JOHNSON CONTROLS INTERNATIONAL PLC

Annual Report

For the Year Ended September 30, 2022

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JOHNSON CONTROLS INTERNATIONAL PLC
DIRECTORS' REPORT
For the Financial Year Ended September 30, 2022

The directors present their report and the audited consolidated financial statements of Johnson Controls International plc and its subsidiaries (hereinafter referred to as "Johnson Controls" or the "Group") for the financial year ended September 30, 2022, which are set out on pages 50 to 115, and audited entity financial statements of Johnson Controls International plc ("Johnson Controls Ireland" or "the Company") for the financial year ended September 30, 2022, which are set out on pages 116 to 126.

The directors have elected to prepare the consolidated financial statements of the Group in accordance with Section 279 of the Companies Act 2014 (the "Act"), which provides that a true and fair view of the state of affairs and profit or loss may be given by preparing the financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"), as defined in Section 279 of the Act, to the extent that the use of those principles in the preparation of the financial statements does not contravene any provision of the Act or of any regulations made thereunder.

The directors have elected to prepare the Company financial statements in accordance with Financial Reporting Standard 102, "The Financial Reporting Standard applicable in the UK and Ireland" ("FRS 102"), together with the Companies Act 2014.

DIRECTORS' COMPLIANCE STATEMENT

The directors acknowledge that they are responsible for securing the Company’s compliance with its relevant obligations.

The directors confirm that the Group has:

1. Drawn up a compliance policy statement setting out the Company’s policies respecting compliance by the Group with its relevant obligations.

2. Put in place appropriate arrangements or structures that are designed to secure material compliance with the Company’s relevant obligations.

3. Conducted a review during the financial year ended September 30, 2022 of the arrangements and structures referred to at 2 above.

STATEMENT OF DIRECTORS' RESPONSIBILITIES

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

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

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

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

- select suitable accounting policies and then apply them consistently;
- make judgments and estimates that are reasonable and prudent;
- state that the consolidated financial statements of the Group comply with accounting principles generally accepted in the United States of America (U.S.) (U.S. GAAP) to the extent that it does not contravene Irish Company Law, and that the Company financial statements comply with accounting standards issued by the UK Financial Reporting Council and Irish Law; and
- prepare the Group and Company financial statements on a going concern basis unless it is inappropriate to presume that the Group and Company will continue in business.

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

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

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

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

ACCOUNTING RECORDS

The measures that the directors have taken to secure compliance with the requirements of Sections 281 to 285 of the Companies Act 2014 with regards to the keeping of accounting records, are the employment of appropriately qualified accounting personnel and the maintenance of computerized accounting systems. In accordance with Section 283 of the Companies Act 2014, sufficient books of account are maintained in the Group's registered office in One Albert Quay, Cork, Ireland and at the Group's office at 5757 N Green Bay Ave, Milwaukee, WI 53209, USA to disclose, with reasonable accuracy, the financial position of the Group at intervals not exceeding six months.

BASIS OF PRESENTATION

The accompanying financial statements have been prepared in United States dollars and reflect the consolidated operations of the Group. Unless otherwise indicated, references to 2022 and 2021 are to Johnson Control's financial years ending September 30, 2022 ("fiscal 2022") and 2021 ("fiscal 2021"), respectively.

PRINCIPAL ACTIVITIES

Johnson Controls International plc, headquartered in Cork, Ireland, is a global leader in smart, healthy and sustainable buildings, serving a wide range of customers in more than 150 countries. the Group’s products, services, systems and solutions advance the safety, comfort and intelligence of spaces to serve people, places and the planet. the Group is committed to helping its customers win and creating greater value for all of its stakeholders through its strategic focus on buildings.

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 and was renamed Johnson Controls, Inc. in 1974. In 2005, Johnson Controls acquired York International, a global supplier of heating, ventilating, air-conditioning ("HVAC") and refrigeration equipment and services. In 2014, Johnson Controls acquired Air Distribution Technologies, Inc., one of the largest independent providers of air distribution and ventilation products in North America. In 2015, Johnson Controls formed a joint venture with Hitachi to expand its building related product offerings. In 2016, Johnson Controls, Inc. and Tyco International plc ("Tyco") completed their combination (the "Merger"), combining Johnson Controls' portfolio of building efficiency solutions with Tyco’s portfolio of fire and security solutions. Following the Merger, Tyco changed its name to “Johnson Controls International plc.”

In 2016, the Group completed the spin-off of its automotive business into Adient plc, an independent, publicly traded company. In 2019, the Group closed the sale of its Power Solutions business, completing the Group’s transformation into a pure-play building technologies and solutions provider.

The Group is a global leader in engineering, manufacturing and commissioning building products and systems, including residential and commercial HVAC equipment, industrial refrigeration systems, controls, security systems, fire-detection systems and fire-suppression solutions. The Group further serves customers by providing technical services, including maintenance, management, repair, retrofit and replacement of equipment (in the HVAC, industrial refrigeration, security and fire-protection space), and energy-management consulting. In 2020, the Group launched its OpenBlue software platform, enabling enterprises to manage all aspects of their physical spaces by combining the Group's building products and services with cutting-edge technology and digital capabilities to enable data-driven “smart building” services and solutions. The Group partners with customers by leveraging its broad product portfolio and digital capabilities powered by OpenBlue, together with its direct channel service and solutions capabilities, to deliver outcome-based solutions across the lifecycle of a building that address customers’ needs to improve energy efficiency, enhance security, create healthy environments and reduce greenhouse gas emissions.

Business Segments

The Group conducts its business through four business segments: Building Solutions North America, Building Solutions EMEA/LA, Building Solutions Asia Pacific and Global Products.

Building Solutions North America: Building Solutions North America designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security and integrated fire-detection and suppression systems for commercial, industrial, retail, small business, institutional and governmental customers in the United States and Canada. Building Solutions North America also provides energy efficiency solutions and technical services, including inspection, scheduled maintenance, and repair and replacement of mechanical and controls systems, as well as data-driven “smart building” solutions, to non-residential building and industrial applications in the United States and Canadian marketplace.

Building Solutions EMEA/LA: Building Solutions EMEA/LA designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security, integrated fire-detection and suppression systems, and provides technical services, including data-driven “smart building” solutions, to markets in Europe, the Middle East, Africa and Latin America.

Building Solutions Asia Pacific: Building Solutions Asia Pacific designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security, integrated fire-detection and suppression systems, and provides technical services, including data-driven “smart building” solutions, in the Asia Pacific marketplace.

Global Products: Global Products designs, manufactures and sells HVAC equipment, controls software and software services for residential and commercial applications to commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. In addition, Global Products designs, manufactures and sells refrigeration equipment and controls globally. The Global Products business also designs, manufactures and sells fire protection, fire suppression and security products, including intrusion security, anti-theft devices, access control, and video surveillance and management systems, for commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. Global Products includes the Johnson Controls-Hitachi joint venture.

For more information on the Group’s segments, refer to Note 19, "Segment Information," of the notes to consolidated financial statements.

Products, Systems, Services and Solutions

The Group sells and installs its commercial HVAC equipment and systems, control systems, security systems, fire-detection and fire suppression systems, equipment and services primarily through its extensive direct channel, consisting of a global network of sales and service offices. Significant sales are also generated through global third-party channels, such as distributors of air-conditioning, controls, security and fire-detection and suppression products. The Group’s large base of current customers leads to significant repeat business for the maintenance, retrofit and replacement markets. The Group is also able to leverage its installed base to generate sales for its service business. Trusted building brands, such as YORK®, Hitachi Air Conditioning, *Metasys*®, Ansul, *Ruskin*®, Titus®, Frick®, PENN®, Sabroe®, Silent-Aire®, Simplex® and Grinnell®, together with the breadth and depth of the products, systems and solutions offered by the Group, give it what it believes to be the most diverse portfolio in the building technology industry.

The Group has developed software platforms, including on-premises platforms and cloud-based software services, and integrated its products and services with digital capabilities to provide data-driven solutions to create smarter, safer and more sustainable buildings. The Group's OpenBlue platform enables enterprises to manage all aspects of their physical spaces delivering sustainability, new occupant experiences, safety and security by combining the Group’s building expertise with cutting-edge technology, including AI-powered service solutions such as remote diagnostics, predictive maintenance, compliance monitoring and advanced risk assessments. The Group leverages its digital and data-driven products and services to offer integrated and customizable solutions focused on delivering outcomes to customers, including OpenBlue Buildings-as-a-Service, OpenBlue Net Zero Buildings-as-a-Service and OpenBlue Healthy Buildings. These services are generally designed to generate recurring revenue for the Group as it supports its customers in achieving their desired outcomes.

In fiscal 2022, approximately 37% of sales originated from product offerings, 39% of sales originated from installations and 24% of sales originated from service offerings.

Competition

The Group conducts its operations through a significant number 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 local, regional, national and international providers. Larger competitors include Honeywell International, Inc.; Siemens Smart Infrastructure, an operating group of Siemens AG; Schneider Electric SA; Carrier Global Corporation; Trane Technologies plc; Daikin Industries, Ltd.; Lennox International, Inc.; GC Midea Holding Co, Ltd. and Gree Electric Appliances, Inc. In addition, the Group competes in a highly fragmented building services market. The Group also faces competition from a diverse range of established companies, start-ups and other emerging entrants to the buildings industry in the areas of digital services, software as a service and the Internet of Things. The loss of any individual contract or customer would not have a material adverse effect on the Group.

Business Strategy

The Group’s business strategy is to sustain and expand its position as a leader in smart and sustainable building solutions by offering a full spectrum of products and solutions for customer buildings across the globe. The Group’s core strategy remains focused on creating growth platforms, driving operational improvements and creating a high-performance culture. The Group

has strong positions in attractive and growing end-markets across HVAC, controls, fire, security and services, enhanced by its comprehensive product portfolio and substantial installed base. The Group believes that it is well positioned to capitalize on the emerging and prevalent trends in the buildings industry, including sustainability, healthy buildings/indoor environmental quality and smart buildings. To capitalize on these trends, the Group remains focused on maintaining leading positions in commercial HVAC and building management systems, as well as enabling growth through digital, to develop and leverage new digital technologies and capabilities into outcomes powered by its OpenBlue software platform. In furtherance of these goals, the Group has three strategic priorities:

Capitalize on Key Growth Vectors: Sustainability, healthy buildings/indoor environmental quality and smart buildings represent key growth opportunities for the Group. The Group seeks to leverage its existing portfolio breadth and investments in product development, combined with the expansion of its digital products and capabilities powered by OpenBlue, to offer differentiated solutions and innovative deal structures to help customers achieve their objectives. The Group intends to expand its capabilities by investing in products and technologies, as well as expanding its partnerships, to power innovation that will allow it to provide differentiated services that are tailored to its customers' desired outcomes.

Accelerate in High Growth Digital Services, Regions and Verticals: The Group is focused on transforming its large service business through its digital technologies, further enabled by the Group's installed base, domain expertise and global coverage. The Group is focused on developing and deploying connected equipment, systems and controls that will support the provision of digital services and solutions. The Group further intends to expand its presence in high growth regions and invest in high growth verticals within the markets it serves, including healthcare, commercial offices/campus, education and data centers.

Sustain a High-Performance, Customer-Centric Culture: The Group recognizes that developing talent and creating positive customer experiences is central to accomplishing its business strategies. The Group is investing in its talent to build a diverse workforce that is digital capable, solutions oriented and focused on continuous learning and growth. The Group aims to leverage its talent capabilities and training to create a customer-focused culture to drive customer loyalty and decisions.

To realize these priorities, the Group is leveraging its technology leadership, comprehensive product portfolio, global presence, substantial installed base and strong channels to monetize the lifecycle opportunities of install, service, retrofit and replacement which are established and delivered by the Group's direct field businesses and third-party channels across the globe. The Group is augmenting its strategic priorities with disciplined execution, productivity enhancements and sustainable cost management to create a path to realize expanded margins and enhanced profitability.

Backlog

The Group's backlog is applicable to its sales of systems and services. At September 30, 2022, the backlog was $11.7 billion, of which $11.1 billion was attributable to the field business. 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.

At September 30, 2022, remaining performance obligations were $17.5 billion, which is $5.8 billion higher than the Group's backlog of $11.7 billion. Differences between the Group's remaining performance obligations and backlog are primarily due to the following:

- Remaining performance obligations include large, multi-purpose contracts to construct hospitals, schools and other governmental buildings, which are services to be performed over the building's lifetime with average initial contract terms of 25 to 35 years for the entire term of the contract versus backlog which includes only the lifecycle period of these contracts which approximates five years;
- Remaining performance obligations exclude certain customer contracts with a term of one year or less and contracts that are cancelable without substantial penalty versus backlog which includes short-term and cancelable contracts; and
- Remaining performance obligations include the full remaining term of service contracts with substantial termination penalties versus backlog which includes one year for all outstanding service contracts.

The Group will continue to report backlog as it believes it is a useful measure of evaluating the Group's operational performance and relationship to total orders.

Raw Materials

Raw materials used by the Group's businesses in connection with their operations include steel, aluminum, brass, copper, polypropylene and certain flurochemicals used in fire suppression agents. The Group also uses semiconductors and other electronic components in the manufacture of its products. During fiscal 2022, the Group experienced material cost increases due to global inflation, supply chain disruptions, labor shortages, increased demand and other regulatory and macroeconomic factors. These trends had an unfavorable impact on the Group's results of operations in fiscal 2022. The Group believes that the macroeconomic trends experienced in fiscal 2022 will continue into fiscal 2023. Therefore, the Group could experience further disruptions, shortages and price inflation in the future, the effect of which will depend on the Group's ability to successfully mitigate and offset the impact of these events. In fiscal 2023, commodity prices and availability could fluctuate throughout the year and could significantly affect the Group's results of operations. For a more detailed description of the risks related to the availability of raw materials, components and commodities, see Principal Risks and Uncertainties.

Intellectual Property

Generally, the Group 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. From time to time, the Group takes action to protect its businesses by asserting its intellectual property rights against third-party infringers.

The Group 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 Group 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 Group, from time to time, grants licenses under its patents and technology and receives licenses under patents and technology of others.

The Group'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 Group are sold. The Group, from time to time, becomes involved in trademark licensing transactions.

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

Government Regulation and Supervision

The Group's operations are subject to numerous federal, state and local laws and regulations, both within and outside the United States, 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 Group operates have licensing laws directed specifically toward the alarm and fire suppression industries. The Group'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 Group's fire businesses. The Group's businesses may also be affected by changes in governmental regulation of refrigerants and energy efficiency standards, noise regulation and product safety regulations, including changes related to hydro fluorocarbons/emissions reduction efforts, energy conservation standards and the regulation of fluorinated gases. These and other laws and regulations impact the manner in which the Group conducts its business, and changes in legislation or government policies can affect the Group's worldwide operations, both favorably and unfavorably. For a more detailed description of the various laws and regulations that affect the Group's business, see Principal Risks and Uncertainties.

