Loans of the other Lenders. If such Lender notifies the Principal Borrower that the circumstances giving rise to such suspension or demand for compensation no longer exist, the principal amount of each such Base Rate Loan shall be converted into a Euro-Currency Loan on the first day of the next succeeding Interest Period applicable to the related Euro-Currency Loans of the other Lenders. If such Loan is converted into an Alternative Currency Loan, such Lender, the Administrative

ARTICLE 10
GUARANTY

Section 10.01. *The Guaranty.*

(a) The Principal Borrower hereby unconditionally guarantees the full and punctual payment (whether at stated maturity, upon acceleration or otherwise) of the principal of, and interest and fees on, each Loan made to and each Reimbursement Obligation incurred by any Eligible Subsidiary pursuant to this Agreement, and the full and punctual payment of all other amounts payable by any Eligible Subsidiary under this Agreement. Upon failure by any Eligible Subsidiary to pay punctually any such amount, the Principal Borrower shall forthwith on demand pay the amount not so paid at the place and in the manner specified in this Agreement.

(b) ~~Each~~ Prior to the Transfer Date, each Parent Guarantor hereby unconditionally guarantees the full and punctual payment (whether at stated maturity, upon acceleration or otherwise) of the principal of, and interest and fees on, each Loan made to and each Reimbursement Obligation incurred by any Borrower pursuant to this Agreement, and the full and punctual payment of all other amounts payable by any Borrower under this Agreement. Upon failure by any Borrower to pay punctually any such amount if and when due prior to the Transfer Date , each Parent Guarantor shall (without double counting) forthwith on demand pay the amount not so paid at the place and in the manner specified in this Agreement.

Section 10.02. *Guaranty Unconditional.* The obligations of each Guarantor hereunder shall be unconditional and absolute and, without limiting the generality of the foregoing, shall not be released, discharged or otherwise affected by:

(a) any extension, renewal, settlement, compromise, waiver or release in respect of any obligation of any Borrower under this Agreement or any Note, by operation of law or otherwise (except to the extent the foregoing expressly releases a Guarantor's obligations under this Article 10);

(b) any modification or amendment of or supplement to this Agreement or any Note (other than any modification, amendment or supplement of this Article 10 effected in accordance with Section 11.05);

(c) any release, impairment, non-perfection or invalidity of any direct or indirect security for any obligation of any Borrower under this Agreement or any Note;

payee against such Borrower with respect to such payment; *provided* that each Guarantor shall not enforce any payment by way of subrogation unless all principal and interest on the Loans to such Borrower and all other amounts payable by such Borrower under this Agreement have been paid in full in cash.

Section 10.06. *Stay of Acceleration.* In the event that acceleration of the time for payment of any amount payable by any Borrower under this Agreement or its Notes is stayed upon insolvency, bankruptcy or reorganization of such Borrower, all such amounts otherwise subject to acceleration under the terms of this Agreement shall nonetheless be payable by each Guarantor hereunder forthwith on demand by the Administrative Agent made at the request of the Required Lenders.

Section 10.07. *Certain Guarantee Matters* . Notwithstanding anything in this Article 10 to the contrary, upon the occurrence of the Transfer Event on the Transfer Date, each of JCI, ~~TIFSA~~ the Parent (solely in its capacity as a Parent Guarantor prior to the occurrence of the Transfer Event on the Transfer Date) and each ~~JCI Intermediate Holding Company that is then a~~ other Parent Guarantor (if any) shall automatically and without further action by any party be released from any and all guarantee obligations pursuant to this Article 10.

ARTICLE 11
MISCELLANEOUS

Section 11.01 . *Notices.*

(a) All notices, requests and other communications to any party hereunder shall be in writing (including bank wire, facsimile transmission or similar writing) and shall be given to such party: ~~**Error! Bookmark not defined.**~~ (a) in the case of the Principal Borrower at its address or facsimile number set forth below, ~~**Error! Bookmark not defined.**~~ (b) in the case of the Administrative Agent, at its address or facsimile number set forth below, (c) in the case of an Eligible Subsidiary, at its address or facsimile number set forth in its Election to Participate, (d) in the case of any Lender, at its address or facsimile number set forth in its Administrative Questionnaire or (e) in the case of any party, such other address or facsimile number as such party may hereafter specify for the purpose by notice to the Administrative Agent and the Principal Borrower. Each such notice, request or other communication shall be effective (i) if given by facsimile, when such facsimile is transmitted to the facsimile number specified in this Section 11.01 and the appropriate answerback is received, (ii) if given by mail, 72 hours after such communication is deposited in the mails with first class postage prepaid, addressed as aforesaid or (iii) if given by any other means, when delivered at the address specified in this Section 11.01; *provided* that notices to