Regulatory Capital Expenditures

The Group's efforts to comply with numerous federal, state and local laws and regulations applicable to its business and products often results in capital expenditures. The Group makes capital expenditures to design and upgrade its fire and security products to comply with or exceed standards applicable to the alarm, fire suppression and security industries. The Group also makes capital expenditures to meet or exceed energy efficiency standards, including the regulation of refrigerants, hydro fluorocarbons/emissions reductions efforts and the regulation of fluorinated gasses, particularly with respect to the Group's HVAC products and solutions. The Group's ongoing environmental compliance program also results in capital expenditures. Regulatory and environmental considerations are a part of all significant capital expenditure decisions; however, expenditures in fiscal 2022 related solely to regulatory compliance were not material. It is management's expectation that the amount of any

future capital expenditures related to compliance with any individual regulation or grouping of related regulations will not have a material adverse effect on the Group's financial results or competitive position in any one year. See Note 21, "Commitments and Contingencies," of the notes to consolidated financial statements for further discussion of environmental matters.

Human Capital Management

Overview and Governance

The Company strives to continuously drive and develop its High-Performance Culture. The Company's High-Performance Culture represents the practices and behaviors, underpinned by the Company's values, that lead to sustained growth, winning results and satisfied customers.

The responsibility to develop and maintain a High-Performance Culture is owned, embedded and executed throughout the Company. The Chief Human Resources Officer ("CHRO") is responsible for establishing the Company's strategy to drive a High-Performance Culture and ensuring its execution across the Company. The Compensation and Talent Development Committee of the Board of Directors is the primary overseer of the Company's High-Performance Culture strategy and execution. The Chief Executive Officer ("CEO"), the CHRO, the Vice President of Diversity and Inclusion and other senior leaders within the Company are responsible for the execution of the strategy and engage with the Compensation and Talent Development Committee, the Governance and Sustainability Committee and the full Board of Directors on the critical components driving the Company's High-Performance Culture, including discussions of human capital trends, practices and operations, diversity and inclusion, health and safety, leadership development and succession planning. Key components driving the Company's High-Performance Culture include:

Health and Safety

Health and Wellness, Safety and Environment are the three pillars of the Company's Zero Harm vision. The Company's health and safety programs are designed around global standards with appropriate variations addressing multiple jurisdictions and regulations, specific hazards and unique working environments of the Company's manufacturing, service and install, and headquarter operations. In its continuous efforts to ensure the health, safety and well-being of its employees and workplaces, during fiscal 2022, the Company created new Zero Harm Well-Being and Zero Harm Sustainability Behaviors, each of them consisting of ten guiding principles to protect employees and the environment. In addition, the Company launched a vehicle telematics program to identify unsafe driving practices and further reduce the occurrence of motor vehicle accidents. Today, the Company's focus on employee well-being continues with the utilization of global and regional well-being councils, addressing physical, mental, social and financial aspects of employee well-being.

The Company requires each of its locations to perform regular safety audits to ensure proper safety policies, program procedures, analyses and training are in place. In addition, the Company engages an independent third-party conformity assessment and certification vendor to audit selected operations for adherence to its global health and safety standards. Safety culture and behavior-based safety initiatives have been deployed within the Company, including a multi-faceted policy focused on preventing distracted driving and the design and rollout of a new style of platform ladder built to provide a safe working platform for employees. One safety policy that applies to all employees around the globe, regardless of rank, is every individual worker's right to apply the "Stop Work" principle when uncertain about the health and safety of a particular task.

The Company utilizes a mixture of leading and lagging indicators to assess the health and safety performance of its operations. Lagging indicators include the OSHA Total Recordable Incident Rate ("TRIR") and the Lost Time (or Lost Workday) Incident Rate ("LTIR") based upon the number of incidents per 100 employees (or per 200,000 work hours). In fiscal 2022, the Company had a TRIR of 0.40 and a LTIR of 0.14.

Diversity and Inclusion

Diversity and inclusion are embedded throughout the Company's strategy to drive a High-Performance Culture. The Company recognizes that an inclusive culture that is diverse adds value to the Company and its customers through: the creation and delivery of innovative and outstanding products, services and outcomes; the cultivation of an engaged and empowered environment where employee productivity drives company growth; and the onboarding of high-performing talent into the organization to propel the Company's transformation and future. The Company believes that all employees and leaders are responsible for creating a diverse and inclusive workplace. Employees are empowered to take an active role in creating a culture that values uniqueness, celebrates creativity and drives innovation. The Company places a high value on inclusion, engaging employees in Business Resource Groups ("BRGs") — employee-led voluntary organizations of people with similar interests, experiences, or demographic characteristics. The Company maintains its BRG chapters worldwide across nine categories: African American, Asia Pacific, LGBTQ+, Emerging Leaders, Hispanic, Disabilities, Veterans, Women and Sustainability. The Company uses these groups to serve as a source of inclusion and to support the acquisition and development of diverse talent internally and externally. Each BRG is open to all employees and sponsored and supported by senior leaders across the enterprise. The Company's BRG structure includes monthly learning series, an active recruitment platform, an

innovation hub, and community engagement. In fiscal 2022, the Company continued to realize meaningful growth in BRG membership.

The Company has implemented several measures that focus on ensuring accountabilities exist for making progress in diversity:

- **Diversity Performance Goals:** The CEO and other senior leaders have diversity and inclusion objectives in their annual performance goals.

- **Attracting Diverse Talent:** The Company commits to having a diverse talent pipeline by partnering with its business units in their workforce planning forecasts, as well as external organizations, to develop initiatives and goals to recruit diverse talent across all leadership and skill areas. In furtherance of this commitment, the Company continues to enhance its Future Leaders Internship Program, an enterprise-wide internship program designed to build a sustainable, diverse pipeline of talent with the critical skills needed to support the Company's growth initiatives.

- **Facilitating Engagement:** The Company launched the Perspectives Listening Series to facilitate honest, courageous and authentic conversations between colleagues on topics that are relevant and important to employees, communities and society as a whole. Topics covered include next generation leadership, gender equality, the social justice movement and fatherhood.

Talent Development

To maintain a High-Performance Culture, the Company must ensure the continued development and advancement of its people. Strategic talent reviews and succession planning occur on a planned cadence annually – globally and across all business areas. The Company continues to provide opportunities for the Company's employees to grow their careers, with approximately half of open management positions filled internally during fiscal year 2022.

The Company believes that high performance is an outcome of a person's ability to change, adapt, and grow their capabilities throughout their career. The Company emphasizes real-life, real-time learning that enables a person to meet the demands of challenging and changing work and focuses on reinforcing key principles that are designed to support an individual's effectiveness in his or her current job and in their future development. The Company provides technical and leadership training to employees, customers and suppliers who work for or with the Company's products and services. In particular, the Company's focus on employee development has been structured over the last several years through programs designed to imbed essential skills and reinforce strategic goals that are aligned to the Company's culture, including:

- **Digital Transformation:** In support of Company's growth strategy, the Company is investing in developing digital leadership with personalized and targeted training programs designed to create digitally capable leaders, salespersons and technicians.

- **Diversity and Inclusion:** The Company has developed a structured diversity and inclusion training continuum across the levels and stages of individuals' careers to develop and align employees with the Company's diversity and inclusion strategy and values.

- **Organizational Health:** The Company regularly assesses its progress using an Organizational Health Index survey and develops annual health plans comprised of priority initiatives to drive key behaviors and practices that is informed by the survey's results. These plans are specifically tailored for each business unit and regularly assessed during the year, with managers accountable for introducing and teaching new skills or toolsets to their teams.

In fiscal 2022, the Company offered a robust curriculum of over 232,000 learning activities available to employees, consisting of videos, courses, e-learning, documentation, articles and books, including over 4,000 active (in person or virtual) learning courses. In fiscal 2022, over 1.25 million learning activities were completed by approximately 93,000 employees. The total learning hours consumed by employees was 1.02 million hours, averaging almost 11 hours per employee including time invested in formal learning and standard time invested in self-paced reading or video consumption.

Employee Population and Demographics

As of September 30, 2022, the Company employed approximately 102,000 people worldwide, of which approximately 38,000 were employed in the United States and approximately 64,000 were outside the United States. Approximately 22,000 employees are covered by collective bargaining agreements or works councils and the Company believes that its relations with its labor unions are generally positive.

Employee Diversity as of September 30, 2022

Employees	Male	Female	Minority [1]
Total	76%	24%	30%
Managers	80%	20%	21%

[1] Male and female data represents all employees globally. Minority data represents U.S. employees only.

Seasonal Factors

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

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. The Company has committed to invest a substantial portion of its new product research and development in climate-related innovation to develop sustainable products and services. The Company invests in enhancements to the capabilities of its product lines and services to support its strategy, meet consumer preferences and achieve regulatory compliance. This includes investments in the development of the Company’s OpenBlue platform and related service offerings, digital product capabilities, energy efficiency and low GWP refrigerants and technology.

PRINCIPAL RISKS AND UNCERTAINTIES

Provided below is a cautionary discussion of what we believe to be the most important risk factors applicable to the Group. Discussion of these factors is incorporated by reference into and considered an integral part of this report. The disclosure of a risk should not be interpreted to imply that such risk has not already materialized. Additional risks not currently known to the Group or that the Group currently believes are immaterial may also impair the Group’s business, financial condition, results of operations and cash flows.

Risks Related to Macroeconomic and Political Conditions

Economic, political, credit and capital market conditions could adversely affect our financial performance, our ability to grow or sustain our business and our ability to access the capital markets.

We compete around the world in various geographic regions and product markets. Global economic and political conditions affect each of our primary businesses and the businesses of our customers and suppliers. Recessions, economic downturns, price instability, inflation, slowing economic growth and social and political instability 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 business. For example, current macroeconomic and political instability caused by the conflict between Russia and Ukraine, global supply chain disruptions, inflation and the strengthening of the U.S. dollar, have and could continue to adversely impact our results of operations. Other potential consequences arising from the Russia/Ukraine conflict and its effect on our business and results of operations as well as the global economy, cannot be predicted. This may include further sanctions, embargoes, regional instability, geopolitical shifts, energy instability, potential retaliatory action by the Russian government, increased cybersecurity attacks, increased tensions among countries in which we operate.

The capital and credit markets provide us with liquidity to operate and grow our business 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.

If we are unable to adequately react to negative economic impacts that decrease demand for our products and services and/or negative movements in capital markets our results of operations, financial condition or liquidity 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 and increases in prevailing interest rates could lead to significant reductions in the demand for and availability of project financing, even in markets where demand may otherwise be sufficient to support new construction. These factors could in turn temper demand for new HVAC, fire detection and suppression and security installations.

Levels of industrial capital expenditures for facility expansions and maintenance are dependent on general economic conditions, economic conditions within specific industries we serve, expectations of future market behavior and available financing. The businesses of many of our industrial customers are to varying degrees cyclical and have experienced periodic downturns. During such economic downturns, customers in these industries tend 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, component and commodity prices, commodity and component availability and fluctuating demand forecasts, as our customers may be more conservative in their capital planning, which may reduce demand for our products and services as projects are postponed or cancelled. Although our industrial customers tend to be less dependent on project financing than real estate developers, increases in prevailing interest rates or 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 inside and 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 or stagnant 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.

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, our ability to adjust for changes in certain commodity prices is limited. 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.

We have experienced, and expect to continue to experience, increased commodity costs as a result of global macroeconomic trends, including global price inflation, supply chain disruption and the Russia/Ukraine conflict. While we have taken action to offset increasing commodity costs as described above, we have nonetheless experienced negative impacts on profitability as a result of such increased costs. Continued increases in commodity costs could negatively impact our results of operations to the extent we are unable to successfully mitigate and offset the impact of increased costs.

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 and geopolitical uncertainty in any 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. During 2022, we experienced a reduction in revenue and profits as a result of the significant strengthening of the U.S. dollar against foreign currencies. The continued strength of the U.S. dollar could continue to adversely impact our revenue and profit in non-U.S. jurisdictions.

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; the ability to enforce rights, collect revenues and protect assets in foreign jurisdictions; protectionist measures that may prohibit acquisitions or joint ventures, or impact trade volumes; unsettled or unstable political conditions; international conflict; 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 business and results of operations.

Impacts related to the COVID-19 pandemic could have an adverse effect on our business, financial condition, results of operations and cash flows.

The COVID-19 global pandemic created significant volatility, uncertainty and economic disruption. In response to the challenges presented by COVID-19, we modified our business practices and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers, partners and suppliers. These actions, may cause us to experience increases in costs, reductions in productivity and disruptions to our business routines.

Vaccine mandates and testing requirements have been implemented in some jurisdictions where we operate. In addition, a number of our customers have issued vaccine requirements with respect to our employees who provide on-site service at customer facilities. Our efforts to comply with these or other mandates could result in increased labor attrition and disruption, as well as difficulty securing future labor needs, and could materially impact our ability to deliver services to our customers, which could in turn adversely impact our results of operations.

We may also experience impacts from market forces and changes in consumer behavior related to pandemic fears as a result of COVID-19. Challenges in achieving sufficient vaccination levels and the introduction of new variants of COVID-19 have and could continue to negatively impact our results of operations due to the extension or reinstitution of lockdowns and similar restrictive measures, limited access to customer sites to perform installation and service work, the delay or abandonment of projects on which we provide products and/or services, and the general adverse impacts on demand and sales volumes from industries that are sensitive to economic downturns and volatility in commodity prices. For example, the Group has experienced, and could continue to experience, disruptions to its business in China due to the application of lockdowns and other restrictive measures under China's "zero-COVID" policy. Further, the COVID-19 pandemic could result in permanent changes in the behaviors of our customers, including the increased prevalence of remote work and a corresponding decline in demand for the construction and maintenance of commercial buildings. Any of these impacts could adversely affect our results of operations.

The extent to which the COVID-19 pandemic continues to impact our results of operations and financial condition will depend on future developments that are highly uncertain and cannot be predicted, including the resurgence of COVID-19 and its variants, the effectiveness of COVID-19 vaccines and the speed at which populations are vaccinated, impacts on economic activity and regulatory actions taken to mitigate the impacts of COVID-19. The impact of COVID-19 may also exacerbate other risks discussed in Principal Risks and Uncertainties.

<u>Risks Related to Our Business Operations</u>

The ability of suppliers to deliver raw materials, parts and components to our manufacturing facilities, and our ability to manufacture and deliver services without disruption, could affect our results of operations.

We use a wide range of materials (primarily steel, copper and aluminum) and components (including semiconductors and other electronic components) in the global production of our products, which come from numerous suppliers around the world. Because not all of our business arrangements provide for guaranteed supply and some key parts may be available only from a single supplier or a limited group of suppliers, we are subject to supply and pricing risk. Our operations and those of our suppliers are subject to disruption for a variety of reasons, including supplier plant shutdowns or slowdowns, transportation delays, work stoppages, labor relations, labor shortages, global geopolitical instability, price inflation, governmental regulatory and enforcement actions, intellectual property claims against suppliers, financial issues such as supplier bankruptcy, information technology failures, and hazards such as fire, earthquakes, flooding, or other natural disasters. For example, we expect to continue to be impacted by the following supply chain issues, due to economic, political and other factors largely beyond our control: increased input material costs and component shortages; supply chain disruptions and delays and cost inflation, all of which could continue or escalate in the future. In addition, some of our subcontractors have also experienced supply chain and labor disruptions, which have continued to impact our ability to timely complete projects and convert our backlog. Such disruptions have and could continue to interrupt our ability to manufacture or obtain certain products and components, thereby adversely impacting our ability to provide products to customers, convert our backlog into revenue and realize expected profit margins. Any significant disruption could materially and adversely affect our business, financial condition, results of operations and cash flows.

Material supply shortages and delays in deliveries, along with other factors such as price inflation, can also result in increased pricing. While many of our customers permit quarterly or other periodic adjustments to pricing based on changes in component prices and other factors, we may bear the risk of price increases that occur between any such repricing or, if such repricing is not permitted, during the balance of the term of the particular customer contract. The inability to timely convert our backlog due to supply chain disruptions subjects us to pricing risk due to cost inflation occurring between the generation of backlog and its conversion into revenue. If we are unable to effectively manage the impacts of price inflation and timely convert our backlog, our results of operations, financial condition and cash flows could materially and adversely be affected.

Our future growth is dependent upon our ability to develop or acquire new products and 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, services and technologies 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. We must also attract, develop and retain individuals with the requisite technical expertise and understanding of customers' needs to develop new technologies and introduce new products, particularly as we increase investment in our digital services and solutions business and our OpenBlue software platform. The laws and regulations applicable to our products, and our customers' product and service needs, change from time to time, and regulatory changes may render our products and technologies noncompliant. We must also monitor disruptive technologies and business models. In addition, the markets for our products, services and technologies may not develop or grow as we anticipate. The failure of our technology, products or services to gain market acceptance due to more attractive offerings by our competitors, the introduction of new competitors to the market with new or innovative product offerings or the failure to address any of the above factors 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.

Cybersecurity incidents impacting our IT systems and digital products could disrupt business operations, result in the loss of critical and confidential information, and adversely impact our reputation and results of 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. In addition, we are relying on our IT infrastructure to support our employees' ability to work remotely. If we experience a problem with the functioning of an important IT system as a result of increased burdens placed on our IT infrastructure or a security breach of our IT systems, the resulting disruptions could have an adverse effect on our business.

Global cybersecurity threats and incidents can range from uncoordinated individual attempts to gain unauthorized access to IT systems to sophisticated and targeted measures known as advanced persistent threats directed at the Group, its products, its customers and/or its third-party service providers, including cloud providers. These threats and incidents originate from many sources globally and include malwares that take the form of computer viruses, ransomware, worms, Trojan horses, spyware, adware, scareware, rogue software, and programs that act against the computer user. While we have experienced, and expect to continue to experience, these types of threats and incidents, none of them to date has been material to the Group. Our customers, including the U.S. government, are increasingly requiring cybersecurity protections and mandating cybersecurity standards in our products, and we may incur additional costs to comply with such demands. We seek to deploy comprehensive measures to deter, prevent, detect, respond to and mitigate these threats, including identity and access controls, data protection, vulnerability assessments, product software designs which we believe are less susceptible to cyber-attacks, continuous monitoring of our IT networks and systems, maintenance of backup and protective systems and the incorporation of cybersecurity design throughout the lifecycle of our products. Despite these efforts, cybersecurity incidents, depending on their nature and scope, could potentially result in the misappropriation, destruction, corruption or unavailability of critical data and confidential or proprietary information (our own or that of third parties) and the disruption of business operations. Such incidents could remain undetected for an extended period of time, and the losses arising from such incidents could exceed our available insurance coverage for such matters.

An increasing number of our products, services and technologies, including our OpenBlue software platform, are delivered with digital capabilities and accompanying interconnected device networks, which include sensors, data, building management systems and advanced computing and analytics capabilities. If we are unable to manage the lifecycle cybersecurity risk in development, deployment and operation of our digital platforms and services, they could become susceptible to cybersecurity incidents and lead to third-party claims that our product failures have caused damages to our customers. This risk is enhanced by the increasingly connected nature of our products and the role they play in managing building systems.

The potential consequences of a material cybersecurity incident include financial loss, reputational damage, adverse health, safety, and environmental consequences, exposure to legal claims or enforcement actions, theft of intellectual property, fines levied by the Federal Trade Commission or other governmental organizations, diminution in the value of our investment in research, development and engineering, and increased cybersecurity protection and remediation costs, which in turn could materially and adversely affect our competitiveness and results of operations.

Data privacy, identity protection and information security compliance may require significant resources and presents certain risks.

We collect, store, have access to and otherwise process certain confidential or sensitive data, including proprietary business information, personal data or other information that is subject to privacy and security laws, regulations and/or customer-imposed controls. Despite our efforts to protect such data, our business and our products may be vulnerable to material security breaches, theft, misplaced or lost data, programming errors, or errors that could potentially lead to compromising such data, improper use of our products, systems, software solutions or networks, unauthorized access, use, disclosure, modification or destruction of information, defective products, production downtimes and operational disruptions. A significant actual or perceived risk of theft, loss, fraudulent use or misuse of customer, employee or other data, whether by us, our suppliers, channel partners, customers or other third parties, as a result of employee error or malfeasance, or as a result of the imaging, software, security and other products we incorporate into our products, as well as non-compliance with applicable industry standards or our contractual or other legal obligations or privacy and information security policies regarding such data, could result in costs, fines, litigation or regulatory actions, or could lead customers to select the products and services of our competitors. Any such event could harm our reputation, cause unfavorable publicity or otherwise adversely affect certain potential customers' perception of the security and reliability of our services as well as our credibility and reputation, which could result in lost sales. In addition, we operate in an environment in which there are different and potentially conflicting data privacy laws in effect in the various U.S. states and foreign jurisdictions in which we operate and we must understand and comply with each law and

standard in each of these jurisdictions while ensuring the data is secure. For example, proposed regulations restricting the use of biometric security technology could impact the products and solutions offered by our security business. Government enforcement actions can be costly and interrupt the regular operation of our business, and violations of data privacy laws can result in fines, reputational damage and civil lawsuits, any of which may adversely affect our business, reputation and financial statements.

Failure to increase organizational effectiveness through organizational improvements may reduce our profitability or adversely impact our business.

Our results of operations, financial condition and cash flows are dependent upon our ability to drive organizational improvement. We seek to drive improvements through a variety of actions, including integration activities, digital transformation, business portfolio reviews, productivity initiatives, functionalization, executive management changes, and business and operating model assessments. Risks associated with these actions include delays in execution, additional unexpected costs, realization of fewer than estimated productivity improvements, and adverse effects on employee morale. We may not realize the full operational or financial benefits we expect, the recognition of these benefits may be delayed, and these actions may potentially disrupt our operations. In addition, our failure to effectively manage organizational changes may lead to increased attrition and harm our ability to attract and retain key talent.

Infringement or expiration of our intellectual property rights, or allegations that we have infringed upon 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 or theft 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. From time to time we resort to litigation to protect our intellectual property rights. Such proceedings can 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. 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.

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, we rely 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 us. 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 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 high-performance, customer-centric and diverse management team and workforce. Continuous efficient and timely customer service, customer support and customer intimacy are essential to enabling customer loyalty and driving our financial results. Our growth strategies require that we pivot to new talent capability investments and build the workforce of the future, with an emphasis on developing skills in digital and consultative, outcome-based selling. Failure to ensure that we have the leadership and talent capacity with the necessary skillset and experience could impede our ability to deliver our growth objectives, execute our strategic plan and effectively transition our leadership. Any unplanned turnover or inability to attract and retain key employees could have a negative effect on our results of operations.

Our ability to convert backlog into revenue requires us to maintain a labor force that is sufficiently large enough to support our manufacturing operations to meet customer demand, as well as provide on-site services and project support for our customers. This includes recruiting, hiring and retaining skilled trade workers to support our direct channel field businesses. Recently, we have experienced the impacts of shortages for both skilled and unskilled labor. While we have taken measures to mitigate the impact of these shortages, we can provide no assurance that such efforts will be successful. The impacts of labor shortages could limit our ability to convert backlog into revenue and negatively impact our results of operations.

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, climate change, cybersecurity breaches, power outages, fires, explosions, terrorism, sabotage, adverse weather conditions, public health crises (including COVID-19 related shutdowns), labor disputes, labor shortages or other reasons, we may be unable to effectively respond to alarm signals, fill customer orders, convert our backlog and otherwise meet obligations to or demand from our customers, which could adversely affect our financial performance. For example, during the COVID-19 pandemic, we experienced disruptions in certain of our manufacturing facilities resulting from government-mandated shutdowns and labor shortages. The continuation or recurrence of either of these trends could adversely affect our financial performance.

Interruptions to 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 flows.

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

We employ approximately 102,000 people worldwide. Approximately 22% of these employees are covered by collective bargaining agreements or works councils. 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 councils, 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. Work stoppages by employees of our customers could also result in reduced demand for our products.

Risks Related to Government Regulations

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. 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, laws regulating the foreign ownership of assets, and laws governing certain materials that may be in our products. 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.

Existing free trade laws and regulations, provide certain beneficial duties and tariffs for qualifying imports and exports, subject to compliance with the applicable classification and other requirements. Changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture products or from where we import products or raw materials (either directly or through our suppliers) could have an impact on our competitive position, business and financial results. For example, the U.S., China and other countries continue to implement restrictive trade actions, including tariffs, export controls, sanctions, legislation favoring domestic investment and other actions impacting the import and export of goods, foreign investment and foreign operations in jurisdictions in which we operate. Additional measures imposed by such countries on a broader range of imports or economic activity, or retaliatory trade measures taken by other countries in response, could increase the cost of our products, create disruptions to our supply chain and impair our ability to effectively operate and compete in such countries.

We are also subject to a complex network of tax laws and tax treaties that impact our effective tax rate. For more information on risks related to tax regulation, see "Risks Related to Tax Matters" below.

We cannot predict the nature, scope or effect of future regulatory requirements to which our operations might be subject or the manner in which existing laws might be administered or interpreted.

Global climate change and related regulations could negatively affect our business.

The effects of climate change create financial risks to our business. For example, the effects of climate change could disrupt our operations by impacting the availability and cost of materials needed for manufacturing, exacerbate existing risks to our supply chain and 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. We could also face indirect financial risks passed through the supply chain and disruptions that could result in increased prices for our products and the resources needed to produce them.

Increased public awareness and concern regarding global climate change has resulted in more regulations designed to reduce greenhouse gas emissions. These regulations tend to be implemented under global, national and sub-national climate objectives or policies, and target the global warming potential ("GWP") of refrigerants, equipment energy efficiency, and the combustion of fossil fuels as a heating source. Many of our products consume energy and use refrigerants. Regulations which seek to reduce greenhouse gas emissions present a risk to our global products business, predominantly our HVAC business, if we do not adequately prepare our product portfolio. As a result, we may be required to make increased research and development and other capital expenditures to improve our product portfolio in order to meet new regulations and standards. Further, our customers and the markets we serve may impose emissions or other environmental standards through regulation, market-based emissions policies or consumer preference that we may not be able to timely meet due to the required level of capital investment or technological advancement. While we have been committed to continuous improvements to our product portfolio to meet and exceed anticipated regulations and preferences, there can be no assurance that our commitments will be successful, that our products will be accepted by the market, that proposed regulation or deregulation will not have a negative competitive impact or that economic returns will reflect our investments in new product development.

We are subject to emerging and competing climate regulations. There continues to be a lack of consistent climate legislation, which creates economic and regulatory uncertainty. Such regulatory uncertainty extends to incentives, which if discontinued, could adversely impact the demand for energy efficient buildings, and could increase costs of compliance. These factors may impact the demand for our products, obsolescence of our products and our results of operations.

As of the date of this filing, we have made several public commitments regarding our intended reduction of carbon emissions, including commitments to achieve net zero carbon emissions by 2040 and the establishment of science-based targets to reduce

carbon emissions from our operations and the operations of our customers. Although we intend to meet these commitments, we may be required to expend significant resources to do so, which could increase our operational costs. Further, there can be no assurance of the extent to which any of our commitments will be achieved, or that any future investments we make in furtherance of achieving such targets and goals will meet investor expectations or any binding or non-binding legal standards regarding sustainability performance. Moreover, we may determine that it is in the best interest of our company and our shareholders to prioritize other business, social, governance or sustainable investments over the achievement of our current commitments based on economic, regulatory and social factors, business strategy or pressure from investors, activist groups or other stakeholders. If we are unable to meet these commitments, then we could incur adverse publicity and reaction from investors, activist groups and other stakeholders, which could adversely impact the perception of our brand and our products and services by current and potential customers, as well as investors, which could in turn adversely impact our results of operations.

We are subject to requirements relating to environmental and safety regulations and environmental remediation matters 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. 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. For example, proposed federal, state and European Union legislative action concerning the use and clean-up of fire-fighting foam products, including the United States Environmental Protection Agency's proposal to designate perfluorooctane sulfonate ("PFOS") and perfluorooctanoic acid ("PFOA") as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act, could negatively impact our fire-fighting business and our results of operations, thereby enhancing the risks to our business described under "Potential liability for environmental contamination could result in substantial costs" below.

Federal, state and local authorities also regulate a variety of matters, including, but not limited to, health, safety laws governing employee injuries, and permitting requirements in addition to the environmental matters discussed above. If we are unable to adequately comply with applicable health and safety regulations and provide our employees with a safe working environment, we may be subject to litigation and regulatory action, in addition to negatively impacting our ability to attract and retain talented employees. New legislation and regulations may require us to make material changes to our operations, resulting in significant increases to the cost of production. Additionally, violations of environmental, health and safety laws are subject to civil, and, in some cases, criminal sanctions. As a result of these various uncertainties, we may incur unexpected interruptions to operations, fines, penalties or other reductions in income which could adversely impact our business, financial condition and results of operations.

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. 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 preclude 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 will investigate the allegations and may engage outside counsel to 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, financial condition, results of operations and cash flows. 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, which also could have a material adverse effect on our reputation, 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. federal, state and local governments subjects us to certain particular 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 our results of operations. In addition, various U.S. federal and state legislative proposals have been made in the past 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.

Risks Related to Litigation

Potential liability for environmental contamination could result in substantial costs.

We have projects underway at multiple current and former manufacturing and testing facilities to investigate and remediate environmental contamination resulting from past operations by us or by other businesses that previously owned or used the properties, including our Fire Technology Center and Stanton Street manufacturing facility located in Marinette, Wisconsin. These projects relate to a variety of activities, including arsenic, solvent, oil, metal, lead, PFOS, PFOA and/or other per- and polyfluorinated substances ("PFAS") 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 and resolve outstanding litigation could be considerably higher than the current accrued liability on our consolidated statement of financial position, which could have a material adverse effect on our business, results of operations and cash flows.

In addition, we have been named, along with others, in a number of class action and other lawsuits relating to the use of fire-fighting foam products by the U.S. Department of Defense, the U.S. military and others for fire suppression purposes and related training exercises. It is difficult to predict the outcome or ultimate financial exposure, if any, represented by these matters, and there can be no assurance that any such exposure will not be material. Such claims may also negatively affect our reputation. See Note 21, “Commitments and Contingencies,” of the notes to consolidated financial statements for additional information on these matters.

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 on satisfactory terms 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. See Note 21, “Commitments and Contingencies,” of the notes to consolidated financial statements for additional information on these matters.

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 or customers, intellectual property matters, third party liability, including product liability claims, and employment claims. In addition, we may be exposed to greater risks of liability for employee acts or omissions, or system failure, in our fire and security businesses than may not be inherent in other businesses. In particular, because many of our fire and security products and services are intended to protect lives and real and personal property, we may have greater exposure to litigation risks than other businesses. 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. 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.

Risks Relating to Strategic Transactions

We may be unable to successfully execute or effectively integrate acquisitions or joint ventures.