EXHIBIT H

~~Form of Parent Guarantor Joinder Agreement~~

~~PARENT GUARANTOR JOINDER AGREEMENT~~

~~Reference is made to the Credit Agreement, dated as of March 10, 2016 (as amended, amended and restated, supplemented, waived or otherwise modified from time to time, the "~~ **~~Credit Agreement~~** ~~") among the Principal Borrower, the Guarantors referred to therein, the Eligible Subsidiaries referred to therein, the Lenders party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent. Terms defined in the Credit Agreement are used herein with the same meanings.~~

~~NOW, THEREFORE, the Administrative Agent and [__] in its capacity as a Parent Guarantor, hereby agree as follows:~~

~~1.~~ **~~Joinder as Guarantor~~** ~~. In accordance with Section [3.02(j)] / [5.11] of the Credit Agreement, [__] by its signature below becomes a Parent Guarantor under the Credit Agreement with the same force and effect as if originally named therein as a Parent Guarantor, but in any event subject to the same terms, provisions and limitations set forth in Article 10 of the Credit Agreement. [__] hereby agrees to all the terms and provisions of the Credit Agreement applicable to it as a Parent Guarantor. Each reference to a Parent Guarantor in the Credit Agreement shall be deemed to include [__].~~

~~2.~~ ~~[~~ **~~Joinder as Principal Borrower~~** ~~. Effective on the Transfer Date, TIFSA agrees to be bound as the Principal Borrower under the Credit Agreement with the same force and effect as if it were originally named therein as the Principal Borrower.] To be included in the Parent Guarantor Joinder Agreement for TIFSA only. [RESERVED] To be included in the Parent Guarantor Joinder Agreement for Parent Guarantors other than TIFSA.~~

~~3.~~ **~~Representations and Warranties~~** ~~. [__] represents and warrants that each of the representations and warranties set forth in the Credit Agreement and applicable to the undersigned is true in all material respects on and as of the date hereof, except to the extent any such representation and warranty (i) expressly relates to an earlier date in which case such representation and warranty shall be true and correct in all material respects as of such earlier date or (ii) is qualified by materiality, in which case such representation and warranty shall be true and correct in all respects.~~

~~4.~~ **~~Severability~~** ~~. Any provision of this Parent Guarantor Joinder Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.~~

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1 ~~To be included in the Parent Guarantor Joinder Agreement for TIFSA only.~~

2 ~~To be included in the Parent Guarantor Joinder Agreement for Parent Guarantors other than TIFSA.~~

~~5. **Counterparts** . This Parent Guarantor Joinder Agreement may be executed in counterparts, each of which shall constitute an original. Delivery of an executed signature page to this Parent Guarantor Joinder Agreement by facsimile or electronic transmission shall be as effective as delivery of a manually executed counterpart of this Parent Guarantor Joinder Agreement.~~

~~6. **No Waiver** . Except as expressly supplemented hereby, the Credit Agreement shall remain in full force and effect.~~

~~7. **Notices** . All notices, requests and demands to or upon [__], any Agent or any Lender shall be governed by the terms of Section 11.01 of the Credit Agreement.~~

~~8. **Governing Law** . THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.~~

~~9. [**Appointment of Process Agent** . [__] hereby irrevocably designates and appoints [NAME OF PROCESS AGENT], with offices at [ADDRESS OF PROCESS AGENT], as its authorized agent to accept and acknowledge on its behalf service of any and all process which may be served in any suit, action or proceeding of the nature referred to in Section 11.08 of the Credit Agreement. [__] represents and warrants that such agent has agreed in writing to accept such appointment and that a true copy of such designation and acceptance has been delivered to the Administrative Agent. If such agent shall cease so to act, [__] covenants and agrees to designate irrevocably and appoint without delay another such agent reasonably satisfactory to the Administrative Agent and to deliver promptly to the Administrative Agent evidence in writing of such other agent's acceptance of such appointment.] To be included in the Parent Guarantor Joinder Agreement for any Parent Guarantor that is organized outside of the United States.~~