We expect acquisitions of businesses and assets, as well as joint ventures (or other strategic arrangements), to play a role in our future growth and our ability to build capabilities in our products and services. 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.

Acquisitions and investments may involve significant cash expenditures, debt incurrences, equity issuances, operating losses and expenses. Acquisitions and investments may be dilutive to earnings. Acquisitions involve numerous other risks, including: 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; difficulties in assimilating employees and in attracting and retaining key personnel; challenges in successfully integrating and operating businesses with different characteristics than our current core businesses; challenges in keeping existing customers and obtaining new customers; difficulties in achieving anticipated cost savings, synergies, business opportunities and growth prospects; contingent liabilities (including contingent tax liabilities and earn-out obligations) that are larger than expected; and potential unknown liabilities, adverse consequences and unforeseen increased expenses associated with acquired companies.

The goodwill and intangible assets recorded with past acquisitions were significant and impairment of such assets could result in a material adverse impact on our financial condition and results of operations. Competition for acquisition opportunities may rise, thereby increasing our costs of making acquisitions or causing us to refrain from making further acquisitions.

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 and adversely impact our business, financial condition 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.

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. 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. Some divestitures may be dilutive to earnings. 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. In the event we are unable to successfully divest a business or product line, we may be forced to wind down such business or product line, which could materially and adversely affect our results of operations and financial condition. 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.

Risks Related to Tax Matters

Future potential changes to the tax laws could adversely affect us and our affiliates.

Legislative and regulatory action may be taken in the U.S. and other jurisdictions in which we operate, which, if ultimately enacted, could override tax treaties upon which we rely, or broaden the circumstances under which we would be considered a U.S. resident, each of which could materially and adversely affect our effective tax rate. We cannot predict the outcome of any specific legislative or regulatory proposals and such changes could have a prospective or retroactive application. However, if proposals were enacted that had the effect of disregarding our incorporation in Ireland or limiting Johnson Controls International plc’s ability, as an Irish company, to take advantage of tax treaties with the U.S., we could be subject to increased taxation, potentially significant expense, and/or other adverse tax consequences.

The U.S. enacted the Inflation Reduction Act of 2022 (“IRA”) in August 2022, which, among other sections, creates a new book minimum tax of at least 15% of consolidated GAAP pre-tax income for corporations with average book income in excess of $1 billion. The book minimum tax will first apply to us in fiscal 2024. We do not expect the IRA to have a material impact on our effective tax rate, however, it is possible that the U.S. Congress could advance other tax legislation proposals in the future that could have a material impact on our tax rate. In addition, in October 2021, 136 out of 140 countries in the Organization for Economic Co-operation and Development ("OECD") Inclusive Framework on Base Erosion and Profit Shifting ("IF"), including Ireland, politically committed to potentially fundamental changes to the international corporate tax system, including the potential implementation of a global minimum corporate tax rate. While the details of these pronouncements remain unclear and timing of implementation uncertain, the impact of local country IF adoption could have a material impact on our effective tax rate. It is also possible that jurisdictions in which we do business could react to such IF developments unilaterally by enacting tax legislation that could adversely affect us or our affiliates. There is also general uncertainty regarding the tax policies of the jurisdictions where we operate, and if changes are enacted, there could be a resulting increase in our effective tax rate.

The Internal Revenue Service ("IRS") may not agree that we should be treated as a non-U.S. corporation for U.S. federal tax purposes.

Under current U.S. federal tax law, a corporation is generally considered 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 (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%, 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). The application of these rules could result in significant additional U.S. tax liability and 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.

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 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.

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.

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. If any or all of the modifications to the model treaty are adopted in the main jurisdictions in which we do business, they could, among other things, cause double taxation, increase audit risk and substantially increase our worldwide tax liability. We cannot predict the outcome of any specific modifications to the model treaty, and we cannot provide assurance that any such modifications will not apply to us.

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 reversal of outside basis differences that could adversely affect our results of operations and cash flows. 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 statement of financial position and our income tax provision in our consolidated statement 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.

Risks Relating to Our Jurisdiction of Incorporation

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.

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.

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 for 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 25%) from dividends paid to our shareholders. Shareholders that are residents 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 certain Irish dividend withholding tax forms. 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.

General Risk Factors

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.

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.

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 in the market or under our existing credit agreements. If ratings for our debt fall below investment grade, our access to the debt capital markets would become restricted and the price we pay to issue debt could increase. 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.

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.

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

Any of the following could materially and adversely impact the results of operations of our 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; our ability to recognize the expected benefits of our restructuring actions, products and services that we are unable to pass on to the market; changes in energy costs or governmental regulations that would decrease the incentive for customers to update or improve their building control systems; and natural or man-made disasters or losses that impact our ability to deliver products and services to our customers.

NON-FINANCIAL STATEMENT

Johnson Controls International plc

These non-financial information disclosures are included for the purpose of complying with European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 (as amended) for fiscal 2022.

Our annual Sustainability Report also provides information that may be relevant to investors on the development, performance, position and impact of our non-financial activity and can be accessed at www.johnsoncontrols.com. This reference to our Internet address is for informational purposes only and shall not, under any circumstances, be deemed to incorporate the information available at or accessible through such Internet address, including our Sustainability Report, into this report.

Our Business Model

As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet. Building on a proud history of nearly 140 years of innovation, we deliver the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering. Today, with a global team of 100,000 employees in more than 150 countries, Johnson Controls offers the world`s largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry. See the Principal Activities section of this Directors' Report for further description of our company’s business model.

Our Principal Risks and Uncertainties

A description of principal risks and uncertainties facing the Group and their impact on its business, including those related to environmental matters, social and employee matters, anti-bribery, anti-corruption and respect for human rights, if applicable, are set out at the Principal Risks and Uncertainties section of this Directors’ Report.

Analysis of Key Performance Indicators

Johnson Controls tracks and analyzes non-financial key performance indicators on an ongoing basis.

The full Board of Directors oversees our overall strategy and enterprise strategic risk through robust and constructive engagement with management, taking into consideration our key priorities, global trends impacting our business, regulatory developments, and disruptors in our businesses. The Governance and Sustainability Committee of our board of directors provides oversight of our environmental, social and governance (ESG) programs and goals, sustainability management, sustainability risks, sustainability trends and environmental health and safety, receiving regular briefings on our progress. In addition, the Compensation and Talent Development Committee provides oversight of certain social matters impacting our workforce, including human capital management, diversity and inclusion and organizational health.

Our Chief Sustainability and External Relations Officer reports directly to our CEO. The Global ESG Leadership Committee (“ESG LC”) is chaired by our Vice President of Global Sustainability and Regulatory Affairs, and reports to the Chief Sustainability and External Relations Officer. Its members consist of senior leaders across our businesses, functions and regions. The ESG LC is charged with leading the enterprise across all measures of sustainability, managing and reporting

progress toward our ESG commitments, and responsible for embedding sustainability into our culture and operations across the enterprise.

Our Non-Financial policies, positions and statements are available publicly on our website at https://www.johnsoncontrols.com/corporate-sustainability/reporting-and-policies. This reference to our Internet address is for informational purposes only and shall not, under any circumstances, be deemed to incorporate the information available at or accessible through such Internet address into this report.

The key performance indicators that we monitor in relation to our policies include:
- greenhouse gas emissions
- energy consumption
- water consumption
- zero landfill sites
- health and safety
- workplace inclusion and diversity
- volunteer hours
- supplier diversity

Environmental matters

As the threats posed by climate change become increasingly apparent, action from national and subnational governments, including regulations on building products, is driving initiatives to reduce the emissions and increase efficiency of our products. We support the drive to adopt these regulations and standards and seek to capitalize on these trends to drive growth by developing and delivering technologies and solutions to create smart, sustainable and healthy buildings. We are investing in new digital and product capabilities, including our OpenBlue platform, to enable us to deliver sustainable, high-efficiency products and tailored services to enable customers to achieve their sustainability goals. Throughout our HVACR portfolio, a wide array of low-emission products exist today and will continue to expand as we anticipate these regulations. We believe that our business is well positioned to manage the overall impacts of climate change on ourselves and our customers.

Our 2030 science-based emission-reduction targets are approved by the Science-Based Targets initiative and include targeted Scope 1 and 2 reductions of 55 percent and a Scope 3 reduction of 16 percent. We have also set a target to achieve net zero Scope 1 and 2 emissions by 2040, ten years ahead of the goal set out in the United Nations' Paris Climate Agreement.

In addition to achieving net zero in our operations, Johnson Controls is continuing to take steps to further improving environmental impacts across our value chain.

- Our business provides a range of innovative, sustainable technologies and solutions that help our customers mitigate and adapt to climate change, use fewer resources including especially energy and water, reduce environmental impact, and reuse and recycle materials. Solutions such as our OpenBlue digital platform can help our customers and suppliers achieve their emissions goals, cutting emissions while saving customers significantly in energy and operational costs.

- We are committed to investing at least 75 percent of our new product development research and development each year in climate-related innovation to develop sustainable products and services. In 2022, our launches included our Choice Heat Pump Rooftop Units which enable electrification of loads that are traditionally met with gas heat, our Air-cooled Centrifugal YVAM Chiller which enable super-efficient cooling for data center applications and our OpenBlue Connected Chillers platform which dramatically improve energy efficiency and reduce chiller downtime.

In our supplier performance evaluations, sustainability is now weighted equal to cost, quality and delivery. We partnered with EcoVadis, a globally recognized sustainability assessment ratings agency, to adopt a systematic ratings program to evaluate suppliers across environment, labor and human rights, ethics, and sustainable procurement.

Key performance indicators, fiscal 2022 data:

- Absolute Scope 1 and 2 emissions: 623,430 Metric Tons CO_2e
- Energy intensity: 294 GJ per Million USD in revenue
- Emissions intensity: 24.64 Metric Tons CO_2e per Million USD in revenue
- Water withdrawal from water-stressed sites: 294 megaliters
- Zero landfill manufacturing sites: 21

Environmental sustainability metrics reporting is consistent with the GHG Protocol and and includes data from Johnson Controls and the Johnson Controls-Hitachi joint venture. Metrics, except waste metrics, have been rounded to the nearest thousand. Scope for energy intensity, waste and water include only what is under company's operational control. Indirect

emissions (Scope 2) are market-based. The data is tracked using the Environmental, Health and Safety Information System (EHSIS) tool.

Social and employee matters

At Johnson Controls, we strive to continuously drive and develop a high-performance culture, represented by practices and behaviors that reflect our values. The CEO, Chief Human Resources Officer (CHRO,) the vice president of diversity and inclusion and other senior leaders are responsible for the execution of our human resources strategy. The Compensation and Talent Development Committee, the Governance and Sustainability Committee, and the full board of directors have oversight over various social and employee matters, including human capital trends, practices and operations, diversity and inclusion, health and safety, leadership development, and succession planning.

For an additional discussion of social and employee matters, see "Human Capital" management within the Principal Activities section of this Director's Report.

Health and safety

Health and Wellness, Safety, and Environment are the three pillars of our Zero Harm vision. We are committed to a safe and healthy work environment for our employees, our customers and contractors, our visitors, and our communities. Our Global Environmental Health and Safety Policy identifies the key operating principles that define our expectations, actions and behaviors of all Johnson Controls employees in conducting business that is protective of health, safety and the environment. Health and safety programs are designed around global standards addressing multiple jurisdictions and regulations, the specific hazards and unique working environments of our manufacturing, service and install teams, and headquarter operations.

We work together to promote a safe culture globally in all that we do. We require each of our locations to perform regular safety audits to ensure proper safety policies, program procedures, analyses and training are in place. In addition, we engage an independent third-party conformity assessment and certification vendor to audit selected operations for adherence to our global health and safety standards and local environmental health and safety regulations.

Key performance indicators, fiscal 2022 data (based upon the number of incidents per 100 employees and supervised contractors (or per 200,000 work hours):

- Total Recordable Incident Rate: 0.40
- Lost Time Incident Rate: 0.14

Employee matters

At Johnson Controls, we support the continued development and advancement of our people. Strategic talent reviews and succession planning occur annually, and we emphasize real-life, real-time learning that enables employees to meet the demands of challenging and changing work. To ensure our people have the skills and capabilities to drive success, we have embedded our enterprise leadership competency model into our talent processes. The model is part of our leadership curriculum and self-directed development guides for employees' personal development.

At Johnson Controls, we empower every employee to engage in our culture of inclusion. Diversity and inclusion are embedded throughout our strategy to drive a high-performance culture. We recognize that an inclusive, diverse culture adds value to our company and our customers through the creation and delivery of innovative products and solutions; the cultivation of an engaged and empowered work environment; and the onboarding of high-performing talent into the organization.

We engage employees in Business Resource Groups (BRGs) with support and ongoing engagement from our executive team, and have seen a fourfold increase in employee participation in just the past two years. We have BRG chapters around the world across nine categories: African American; Asia Pacific; LGBTQ+; Emerging Leaders; Hispanic; Disabilities; Veterans; Women; Sustainability. Each BRG is open to all employees and sponsored and supported by senior leaders across the enterprise.

Key performance indicators, fiscal 2022 data:

- 102,000 total employees
- 20 percent of leadership positions were held by women
- 21 percent of leadership positions in the U.S. were held by minorities

Data represents all employees globally where self-identified data is managed centrally. Leadership positions are defined as manager-level or above. We publish our EEO-1 report publicly on our website at https://www.johnsoncontrols.com/about-us/diversity-and-inclusion. This reference to our Internet address is for informational purposes only and shall not, under any

circumstances, be deemed to incorporate the information available at or accessible through such Internet address into this report.

Community engagement and philanthropic strategy

Johnson Controls seeks to promote the well-being of our communities and our planet with a strategic approach to philanthropy and volunteerism. Our philanthropic reach is focused on those global communities where our employees live and work. Our Johnson Controls Foundation matches US employee donations dollar-for-dollar to eligible organizations that help build safe, smart and sustainable communities.

Johnson Controls contributes millions of dollars annually and our employees give freely of their time, skills and energy. We align our volunteering and philanthropy efforts with the UN Sustainable Development Goals.

Key performance indicators, fiscal 2022 data:

- 45,822 total volunteer hours
- 86% of our volunteer hours are aligned to the UN Sustainable Development Goals
- $12 million in philanthropic contributions

Supplier diversity

Johnson Controls defines diverse suppliers as companies owned, operated, and/or controlled by minorities or women, and those designated by government agencies as small or disadvantaged businesses and certified by the National Minority Supplier Development Council, Women's Business Enterprise National Council, the National Veteran's Business Development Council or the National LGBT Chamber of Commerce." Our diversity business initiative is integrated into our corporate strategy and directed by senior management.

Anti-bribery, anti-corruption and respect for human rights

Since 2004, Johnson Controls has been committed to the UN Global Compact and its principles of human rights, labor, the environment and anti-corruption. These principles are based on The Universal Declaration of Human Rights; The International Labor Organization's Declaration on Fundamental Principles and Rights at Work; The Rio Declaration on Environment and Development; The United Nations Convention against Corruption; and the United Nations Framework on Business and Human Rights.

As an early signatory of the United Nations Global Compact, Johnson Controls is committed to the United Nations Global Compact's Ten Principles and operates accordingly. Our progress in meeting each of the UN Global Compact's Ten Principles, as well as the 21 criteria required to achieve "Advanced Level" status, is reported publicly on the Global Compact's website.

Our Human Rights and Sustainability Policy and our Code of Ethics define our overall management approach to human rights, anti-corruption, the environment, governance, social and other related matters.

Values First: The Johnson Controls Code of Ethics applies to everyone at Johnson Controls – including the board of directors, company officers, employees, agents, and contract workers. The Code of Ethics is translated into 26 languages and provides specific guidance on the behaviors that allow us to implement our culture globally. Compliance with our Code of Ethics and our anti-corruption policy is a condition of employment. We regularly train employees on a variety of anti-corruption and related matters, including fair competition, anti-bribery, conflicts of interest and our Code of Ethics.

All online employees must undertake annual ethics training, where employees must complete online training modules and biennially review and attest to the Code of Ethics.

Starting in fiscal year 2021, we determined that the most effective way to educate our employees on our Code of Ethics was to highlight specific ethical risks in our training modules. For example, this year we focused our ethics curriculum on privacy and insider trading. We typically introduce a topic with a micro learning, follow that with an eLearning course and a Values in Action manager-led discussion, then reinforce the information with another micro learning. We also hold in-person and virtual training to focus on region-specific risks and expected behavior under our Code of Ethics. All online training campaigns require a minimum completion rate of 90 percent enterprise wide.

Johnson Controls requires the management of each facility to ensure they implement equal opportunity and no-harassment policies in accordance with national, state or provincial law. Employees, temporary employees, visitors and other non-employees are encouraged to immediately report harassment or any ethics or compliance violations committed by anyone, including our visitors.

Our slavery and human trafficking policy complies with the Modern Slavery Act of 2015 and is reviewed annually. We are committed to taking steps to ensure that slavery and human trafficking do not take place in any part of our business or supply chain.

Our political contributions policy guides our political contributions and activities to ensure compliance with applicable federal and state laws and go beyond compliance to implement leading practices in accountability and transparency.

We participate in the public policy process in various ways including corporate government affairs activities designed to educate policymakers on key issues related to our business, political giving through the Johnson Controls Political Action Committee ("PAC"), and limited direct corporate political contributions. To promote transparency, we make this information publicly available on our website and through various government filings, as required by law.

Our PAC is governed by a steering committee, which is chaired by the Company's Executive Vice President & General Counsel and made up of business and functional leaders across the Company. The committee provides operational oversight and direction of PAC activities. The committee also reviews candidate recommendations and uses the PAC's selection criteria to determine who will receive financial support.

Our lobbying and political activities are overseen by our Chief Sustainability & External Relations Officer, who works closely with our legal department to ensure compliance with our political engagement policy. Our Executive Vice President & General Counsel, Chief Sustainability & External Relations Officer, and Chief Ethics and Compliance Officer meet regularly with the Chief Executive Officer and the senior leadership team to review legislative, regulatory and political developments.

The Governance and Sustainability Committee provides primary board-level oversight in reviewing our corporate political activity and public policy efforts. Our Chief Sustainability & External Relations Officer reports to the Governance and Sustainability Committee on our governmental outreach, PAC and other political activities on a quarterly basis and the full Board is briefed on government relations matters at least annually.

Our Code of Ethics is communicated to our employees, suppliers, partners and contract workers. It encourages individuals to report any wrongdoing that extends to human rights violations, such as slavery and human trafficking. All reports are fully investigated and appropriate remedial actions taken when warranted.

Our Integrity Helpline is available for individuals inside and outside of the company to raise concerns or report any alleged wrongdoing. We also gather information to quantitatively measure our suppliers' sustainability programs and to ensure compliance with local, state, federal and national laws, including forced labor laws.

Outcome of the Policies Pursued

Johnson Controls is a recognized leader in environmental matters, social and employee matters and respect for human rights. Outcomes of our policies are reflected in the other sections of this Non-Financial Statement. Additional outcomes of our policies are tracked in detail in the Annual Sustainability Report. We are honored to be recognized for our ongoing innovation and leadership across environment, social and governance in 2022:

- Global 100 Most Sustainable Corporations by Corporate Knights - #1 in our industry
- Named as Microsoft's Global Sustainability Changemaker for 2022
- EcoVadis Platinum, top 1% of more than 100,000 companies assessed
- 2022 Fortune Change the World list
- Forbes Best Employers for Diversity
- 100 Best Corporate Citizens by 3BL Media for the 17th year in a row
- World's Most Ethical Companies by Ethisphere for the 15th time
- AAA rating by MSCI for the fourth year in a row
- ESG Industry Top Rated by Sustainalytics

BUSINESS REVIEW

Macroeconomic Trends

Much of the demand for installation of the Group's products and 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. Positive or negative fluctuations in commercial and residential construction, industrial facility expansion and maintenance projects and other capital investments in buildings could have a corresponding impact on the Group's financial condition, results of operations and cash flows.

As a result of the Group’s global presence, a significant portion of its revenues and expenses is denominated in currencies other than the U.S. dollar. The Group is therefore subject to non-U.S. currency risks and non-U.S. exchange exposure. While the Group employs financial instruments to hedge some of its transactional foreign exchange exposure, these activities do not insulate it completely from those exposures. In addition, the currency exposure from the translation of non-U.S. dollar functional currency subsidiaries are not able to be hedged. Exchange rates can be volatile and a substantial weakening or strengthening of foreign currencies against the U.S. dollar could increase or reduce the Group’s profit margin, respectively, and impact the comparability of results from period to period. During fiscal 2022, revenue and profits were adversely impacted due to the significant strengthening of the U.S. dollar against foreign currencies. The continued strength of the U.S. dollar could continue to adversely impact the Group's results.

The Group continues to observe trends demonstrating increased interest and demand for its products and services that enable smart, safe, efficient and sustainable buildings. This demand is driven in part by government tax incentives, building performance standards and other regulations designed to limit emissions and combat climate change. In particular, legislative and regulatory initiatives such as the U.S. Climate Smart Buildings Imitative, U.S. Inflection Reduction Act and EU Energy Performance of Buildings Directive include provisions designed to fund and encourage investment in decarbonization and digital technologies for buildings. This demand is supplemented by an increase in commitments in both the public and private sectors to reduce emissions and/or achieve net zero emissions. The Group seeks to capitalize on these trends to drive growth by developing and delivering technologies and solutions to create smart, sustainable and healthy buildings. The Group is investing in new digital and product capabilities, including its OpenBlue platform, to enable it to deliver sustainable, high-efficiency products and tailored services to enable customers to achieve their sustainability goals. The Group is leveraging its install base, together with data-driven products and services to offer outcome-based solutions to customers with a focus on generating accelerated growth in services and recurring revenue.

The Group has experienced, and expects to continue to experience, increased input material cost inflation and component shortages, as well as disruptions and delays in its supply chain, as a result of global macroeconomic trends, including increased global demand, the conflict between Russia and Ukraine, government-mandated actions in response to COVID-19, particularly in China, and labor shortages. Actions taken by the Group to mitigate supply chain disruptions and inflation, including expanding and redistributing its supplier network, supplier financing, price increases and productivity improvements, have generally been successful in offsetting some, but not all, of the impact of these trends. The collective impact of these trends has been to positively impact revenue due to increased demand and price increases to offset inflation, while negatively impacting margins due to supply chain disruptions and cost pressures. The Group has also experienced delays in converting its backlog due to continued supply chain disruptions, negatively impacting both revenues and margins. Although the Group has experienced recent improvement in its supply chain, the Group expects that these trends will continue to impact its results into fiscal 2023. Therefore, the Group could experience further disruptions, shortages and cost increases in the future, the effect of which will depend on the Group’s ability to successfully mitigate and offset the impact of these events.

During the second quarter of fiscal 2022, the Group suspended its operations in Russia in response to the conflict between Russia and Ukraine. Although this decision has not had and is not expected to have a material impact on the Group’s operating results, the broader consequences of this conflict, including heightened supply chain disruption, inflation, economic instability and other factors have and could continue to adversely impact the Group’s results of operations.

Impact of COVID-19 Pandemic

The COVID-19 pandemic continues to impact aspects of the Group's operations and results. During fiscal 2022, the Group's facilities generally operated at normal levels, however, the Group has experienced some disruptions to its business in China due to government-mandated lockdowns in several major cities.

The Group has experienced increases in demand as governments have distributed vaccines and lifted COVID-19-related restrictions, leading to increases in retrofit activity and commercial building construction. As a result of the pandemic, the Group has seen an increase in demand for its products and solutions that promote building health and optimize customers’ infrastructure.

However, the Group continues to be influenced by COVID-19-related trends impacting site access and the labor force, which have and may continue to negatively impact the Group’s revenues and margins. Challenges in reaching sufficient vaccination levels and the introduction of new variants of COVID-19 have caused some governments to extend or reinstitute lockdowns and similar restrictive measures, which, in some cases, have limited the Group’s ability to access customer sites to install and maintain its products and deliver services. In addition, the Group has experienced and continues to experience labor shortages at certain facilities as the Group expands its production capacity to meet increased customer demand. Although the Group is

mitigating these shortages through focused recruitment efforts and competitive compensation packages, the Group could continue to experience such shortages in the future.

The extent to which the COVID-19 pandemic continues to impact the Group's results of operations and financial condition will depend on future developments that are highly uncertain and cannot be predicted. See the section entitled "Principal Risks and Uncertainties" for an additional discussion of risks related to COVID-19.

Restructuring and Cost Optimization Initiatives

To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Group commits to restructuring plans as necessary. In fiscal 2021, the Group announced its plans to optimize its cost structure through broad-based SG&A actions focused on simplification, standardization and centralization, with the intent to deliver annualized savings of $300 million by fiscal 2023 (the "2021 Plan"). Additionally, the Group announced cost of sales actions to drive $250 million in annual run rate savings by fiscal 2023. The Group believes it is on track to deliver and exceed the productivity savings by fiscal 2023. For more information on the Group's restructuring plans, see "Liquidity and Capital Resources—Restructuring."

Net Sales

	Year Ended September 30,		
(in millions)	2022	2021	Change
Net sales	$ 25,299	$ 23,668	7%

The increase in net sales was due to higher organic sales ($2,033 million), incremental sales from acquisitions ($356 million) and the impact of prior year nonrecurring purchase accounting adjustments ($6 million), partially offset by the unfavorable impact of foreign currency translation ($741 million) and lower sales due to business divestitures ($23 million). Excluding the impact of foreign currency translation, business acquisitions and divestitures and nonrecurring adjustments, consolidated net sales increased 9% as compared to the prior year, attributable to higher volumes and increased pricing in response to inflation pressures. Refer to the "Segment Analysis" below for a discussion of net sales by segment.

Cost of Sales / Gross Profit

	Year Ended September 30,		
(in millions)	2022	2021	Change
Cost of sales	$ 16,956	$ 15,609	9%
Gross profit	8,343	8,059	4%
% of sales	33.0%	34.1%	

Cost of sales and gross profit both increased and gross profit as a percentage of sales decreased by 110 basis points. Gross profit increased due to organic sales growth and business acquisitions, partially offset by the unfavorable impact of foreign currency translation ($229 million), supply chain inefficiencies, price/cost pressures and the unfavorable year-over-year impact of net pension mark-to-market adjustments ($121 million). Gross profit as a percentage of sales decreased as the benefit of volume leverage was more than offset by supply chain inefficiencies and price/cost pressures. Refer to the "Segment Analysis" below for a discussion of segment earnings before interest, taxes and amortization ("EBITA").

Selling, General and Administrative Expenses

	Year Ended September 30,		
(in millions)	2022	2021	Change
Selling, general and administrative expenses	$ 5,945	$ 5,258	13%
% of sales	23.5%	22.2%	

Selling, general and administrative expenses ("SG&A") increased by $687 million, and SG&A as a percentage of sales increased by 130 basis points. The increase in SG&A on a percentage basis was primarily due to the current year environmental

remediation charge and related reserves ($255 million), the unfavorable year-over-year impact of net mark-to-market adjustments on pension plans ($154 million), the unfavorable year-over-year impact of net mark-to-market adjustments on restricted asbestos investments ($93 million), the absence of certain one-time cost mitigation actions and current year business acquisitions, partially offset by a favorable earn-out liability adjustment ($43 million) and favorable foreign currency translation ($141 million). Refer to the "Segment Analysis" below for a discussion of segment EBITA.

Restructuring and Impairment Costs

	Year Ended September 30,		
(in millions)	2022	2021	Change
Restructuring and impairment costs	$ 721	$ 242	*

* Measure not meaningful

Restructuring and impairment costs in fiscal 2022 included $419 million impairment costs related to businesses classified as held-for-sale, $75 million impairment of goodwill attributable to the Silent-Aire reporting unit, $45 million impairment of long-lived assets in the Building Solutions Asia Pacific segment reclassified from held for sale and $182 million in severance, long-lived asset impairments and other costs associated with the 2021 Plan. All of the fiscal 2021 restructuring and impairment costs were related to the 2021 Plan.

Refer to "Note 3, "Assets and Liabilities Held for Sale," Note 8, "Goodwill and Other Intangible Assets," and Note 17, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for further disclosure related to the Group's restructuring plans and impairment costs.

Net Financing Charges

	Year Ended September 30,		
(in millions)	2022	2021	Change
Net financing charges	$ 213	$ 206	3%

Refer to Note 10, "Debt and Financing Arrangements," of the notes to consolidated financial statements for further disclosure related to the Group's net financing charges.

Equity Income

	Year Ended September 30,		
(in millions)	2022	2021	Change
Equity income	$ 246	$ 261	-6%

The decrease in equity income was primarily due to lower income at certain partially-owned affiliates of the Johnson Controls - Hitachi joint venture and at certain partially-owned affiliates within the Building Solutions North America segment. Refer to the "Segment Analysis" below for a discussion of segment EBITA.

Income Tax Provision

	Year Ended September 30,		
(in millions)	2022	2021	Change
Income tax provision (benefit)	$ (13)	$ 868	*
Effective tax rate	(1)%	33%	

* Measure not meaningful

The statutory tax rate in Ireland of 12.5% is being used as a comparison since the Group is domiciled in Ireland.

For fiscal 2022, the effective tax rate for continuing operations was (1)% and was lower than the statutory tax rate primarily due to tax reserve adjustments as the result of expired statute of limitations for certain tax years and the benefits of continuing

global tax planning initiatives, partially offset by the income tax effects of impairment and restructuring charges, valuation allowance adjustments, the establishment of a deferred tax liability on the outside basis difference of the Group's investment in certain subsidiaries as a result of the planned divestitures and tax rate differentials.

For fiscal 2021, the effective tax rate for continuing operations was 33% and was higher than the statutory tax rate primarily due to the tax impacts of an intercompany transfer of certain of the Group’s intellectual property rights, valuation allowance adjustments, the income tax effects of mark-to-market adjustments and tax rate differentials, partially offset by the benefits of continuing global tax planning initiatives.

The fiscal 2022 effective tax rate decreased as compared to fiscal 2021 primarily due to the income tax effects of mark-to-market adjustments, tax reserve adjustments as the result of expired statute of limitations for certain tax years and the benefits of continuing global tax planning initiatives, partially offset by valuation allowance adjustments, the establishment of a deferred tax liability on the outside basis difference of the Group's investment in certain subsidiaries as a result of the planned divestitures, impairment and restructuring charges and tax rate differentials. Refer to Note 18, "Income Taxes," of the notes to consolidated financial statements for further details.