[~~Signature Pages Follow]~~ RESERVED]

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3 ~~To be included in the Parent Guarantor Joinder Agreement for any Parent Guarantor that is organized outside of the United States.~~

~~IN WITNESS WHEREOF, the undersigned have caused this Parent Guarantor Joinder Agreement to be duly executed and delivered by their duly authorized officers as of the day and year first above written.~~

~~[]~~
~~By:~~ _____
~~Name:~~
~~Title:~~
~~JPMORGAN CHASE BANK, N.A., as Administrative Agent~~
~~By:~~ _____
~~Name:~~
~~Title:~~

EXHIBIT J
Form of Principal Borrower Joinder Agreement

PRINCIPAL BORROWER JOINDER AGREEMENT

Reference is made to the Credit Agreement, dated as of March 10, 2016 (as amended, amended and restated, supplemented, waived or otherwise modified from time to time, the " **Credit Agreement** ") among the Principal Borrower and the Guarantors referred to therein, the Eligible Subsidiaries referred to therein, the Lenders party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent. Terms defined in the Credit Agreement are used herein with the same meanings.

NOW, THEREFORE, the Administrative Agent and ~~TIFSA~~ the Parent in its capacity as a Principal Borrower, hereby agree as follows:

1. **Joinder as Principal Borrower** . In accordance with Section 3.03 of the Credit Agreement, ~~TIFSA~~ the Parent by its signature below becomes the Principal Borrower under the Credit Agreement with the same force and effect as if originally named therein as the Principal Borrower, but in any event subject to the same terms, provisions and limitations set forth in the Credit Agreement. ~~TIFSA~~ The Parent hereby agrees to all the terms and provisions of the Credit Agreement applicable to it as a Principal Borrower and a Guarantor. Each reference to a Principal Borrower in the Credit Agreement shall be deemed to be a reference to ~~TIFSA~~ the Parent on and after the Transfer Date.

2. **Appointment of Process Agent** . ~~TIFSA~~ The Parent has irrevocably designated and appointed [NAME OF PROCESS AGENT], with offices at [ADDRESS OF PROCESS AGENT], as its authorized agent to accept and acknowledge on its behalf service of any and all process which may be served in any suit, action or proceeding of the nature referred to in Section 11.08 of the Credit Agreement. If such agent shall cease so to act, ~~TIFSA~~ the Parent covenants and agrees to designate irrevocably and appoint without delay another such agent reasonably satisfactory to the Administrative Agent and to deliver promptly to the Administrative Agent evidence in writing of such other agent's acceptance of such appointment.

3. **Severability** . Any provision of this Principal Borrower Joinder Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable such provision in any other jurisdiction.

4. **Counterparts** . This Principal Borrower Joinder Agreement may be executed in counterparts, each of which shall constitute an original. Delivery of an executed signature page to this Principal Borrower Joinder Agreement by facsimile or electronic transmission shall be as effective as delivery of a manually executed counterpart of this Principal Borrower Joinder Agreement.

5. **No Waiver** . Except as expressly supplemented hereby, the Credit Agreement shall remain in full force and effect.

6. **Notices** . All notices, requests and demands to or upon ~~TIFSA~~ the Parent , any Agent or any Lender shall be governed by the terms of Section 11.01 of the Credit Agreement.

7. **Governing Law** . THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

[Signature Pages Follow]

IN WITNESS WHEREOF, the undersigned have caused this Principal Borrower Joinder Agreement to be duly executed and delivered by their duly authorized officers as of the day and year first above written.