The U.S. enacted the Inflation Reduction Act of 2022 (“IRA”) in August 2022, which, among other sections, creates a new book minimum tax of at least 15% of consolidated GAAP pre-tax income for corporations with average book income in excess of $1 billion. The book minimum tax will first apply to the Group in fiscal 2024. The Group does not expect the IRA to have a material impact on its effective tax rate. In addition, in October 2021, 136 out of 140 countries in the Organization for Economic Co-operation and Development ("OECD") Inclusive Framework on Base Erosion and Profit Shifting ("IF"), including Ireland, politically committed to potentially fundamental changes to the international corporate tax system, including the potential implementation of a global minimum corporate tax rate. While the details of these pronouncements presently remain unclear and timing of implementation uncertain, the impact of local country IF adoption could have a material impact on the Group's effective tax rate in future periods. It is also possible that jurisdictions in which the Group does business could react to such IF developments unilaterally by enacting tax legislation that could adversely affect the Group or its affiliates.

Income Attributable to Noncontrolling Interests

	Year Ended September 30,		
(in millions)	2022	2021	Change
Income from continuing operations attributable to noncontrolling interests	$ 191	$ 233	-18%

The decrease in income from continuing operations attributable to noncontrolling interests was primarily due to lower net income at certain partially-owned affiliates of the Johnson Controls - Hitachi joint venture.

Net Income Attributable to Johnson Controls

	Year Ended September 30,		
(in millions)	2022	2021	Change
Net income attributable to Johnson Controls	$ 1,532	$ 1,513	1%

The decrease in net income attributable to Johnson Controls was primarily due to higher SG&A, higher restructuring and impairment costs and the non-recurrence of prior year income from discontinued operations, partially offset by lower income tax provision and higher gross profit. Diluted earnings per share attributable to Johnson Controls was $2.19 for the year ended September 30, 2022 compared to $2.27 for the year ended September 30, 2021.

Comprehensive Income Attributable to Johnson Controls

(in millions)	Year Ended September 30, 2022	2021	Change
Comprehensive income attributable to Johnson Controls	$ 1,055	$ 1,855	-43%

The decrease in comprehensive income attributable to Johnson Controls was due to a decrease in other comprehensive income attributable to Johnson Controls ($819 million) resulting primarily from foreign currency translation adjustments and lower net income attributable to Johnson Controls ($105 million). The year-over-year unfavorable foreign currency translation adjustments were primarily driven by the weakening of the British pound, euro and Canadian dollar in the current year compared to strengthening of the British pound, Canadian dollar and Mexican peso 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 represents income from continuing operations before income taxes and noncontrolling interests, excluding general corporate expenses, intangible asset amortization, net financing charges, restructuring and impairment costs, and net mark-to-market adjustments related to pension and postretirement plans and restricted asbestos investments.

Effective October 1, 2021, the Group's marine businesses previously included in the Building Solutions Asia Pacific and Global Products reportable segments are now part of the Building Solutions EMEA/LA reportable segment. Historical information has been re-cast to present the comparative periods on a consistent basis. This change was not material to the segment presentation. Refer to Note 19, "Segment Information," of the notes to the consolidated financial statements for further information.

Beginning on October 1, 2021, the Group began reporting certain retrofit projects in the Building Solutions EMEA/LA and Building Solutions Asia Pacific segments as products and systems revenue on a prospective basis as they have evolved to be more aligned with other install offerings.

	Net Sales for the Year Ended September 30,			Segment EBITA for the Year Ended September 30,		
(in millions)	2022	2021	Change	2022	2021	Change
Building Solutions North America	$ 9,367	$ 8,685	8%	$ 1,122	$ 1,204	-7%
Building Solutions EMEA/LA	3,845	3,884	-1%	358	401	-11%
Building Solutions Asia Pacific	2,714	2,616	4%	332	344	-3%
Global Products	9,373	8,483	10%	1,594	1,436	11%
	$ 25,299	$ 23,668	7%	$ 3,406	$ 3,385	1%

<u>Net Sales:</u>

- The increase in Building Solutions North America was due to higher volumes and prices ($672 million) and incremental sales related to business acquisitions ($22 million), partially offset by the unfavorable impact of foreign currency translation ($12 million). The sales increase was led by strong growth in the HVAC & Controls platform.

- The decrease in Building Solutions EMEA/LA was due to the unfavorable impact of foreign currency translation ($269 million) and business divestitures ($22 million), partially offset by higher volumes and prices ($214 million) and incremental sales related to business acquisitions ($38 million). Excluding the impacts of foreign currency translation and business acquisitions and divestitures, sales increased, driven by growth in the Fire & Security platforms and the HVAC & Controls platform. By region, strong growth in Europe and single digit growth in Latin America was partially offset by growth decline in the Middle East.

- The increase in Building Solutions Asia Pacific was due to the net impact of higher prices and lower volumes ($178 million) and incremental sales related to business acquisitions ($42 million), partially offset by the unfavorable impact of foreign currency translation ($121 million) and business divestitures ($1 million). The increase in sales was led by

strong demand for HVAC & Controls and Industrial Refrigeration equipment. By region, the sales growth was driven by sales in China.

- The increase in Global Products was due to higher volumes and prices ($975 million) and incremental sales related to business acquisitions ($254 million), partially offset by the unfavorable impact of foreign currency translation ($339 million). Sales growth was driven by broad-based demand for Commercial and Residential HVAC and Fire & Security products and strong price realization.

Segment EBITA:

- The decrease in Building Solutions North America was primarily due to lower absorption related to supply chain disruptions and labor constraints and the unfavorable impact of foreign currency translations, partially offset by productivity savings.

- The decrease in Building Solutions EMEA/LA was primarily due to supply chain disruptions, the suspension of operations in Russia ($11 million), and the unfavorable impact of foreign currency translation ($29 million), partially offset by favorable price/cost and productivity savings.

- The decrease in Building Solutions Asia Pacific was primarily due to supply chain disruptions, unfavorable mix and the unfavorable impact of foreign currency translation ($23 million), partially offset by favorable price/cost and productivity savings.

- The increase in Global Products was primarily due to favorable volumes and mix, productivity savings and a favorable earn-out liability adjustment ($43 million), partially offset by the current year environmental remediation charge ($222 million), the unfavorable impact of foreign currency translation ($37 million) and lower equity income driven primarily by certain partially-owned affiliates of the Johnson Controls - Hitachi joint venture ($13 million).

Liquidity And Capital Resources

Working Capital

	September 30,		
(in millions)	2022	2021	Change
Current assets	$ 11,685	$ 9,998	
Current liabilities	(11,239)	(9,098)	
	446	900	-50%
Less: Cash and cash equivalents	(2,031)	(1,336)	
Add: Short-term debt	669	8	
Add: Current portion of long-term debt	865	226	
Less: Current assets held for sale	(387)	—	
Add: Current liabilities held for sale	236	—	
Working capital (as defined)	$ (202)	$ (202)	—%
Accounts receivable - net	$ 5,528	$ 5,613	-2%
Inventories	2,510	2,057	22%
Accounts payable	4,241	3,746	13%

- The Group defines working capital as current assets less current liabilities, excluding cash and cash equivalents, short-term debt, the current portion of long-term debt, and current 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 Group’s operating performance.

- Working capital at September 30, 2022 remained consistent as compared to September 30, 2021 as an increase in inventory due to supply chain disruptions was offset by an increase in accounts payable.

- The Group’s days sales in accounts receivable at September 30, 2022 were 51, a decrease from 58 at September 30, 2021, primarily due to collection efforts and increased use of receivables factoring programs. There has been no significant adverse change in the level of overdue receivables or significant changes in revenue recognition methods.

- The Group’s inventory turns for the year ended September 30, 2022 were lower than the comparable period ended September 30, 2021 primarily due to supply chain disruptions.

- Days in accounts payable at September 30, 2022 were 85 days, higher from 76 days for the comparable period ended September 30, 2021, primarily due to timing of payments.

Cash Flows From Continuing Operations

	Year Ended September 30,	
(in millions)	2022	2021
Cash provided by operating activities	$ 1,990	$ 2,551
Cash used by investing activities	(693)	(1,090)
Cash used by financing activities	(516)	(2,131)

- The decrease in cash provided by operating activities was primarily due to unfavorable impacts driven by supply chain disruptions. This resulted in increases in inventory and higher unbilled receivables due to shipment delays, which were partially offset by the benefit of receivables factoring activity and an increase in accounts payable due to timing of payments.

- The decrease in cash used by investing activities was primarily due to lower cash payments made for acquisitions.

- The increase in cash provided by financing activities was primarily due to higher short-term and long-term debt borrowings.

Capitalization

	September 30,		
(in millions)	2022	2021	Change
Short-term debt	$ 669	$ 8	
Current portion of long-term debt	865	226	
Long-term debt	7,426	7,506	
Total debt	8,960	7,740	16%
Less: Cash and cash equivalents	2,031	1,336	
Total net debt	6,929	6,404	8%
Shareholders’ equity attributable to Johnson Controls	16,268	17,562	-7%
Total capitalization	$ 23,197	$ 23,966	-3%
Total net debt as a % of total capitalization	29.9%	26.7%	

- Net debt and net debt as a percentage of total capitalization are non-GAAP financial measures. The Group believes the percentage of total net debt to total capitalization is useful to understanding the Group’s financial condition as it provides a view of the extent to which the Group relies on external debt financing for its funding and is a measure of risk to its shareholders.

- The Group's material cash requirements primarily consist of working capital requirements, repayments of long-term debt and related interest, operating leases, dividends, capital expenditures, potential acquisitions and share repurchases.

- Refer to Note 10, "Debt and Financing Arrangements," of the notes to consolidated financial statements for additional information on debt obligations and maturities. Interest payable on long-term debt is $253 million in the twelve months following September 30, 2022 and $3.5 billion thereafter.

- Refer to Note 9, "Leases," of the notes to consolidated financial statements for additional information on lease obligations and maturities.

- As of September 30, 2022, purchase obligations are $1.5 billion payable in the next twelve months and $284 million payable thereafter. These purchase obligations represent commitments under enforceable and legally binding agreements, and do not represent the entire anticipated purchases in the future.

- As of September 30, 2022, the Group expects to contribute $41 million and $193 million to the global pension and postretirement plans in the next twelve months and thereafter, respectively.

- As of September 30, 2022, approximately $3.6 billion remains available under the Group's share repurchase authorization, which does not have an expiration date and may be amended or terminated by the Board of Directors at any time without prior notice. The Group expects to repurchase outstanding shares from time to time depending on market conditions, alternate uses of capital, liquidity and economic environment.

- The Group declared dividends of $1.39 per share in fiscal 2022 and intends to continue paying quarterly dividends in fiscal 2023.

- The Group believes its capital resources and liquidity position at September 30, 2022 are adequate to meet projected needs. The Group believes requirements for working capital, capital expenditures, dividends, stock repurchases, minimum pension contributions, debt maturities and any potential acquisitions in fiscal 2023 will continue to be funded from operations, supplemented by short- and long-term borrowings, if required. The Group currently manages its short-term debt position in the U.S. and euro commercial paper markets and bank loan markets. In the event the Group is unable to issue commercial paper, it would have the ability to draw on its $2.5 billion revolving credit facility which expires in December 2024 or its $0.5 billion 364-day revolving credit facility which expires in November 2023. There were no draws on the revolving credit facilities as of September 30, 2022 and 2021. The Group estimates that as of September 30, 2022, it could borrow up to $2.0 billion based on average borrowing levels during fiscal 2022 on committed credit lines. The Group maintains a shelf registration statement with the SEC under which it may issue additional debt securities, ordinary shares, preferred shares, depository shares, warrants purchase contracts and units that may be offered in one or more offerings on terms to be determined at the time of the offering. The Group anticipates that the proceeds of any offering would be used for general corporate purposes, including repayment of indebtedness, acquisitions, additions to working capital, repurchases of ordinary shares, dividends, capital expenditures and investments in the Group's subsidiaries. In addition, the Group held cash and cash equivalents of $2.0 billion as of September 30, 2022. As such, the Group believes it has sufficient financial resources to fund operations and meet its obligations for the foreseeable future.

- The Group's ability to access the global capital markets and the related cost of financing is dependent upon, among other factors, the Group's credit ratings. As of September 30, 2022, the Group's credit ratings and outlook were as follows:

Rating Agency	Short-Term Rating	Long-Term Rating	Outlook
S&P	A-2	BBB+	Stable
Moody's	P-2	Baa2	Stable

  The security ratings set forth above are issued by unaffiliated third party rating agencies and are not a recommendation to buy, sell or hold securities. The ratings may be subject to revision or withdrawal by the assigning rating organization at any time.

- The Group entered into the following new or modified debt arrangements in fiscal 2022:

  - In November 2021, the Group entered into a €200 million ($196 million as of September 30, 2022) bank term loan which had an interest rate of EURIBOR plus 0.5% and was due and paid in October 2022.

  - In March 2022, the Group entered into two bank term loans totaling €285 million ($280 million as of September 30, 2022) which both have an interest rate of EURIBOR plus 0.5% and are due in March 2023.

  - In September 2022, the Group and its wholly owned subsidiary, TFSCA issued €600 million ($589 million as of September 30, 2022) of bonds with an interest rate of 3.0%, which are due in September 2028 and $400 million of bonds with an interest rate of 4.9%, which are due in December 2032.

    - In September 2022, the Group repaid a ¥25 billion ($181 million) term loan and entered into a ¥30 billion ($208 million as of September 30, 2022) term loan which is due in September 2027. Both the original and the new debt have an interest rate of LIBOR plus 0.4%.

- Financial covenants in the Group's revolving credit facilities 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 ASC 715-60, "Defined Benefit Plans - Other Postretirement," or (ii) the cumulative foreign currency translation adjustment. As of September 30, 2022, the Group was in compliance with all financial covenants set forth in its credit agreements and the indentures governing its outstanding notes, and expects to remain in compliance for the foreseeable future. None of the Group’s debt agreements limit access to stated borrowing levels or require accelerated repayment in the event of a decrease in the Group's credit rating.

- The Group earns a significant amount of its 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 2022, the Group recorded income tax expense related to a change in its assertion over the outside basis differences of its investment in certain subsidiaries as a result of the planned divestitures. The Group currently does not intend nor foresee a need to repatriate undistributed earnings included in the outside basis differences other than in tax efficient manners. The Group's intent is to reduce basis differences only when it would be tax efficient. The Group expects existing U.S. cash and liquidity to continue to be sufficient to fund the Group’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 Group require more capital than is generated by its operations, the Group could elect to raise capital in the U.S. through debt or equity issuances. The Group 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 Group expects existing non-U.S. cash, cash equivalents, short-term investments and cash flows from operations to continue to be sufficient to fund the Group’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 Group require more capital at the Luxembourg and Ireland holding and financing entities, other than amounts that can be provided in tax efficient methods, the Group could also elect to raise capital through debt or equity issuances. These alternatives could result in increased interest expense or other dilution of the Group’s earnings.

- The Group may from time to time purchase its outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Restructuring

To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Group commits to restructuring plans as necessary. Restructuring plans generally result in charges for workforce reductions, plant closures, asset impairments and other related costs which are reported as restructuring and impairment costs in the Group’s consolidated statement of income. The Group expects the restructuring actions to reduce cost of sales and SG&A due to reduced employee-related costs, depreciation and amortization expense.

In fiscal 2021, the Group announced plans to optimize its cost structure through broad-based SG&A actions focused on simplification, standardization and centralization, with the intent to deliver annualized savings of $300 million by fiscal 2023. Additionally, the Group announced cost of sales actions intended to drive $250 million in annual run rate savings by fiscal 2023. The one-time pre-tax costs associated with these actions were originally expected to be approximately $385 million across all segments and at Corporate through fiscal 2023. The Group has incurred and exceeded these costs during fiscal 2022 due to certain restructuring actions and expenses planned for fiscal 2023 being accelerated into fiscal 2022, which also resulted in incremental savings. During the year ended September 30, 2022, the Group recorded $182 million and in total, the Group has recorded $424 million of costs resulting from the 2021 restructuring plan, which is the total amount expected to be incurred for this restructuring plan. The Group has outstanding restructuring reserves of $82 million at September 30, 2022, all of which is expected to be paid in cash.

FINANCIAL RISK MANAGEMENT

The Group selectively uses derivative instruments to reduce market risk associated with changes in foreign currency, commodities, stock-based compensation and interest rates. 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 Group 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 Group 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 statement 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 Group aligns most of the critical terms of its derivatives with the supply contracts.

For net investment hedges, the Group 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 Group’s net investment positions in the respective non-U.S. operation.

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

A discussion of the Group’s accounting policies for derivative financial instruments is included in Note 1, "Basis of Presentation and 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 11, "Derivative Instruments and Hedging Activities," and Note 12, "Fair Value Measurements," of the notes to consolidated financial statements.

Foreign Exchange

The Group 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 Group’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 Group hedges 70% to 90% of the nominal amount of each of its known foreign exchange transactional exposures. The Group 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 Group 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 Group 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 Group’s net investments globally.

At September 30, 2022 and 2021, the Group estimates that an unfavorable 10% change in the exchange rates would have decreased net unrealized gains by approximately $133 million and $213 million, respectively.

Interest Rates

Substantially all of the Group's outstanding debt has fixed interest rates, and, therefore, any fluctuation in market interest rates is not expected to have a material effect on the Group's results of operations. A 20 basis point increase/decrease in the average interest rate on the Group's variable rate debt would have an immaterial impact on interest expense.

Commodities

The Group 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.

ACQUISITION AND CANCELLATION OF OWN SHARES

The Company held 29.0 million and 28.4 million of its own shares as of September 30, 2022 and 2021, respectively, which amounted to 4.04% and 3.85% of total shares issued as of September 30, 2022 and 2021, respectively. The Company acquires its own shares based on capital allocation strategies. The par value of each ordinary share is $0.01.

The Company's own shares activity for the fiscal years ended September 30, 2022 and September 30, 2021 was as follows (in millions):

	Year Ended September 30,			
	2022		2021	
	Shares	Amount	Shares	Amount
Balance at beginning of period	28.4	$ 1,152	27.7	$ 1,119
Payments to acquire own shares	21.7	1,440	23.5	1,307
Cancellation of own shares	(21.7)	(1,440)	(23.5)	(1,307)
Other	0.6	51	0.7	33
Balance at end of period	29.0	$ 1,203	28.4	$ 1,152

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 Group's financial condition and results of operations, the capital requirements of the Group's businesses, industry practice and any other relevant factors.

Under Irish Company 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. Additionally, on April 27, 2018, the Irish High Court approved the Company's conversion of approximately $26.0 billion of share premium to distributable reserves. As of September 30, 2022, the Company's profit and loss account balance was approximately $18.9 billion.

During fiscal 2022 and 2021, the Company declared four quarterly dividends totaling $1.39 and $1.07 per ordinary share, respectively. Dividends of $916 million and $762 million were paid by the Company to shareholders during fiscal years 2022 and 2021, respectively. As of September 30, 2022, there were $241 million of outstanding dividends declared. As of September 30, 2021, there were $192 million of outstanding dividends declared.

FUTURE DEVELOPMENTS

The directors do not anticipate any significant changes in the Group's activities following the date of this report, except as disclosed in the "Significant Events Since Year End" section.

SIGNIFICANT EVENTS SINCE YEAR END

Subsequent events have been evaluated through January 19, 2023, the date this report was approved by the Audit Committee of the Board of Directors and the Board of Directors. Refer to Note 22, "Subsequent Events" for details of subsequent events.

DIRECTORS

For the year ended September 30, 2022, the directors of Johnson Controls Ireland were George R. Oliver, Jean Blackwell, Pierre Cohade, Michael E. Daniels, W. Roy Dunbar, Gretchen R. Haggerty, Simone Menne, Jürgen Tinggren, Mark P. Vergnano, R. David Yost and John D. Young.

On December 7, 2022, R. David Yost notified the Board of Directors that he will not seek re-election at the end of his term and will retire at the 2023 Annual General Meeting scheduled to be held on March 8, 2023.

DIRECTORS' AND CORPORATE SECRETARIES' INTERESTS IN SHARES

The interests in the ordinary shares of the Company of the directors and corporate secretaries of Johnson Controls Ireland holding office at the end of the fiscal year 2022 and at either the beginning of the fiscal year or date of appointment if later, were as follows:

	September 30,			
	2022		2021	
Directors	Ordinary Shares	Share Units/ Options (1)	Ordinary Shares	Share Units/ Options (1)
George R. Oliver (2)	1,207,669	3,246,877	1,021,518	3,202,424
Jean Blackwell	8,006	2,842	6,493	2,887
Pierre Cohade	6,852	2,842	5,339	2,887
Michael E. Daniels	72,135	2,842	70,340	2,887
W. Roy Dunbar	10,250	2,842	8,729	2,887
Gretchen R. Haggerty	15,114	2,842	13,378	2,887
Simone Menne	8,672	2,842	7,047	2,887
Jürgen Tinggren	28,134	2,842	26,550	2,887
Mark P. Vergnano	22,831	2,842	21,318	2,887
R. David Yost	53,401	2,842	51,888	2,887
John D. Young	9,500	2,842	7,748	2,887
Corporate Secretaries				
John Donofrio (3)	16,003	411,686	6,675	405,660
Richard Dancy	603	6,338	—	4,434

(1) Share units/options include unvested restricted stock share units, unvested performance-based share units, and vested and unvested stock options.
(2) Number of share units/options held includes 2,856,596 and 2,708,668 options as of September 30, 2022 and 2021, respectively.
(3) Number of share units/options held includes 324,639 and 295,054 options as of September 30, 2022 and 2021, respectively.

POLITICAL DONATIONS

No political donations that require disclosure under Irish Company Law were made during fiscal 2022.

SUBSIDIARY COMPANIES AND UNDERTAKINGS

Refer to Note 29, "Subsidiary Undertakings," of the notes to consolidated financial statements for information regarding subsidiary undertakings, unconsolidated subsidiaries and branches.

GOING CONCERN

The Board has formed a judgment at the time of approving the financial statements that there is a reasonable expectation that the Group and the Company have adequate resources to continue in operational existence for at least the next twelve month period extending from the time of approving the financial statements. The Board considered both current and anticipated uncertainties in its going concern assessment.

The Group has experienced, and expects to continue to experience, increased input material cost inflation and component shortages, as well as disruptions and delays in its supply chain, as a result of global macroeconomic trends, including increased global demand, the conflict between Russia and Ukraine, government-mandated actions in response to COVID-19, particularly in China, and labor shortages. Actions taken by the Group to mitigate supply chain disruptions and inflation, including expanding and redistributing its supplier network, supplier financing, price increases and productivity improvements, have generally been successful in offsetting some, but not all, of the impact of these trends. The collective impact of these trends has been to positively impact revenue due to increased demand and price increases to offset inflation, while negatively impacting margins due to supply chain disruptions and cost pressures. The Group has also experienced delays in converting its backlog due to continued supply chain disruptions, negatively impacting both revenues and margins. Although the Group has experienced recent improvement in its supply chain, the Group expects that these trends will continue to impact its results into fiscal 2023. Therefore, the Group could experience further disruptions, shortages and cost increases in the future, the effect of which will depend on the Group's ability to successfully mitigate and offset the impact of these events.

In assessing the potential impact of these uncertainties on its liquidity, the Group prepared cash flow forecasts covering a period of at least twelve months from the date of approval of these financial statements. This assessment included consideration of the forecasted business performance, the cash and financial facilities available to the Group and the potential impact of COVID-19 on economic activity. The Group continues to expect that existing cash and cash equivalents of $2.0 billion as of September 30, 2022, cash generated by its operations, amounts available on its $3.0 billion revolving credit facilities and its ability to access the capital and debt markets will be sufficient to fund the Group's operating and capital needs for at least the next twelve months and thereafter for the foreseeable future. To its knowledge, the Board reasonably believes these uncertainties would not have a material impact on the Group's ability to continue as a going concern as of the financial statements' approval date.

Given the Group's assessment of its ability to fund its expected operating and capital needs, the directors have a reasonable expectation that the Group and Company have adequate resources to continue in operational existence for the foreseeable future. Accordingly, they continue to adopt the going concern basis in preparing the financial statements.

AUDIT COMMITTEE

An Audit Committee as required by the Companies Act 2014, Section 167, has been in place for the fiscal years ended September 30, 2022 and 2021.

STATUTORY AUDITORS

The statutory auditors, PricewaterhouseCoopers, have indicated their willingness to continue in office, and a resolution that they be re-appointed will be proposed at the Annual General Meeting.

STATEMENT ON RELEVANT AUDIT INFORMATION

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

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

On behalf of the directors

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

/s/ Gretchen R. Haggerty

Gretchen R. Haggerty Director

January 19, 2023

Independent auditors' report to the members of Johnson Controls International plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Johnson Controls International plc's consolidated financial statements and company financial statements (the "financial statements") give a true and fair view of the group's and the company's assets, liabilities and financial position as at 30 September 2022 and of the group's net income and cash flows for the year then ended;
- the consolidated financial statements have been properly prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP"), as defined in Section 279 of the Companies Act 2014, to the extent that the use of those principles in the preparation of consolidated financial statements does not contravene any provision of Part 6 of the Companies Act 2014;
- the company financial statements have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council of the UK, including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" and Irish law); and
- the financial statements have been properly prepared in accordance with the requirements of the Companies Act 2014.

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

- the Consolidated Statement of Financial Position as at 30 September 2022;
- the Company Balance Sheet as at 30 September 2022;
- the Consolidated Statement of Income for the year then ended;
- the Consolidated Statement of Comprehensive Income for the year then ended;
- the Consolidated Statement of Cash Flows for the year then ended;
- the Consolidated Statement of Shareholders' Equity for the year then ended;
- the Company Statement of Changes in Equity for the year then ended;
- the notes to the financial statements, which include a description of the significant accounting policies.

Basis for opinion

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

Independence

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

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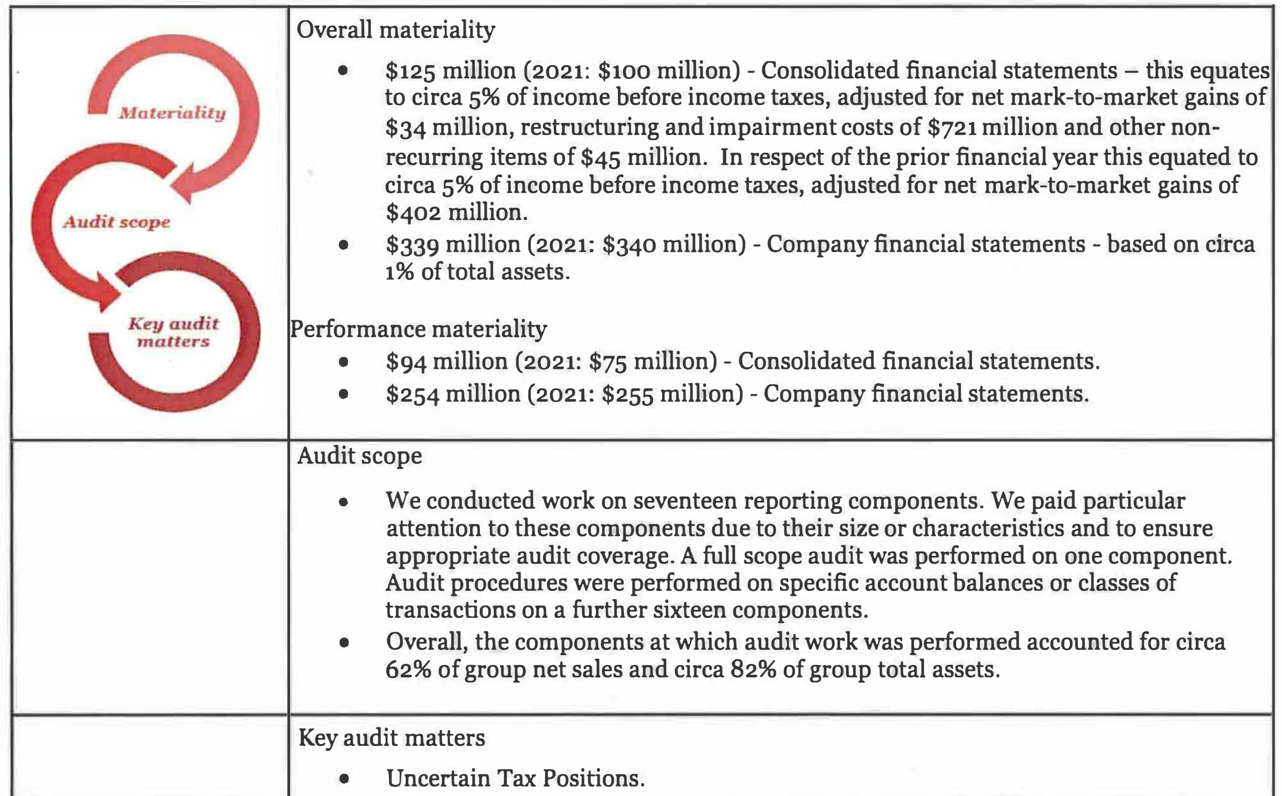
Our audit approach

Overview



	Overall materiality • $125 million (2021: $100 million) - Consolidated financial statements – this equates to circa 5% of income before income taxes, adjusted for net mark-to-market gains of $34 million, restructuring and impairment costs of $721 million and other non-recurring items of $45 million. In respect of the prior financial year this equated to circa 5% of income before income taxes, adjusted for net mark-to-market gains of $402 million. • $339 million (2021: $340 million) - Company financial statements - based on circa 1% of total assets. Performance materiality • $94 million (2021: $75 million) - Consolidated financial statements. • $254 million (2021: $255 million) - Company financial statements.
	Audit scope • We conducted work on seventeen reporting components. We paid particular attention to these components due to their size or characteristics and to ensure appropriate audit coverage. A full scope audit was performed on one component. Audit procedures were performed on specific account balances or classes of transactions on a further sixteen components. • Overall, the components at which audit work was performed accounted for circa 62% of group net sales and circa 82% of group total assets.
	Key audit matters • Uncertain Tax Positions.