~~TYCO~~ JOHNSON CONTROLS INTERNATIONAL ~~FINANCE S.A.~~ PLC , as Principal Borrower

By: _____

Name:

Title:

JPMORGAN CHASE BANK, N.A., as Administrative Agent

By: _____

Name:

Title:

EXHIBIT 12.1

JOHNSON CONTROLS INTERNATIONAL PLC

RATIO OF EARNINGS TO FIXED CHARGES

The following table shows our ratio of earnings to fixed charges for the fiscal years ended September 30, 2017 , 2016 , 2015 , 2014 and 2013 .

	Year Ended September 30,				
(Dollars in millions)	**2017**	**2016**	**2015**	**2014**	**2013**
Income from continuing operations attributable to Johnson Controls	$ 1,654	$ 732	$ 814	$ 906	$ 1,146
Income tax provision	705	197	71	93	468
Income attributable to noncontrolling interests	199	132	46	38	44
Income from equity affiliates	(240)	(174)	(80)	(110)	(96)
Distributed income of equity affiliates	78	78	38	28	62
Amortization of previously capitalized interest	14	12	10	9	6
Fixed charges less capitalized interest	637	387	356	315	330
Earnings	$ 3,047	$ 1,364	$ 1,255	$ 1,279	$ 1,960
Fixed charges:					
Interest incurred and amortization of debt expense	$ 500	$ 310	$ 302	$ 268	$ 293
Estimated portion of interest in rent expense	164	94	77	75	79
Fixed charges	$ 664	$ 404	$ 379	$ 343	$ 372
Less: Interest capitalized during the period	(27)	(17)	(23)	(28)	(42)
Fixed charges less capitalized interest	$ 637	$ 387	$ 356	$ 315	$ 330
Ratio of earnings to fixed charges	4.6	3.4	3.3	3.7	5.3

For the purposes of computing this ratio, "earnings" consist of net income attributable to Johnson Controls from continuing operations before income taxes, income attributable to noncontrolling interests and income from equity affiliates plus (a) amortization of previously capitalized interest, (b) distributed income from equity affiliates and (c) fixed charges, minus interest capitalized during the period. "Fixed charges" consist of (i) interest incurred and amortization of debt expense plus (ii) the portion of rent expense representative of the interest factor.

EXHIBIT 21.1

JOHNSON CONTROLS INTERNATIONAL PLC

The following is a list of significant subsidiaries of Johnson Controls International plc, as defined by Section 1.02(w) of Regulation S-X, as of September 30, 2017.

Name of Company	Jurisdiction Where Subsidiary is Incorporated
Johnson Controls Battery Group	Wisconsin, U.S.A.
Johnson Controls Inc.	Wisconsin, U.S.A.
Tyco International Management Company, LLC	Nebraska, U.S.A.

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 and Form S-8 listed below of Johnson Controls International plc of our report dated November 21, 2017 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

1. Registration Statement on Post-Effective Amendment Form S-8 to Form S-4 (Registration No. 333-210588)
2. Registration Statement on Form S-8 (Registration No. 333-213508)
3. Registration Statement on Form S-8 (Registration No. 333-200320)
4. Registration Statement on Form S-8 (Registration No. 333-185004)
5. Registration Statement on Form S-8 (Registration No. 333-113943)
6. Registration Statement on Form S-3 (Registration No. 333-215863)

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
Milwaukee, Wisconsin
November 21, 2017

EXHIBIT 31.1

CERTIFICATIONS

I, George R. Oliver, of Johnson Controls International plc, certify that:

1. I have reviewed this annual report on Form 10-K of Johnson Controls International plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 21, 2017

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

EXHIBIT 31.2

CERTIFICATIONS

I, Brian J. Stief, of Johnson Controls International plc, certify that:

1. I have reviewed this annual report on Form 10-K of Johnson Controls International plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 21, 2017

/s/ Brian J. Stief

Brian J. Stief
Executive Vice President and
Chief Financial Officer

EXHIBIT 32.1

CERTIFICATION OF PERIODIC FINANCIAL REPORTS

We, George R. Oliver and Brian J. Stief, of Johnson Controls International plc, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. the Annual Report on Form 10-K for the year ended September 30, 2017 (Periodic Report) to which this statement is an exhibit fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and

2. information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of Johnson Controls International plc.

Date: November 21, 2017

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

/s/ Brian J. Stief

Brian J. Stief
Executive Vice President and Chief Financial Officer