The scope of our audit

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

Key audit matters

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

Key audit matter	***How our audit addressed the key audit matter***
Uncertain Tax Positions *Refer to note 1 ("Basis of Presentation and Summary of Significant Accounting Policies" - "Use of Estimates" & "Income Taxes") and note 18 ("Income Taxes").*	We evaluated and tested the effectiveness of key internal controls related to the identification and estimation of probable loss for UTP.
The group has an Uncertain Tax Positions ("UTP") provision of $2,537 million, as of September 30, 2022.	We tested the completeness of management's assessment of the identification of uncertain tax positions.
Johnson Controls International plc ("JCI plc") is subject to income taxes in the U.S. and numerous non-U.S. jurisdictions. Judgement is required in determining JCI plc's worldwide provision for UTP.	We tested a sample of uncertain tax positions by jurisdiction, testing the information used in the calculation of the estimate of probable loss and testing the calculation of the estimate of probable loss.

In the ordinary course of business, there are many transactions and calculations where the ultimate tax determination is a result of highly subjective management judgements. We determined that UTP was a key audit matter due to the quantitative significance and the highly subjective judgements used by management when estimating the UTP reserve.	This included evaluating the status and results of income tax audits by the relevant tax authorities, as applicable. PwC professionals with specialised skill and knowledge were used to assist in the evaluation of the completeness and measurement of the group's uncertain tax positions, including evaluating the reasonableness of management's assessment of whether tax positions are more-likely- than-not to be sustained and the application of relevant tax laws. We also evaluated the appropriateness of management's disclosures.

How we tailored the audit scope

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

The Consolidated financial statements are a consolidation of four reportable segments and approximately 670 legal entities. Reporting components are structured by individual plants, grouping of plants or on a country basis depending on their management team and structure. The majority of the group's components are supported by shared service centres across four different territories: Slovakia, Mexico, China, and India.

In determining our audit scope, we first focused on individual reporting components and determined the type of work that needed to be performed at the reporting components by us, as the Irish group engagement team, PwC US as the global engagement team, or other component auditors within other PwC network firms. Further work was performed on a centralised basis at the shared service centres by other PwC network firms. Where the work was performed by PwC US and other component auditors, we determined the level of involvement we needed to have in the audit work of those reporting components to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the financial statements as a whole.

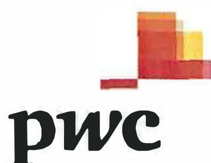
Overall, through the use of full scope audits and performance of audit procedures on specific account balances or classes of transactions we obtained coverage of circa 62% of group net sales and circa 82% of group total assets. We allocated materiality levels and issued instructions to each component auditor. In addition to the audit report from each of the component auditors, we received detailed memoranda of examinations on work performed and relevant findings which supplemented our understanding of the component, its results and the audit findings and we participated in a number of audit clearance meetings with the component teams. The above coverage includes other reporting components where audit procedures on specific account balances or classes of transactions were performed. This, together with additional procedures performed at Group level, gave us the evidence we needed for our opinion on the financial statements as a whole.

Materiality

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

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

	Consolidated financial statements	***Company financial statements***
Overall materiality	$125 million (2021: $100 million).	$339 million (2021: $340 million).
How we determined it	Based on circa 5% of income before income taxes, adjusted for net mark-to-market gains of $34 million, restructuring and impairment costs of $721 million and other non-recurring items of $45 million. In respect of the prior financial year this equated to circa 5% of income before income taxes, adjusted for net mark-to-market gains of $402 million.	Based on circa 1% of total assets.



Rationale for benchmark applied	We deem pre-tax income, adjusted for the items described above to be the most appropriate performance measure to assess the continuing performance of the group.	As the Company is a holding company, whose main activity is the management of investments in subsidiaries, it is deemed that total assets are the most appropriate benchmark to calculate materiality. For financial statement line items that do not eliminate on consolidation, they have been audited based upon consolidated materiality levels.

We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% of overall materiality, amounting to $94 million (consolidated financial statements) and $254 million (company financial statements).

In determining the performance materiality, we considered a number of factors; the history of misstatements, risk assessment and aggregation risk and the effectiveness of controls; and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above $13 million (consolidated and company financial statements) (2021: $10 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the group and company's ability to continue to adopt the going concern basis of accounting included:

- obtaining management's going concern assessment for a period of at least twelve months from the date on which the financial statements are authorised for issue;
- agreeing that the cash flow projections underlying management's going concern assessment are materially consistent with the board approved forecasts, assessing how these forecasts are compiled, and evaluating the key assumptions;
- considering available facilities and the maturity profile of the group's debt to assess liquidity and considering expected compliance with debt covenants for the going concern assessment period;
- evaluation of management's assessment of the impact of supply chain disruptions and delays, component shortages, input material cost inflation, the conflict between Russia and Ukraine, and COVID-19 may continue to have through the going concern assessment period; and
- assessing the going concern disclosures within note 1 of the consolidated and company financial statements.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group's or the company's ability to continue as a going concern for a period of at least twelve months from the date on which the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

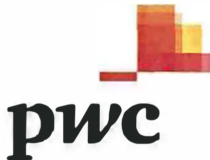
However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the group's or the company's ability to continue as a going concern.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

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

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.



If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

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

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

- In our opinion, based on the work undertaken in the course of the audit, the information given in the Directors' Report (excluding the information included in the "Non Financial Statement" on which we are not required to report) for the year ended 30 September 2022 is consistent with the financial statements and has been prepared in accordance with the applicable legal requirements.
- Based on our knowledge and understanding of the group and company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Directors' Report (excluding the information included in the "Non Financial Statement" on which we are not required to report).

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities set out on page 4, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view.

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

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

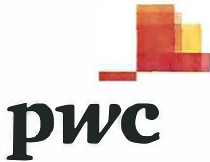
Auditors' responsibilities for the audit of the financial statements

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

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the group and industry, we identified the principal risks of non-compliance with laws and regulations related to the U.S Foreign Corrupt Practices Act, the U.K. Bribery Act and breaches of environmental and health & safety regulations, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the preparation of the financial statements such as the Companies Act 2014 and tax legislation. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to (1) posting inappropriate journal entries to manipulate financial results, and (2) management bias in accounting estimates. Audit procedures performed by the engagement team included:

- Discussions throughout the year with management, internal audit, the group's internal and external legal counsel, and the head of ethics and compliance, including consideration of known or suspected instances of non-compliance with laws and regulations and fraud, matters reported on the group's whistleblowing helpline and findings from internal audit reports;
- Reading the minutes of Board meetings to identify any inconsistencies with other information provided by management;
- Considering an analysis of legal expense accounts to identify significant legal spend that may be indicative of non-compliance with laws and regulations;



- Obtained legal confirmations from external lawyers and assessed for any information indicating non-compliance with laws and regulations;
- Challenging assumptions and judgements made by management in its significant accounting estimates (because of the risk of management bias);
- Identifying and testing journal entries, in particular journal entries posted with unusual account combinations and all material consolidation journals.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

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

https://www.iaasa.ie/getmedia/b2389013-1cf6-458b-9b8f-a98202dc9c3a/Description of auditors responsibilities for audit.pdf

This description forms part of our auditors' report.

Use of this report

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

Other required reporting

Companies Act 2014 opinions on other matters

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

Other exception reporting

Directors' remuneration and transactions

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

Prior financial year Non Financial Statement

We are required to report if the company has not provided the information required by Regulation 5(2) to 5(7) of the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 in respect of the prior financial year. We have nothing to report arising from this responsibility.

Enda McDonagh
for and on behalf of PricewaterhouseCoopers
Chartered Accountants and Statutory Audit Firm
Dublin
19 January 2023

Johnson Controls International plc
Consolidated Statement of Income

(in millions, except per share data)	Note	Year Ended September 30, 2022	2021
Net sales			
Products and systems	4	$ 19,274	$ 17,202
Services	4	6,025	6,466
	4	25,299	23,668
Cost of sales			
Products and systems		13,533	11,848
Services		3,423	3,761
		16,956	15,609
Gross profit		8,343	8,059
Selling, general and administrative expenses		(5,945)	(5,258)
Restructuring and impairment costs	17	(721)	(242)
Net financing charges	10	(213)	(206)
Equity income		246	261
Income before income taxes		1,710	2,614
Income tax provision (benefit)	18	(13)	868
Net income		1,723	1,746
Income from continuing operations attributable to noncontrolling interests		191	233
Net income attributable to Johnson Controls		$ 1,532	$ 1,513
Earnings per share attributable to Johnson Controls			
Basic		$ 2.20	$ 2.11
Diluted		2.19	2.10

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

Johnson Controls International plc
Consolidated Statement of Comprehensive Income

(in millions)	Year Ended September 30, 2022	Year Ended September 30, 2021
Net income	$ 1,723	$ 1,746
Other comprehensive income (loss), net of tax:		
Foreign currency translation adjustments	(603)	376
Realized and unrealized gains (losses) on derivatives	7	(18)
Pension and postretirement plans	(3)	4
Other comprehensive income (loss)	(599)	362
Total comprehensive income	1,124	2,108
Comprehensive income attributable to noncontrolling interests:		
Net income	191	233
Other comprehensive income (loss), net of tax:		
Foreign currency translation adjustments	(123)	19
Realized and unrealized gains on derivatives	1	1
Other comprehensive income (loss)	(122)	20
Comprehensive income attributable to noncontrolling interests	69	253
Comprehensive income attributable to Johnson Controls	$ 1,055	$ 1,855

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

Johnson Controls International plc
Consolidated Statement of Financial Position

(in millions, except par value and share data)	Note	September 30, 2022	2021
Assets			
Cash and cash equivalents		$ 2,031	$ 1,336
Accounts receivable - net		5,528	5,613
Inventories	6	2,510	2,057
Current assets held for sale	3	387	—
Other current assets	23	1,229	992
Current assets		11,685	9,998
Property, plant and equipment - net	7	3,042	3,228
Goodwill	8	17,328	18,335
Other intangible assets - net	8	4,641	5,549
Investments in partially-owned affiliates		963	1,066
Noncurrent assets held for sale	3	751	156
Other noncurrent assets	23	3,748	3,558
Total assets		$ 42,158	$ 41,890
Liabilities and Equity			
Short-term debt	10	$ 669	$ 8
Current portion of long-term debt	10	865	226
Accounts payable		4,241	3,746
Accrued compensation and benefits		955	982
Deferred revenue	4	1,768	1,637
Current liabilities held for sale	3	236	—
Current provisions	25	508	594
Other current liabilities	23	1,997	1,905
Current liabilities		11,239	9,098
Long-term debt	10	7,426	7,506
Noncurrent liabilities held for sale	3	62	—
Noncurrent provisions	25	4,106	4,457
Other noncurrent liabilities	23	1,923	2,076
Noncurrent liabilities		13,517	14,039
Ordinary shares (par value $0.01; 2.0 billion shares authorized; shares issued: 2022 - 717,726,243; 2021 - 737,090,363)	15	7	7
Ordinary A shares (par value €1.00; 40,000 shares authorized, none outstanding as of September 30, 2022 and 2021)	15	—	—
Preferred shares (par value $0.01; 200,000,000 shares authorized, none outstanding as of September 30, 2022 and 2021)	15	—	—
Ordinary shares held in treasury, at cost (shares held: 2022-29,029,475; 2021-28,356,889)	15	(1,203)	(1,152)
Share premium	15	17,224	17,116
Retained earnings	15	1,151	2,025
Accumulated other comprehensive loss	15	(911)	(434)
Shareholders' equity attributable to Johnson Controls		16,268	17,562
Noncontrolling interests		1,134	1,191
Total equity		17,402	18,753
Total liabilities and equity		$ 42,158	$ 41,890

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

Approved by the Board of Directors on January 19, 2023 and signed on its behalf by:

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

/s/ Gretchen R. Haggerty_

Gretchen R. Haggerty
Director

Johnson Controls International plc
Consolidated Statement of Cash Flows

(in millions)	Year Ended September 30, 2022	2021
Operating Activities of Continuing Operations		
Net income attributable to Johnson Controls	$ 1,532	$ 1,513
Income attributable to noncontrolling interests	191	233
Net income from continuing operations	1,723	1,746
Adjustments to reconcile net income to cash provided by operating activities:		
Depreciation and amortization	830	845
Pension and postretirement benefit expense (income)	(216)	(551)
Pension and postretirement contributions	(96)	(68)
Equity in earnings of partially-owned affiliates, net of dividends received	30	(117)
Deferred income taxes	(141)	36
Non-cash restructuring and impairment charges	555	98
Equity-based compensation expense	102	76
Other - net	(58)	(85)
Changes in assets and liabilities, excluding acquisitions and divestitures:		
Accounts receivable	(427)	(143)
Inventories	(773)	(219)
Other assets	(362)	(164)
Restructuring reserves	(7)	(44)
Accounts payable and accrued liabilities	1,270	813
Accrued income taxes	(440)	328
Cash provided by operating activities from continuing operations	1,990	2,551
Investing Activities of Continuing Operations		
Capital expenditures	(592)	(552)
Sale of property, plant and equipment	127	124
Acquisition of businesses, net of cash acquired	(269)	(725)
Business divestitures, net of cash divested	16	19
Other - net	25	44
Cash used by investing activities from continuing operations	(693)	(1,090)
Financing Activities of Continuing Operations		
Increase (decrease) in short-term debt - net	923	(17)
Increase in long-term debt	1,227	496
Repayment of long-term debt	(184)	(507)
Stock repurchases and retirements	(1,441)	(1,307)
Payment of cash dividends	(916)	(762)
Proceeds from the exercise of stock options	17	178
Dividends paid to noncontrolling interests	(121)	(142)
Employee equity-based compensation withholding taxes	(51)	(33)
Cash paid to acquire a noncontrolling interest	(1)	(14)
Other - net	31	(23)
Cash used by financing activities from continuing operations	(516)	(2,131)
Discontinued Operations		
Cash used by operating activities	(4)	(64)
Cash used by discontinued operations	(4)	(64)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(53)	116
Increase (decrease) in cash, cash equivalents and restricted cash	724	(618)
Cash, cash equivalents and restricted cash at beginning of period	1,342	1,960
Cash, cash equivalents and restricted cash at end of period	2,066	1,342
Less: Restricted cash	35	6
Cash and cash equivalents at end of period	$ 2,031	$ 1,336

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

Johnson Controls International plc
Consolidated Statement of Shareholders' Equity

(in millions)	Note	Year Ended September 30, 2022	2021
Shareholders' Equity Attributable to Johnson Controls			
Beginning Balance		$ 17,562	$ 17,447
Ordinary Shares			
Beginning balance		7	8
Repurchases and retirements of ordinary shares		—	(1)
Ending balance	15	7	7
Ordinary Shares Held in Treasury, at Cost			
Beginning balance		(1,152)	(1,119)
Employee equity-based compensation withholding taxes		(51)	(33)
Ending balance		(1,203)	(1,152)
Share Premium			
Beginning balance		17,116	16,865
Change in noncontrolling interest share		—	(8)
Share-based compensation expense		88	76
Other, including options exercised		20	183
Ending balance		17,224	17,116
Retained Earnings			
Beginning balance		2,025	2,469
Net income attributable to Johnson Controls		1,532	1,637
Cash dividends declared		(965)	(771)
Repurchases and retirements of ordinary shares	15	(1,441)	(1,306)
Adoption of ASU 2016-13		—	(4)
Ending balance		1,151	2,025
Accumulated Other Comprehensive Income (Loss)			
Beginning balance	15	(434)	(776)
Other comprehensive income (loss)	15	(477)	342
Ending balance	15	(911)	(434)
Ending Balance		16,268	17,562
Shareholders' Equity Attributable to Noncontrolling Interests			
Beginning Balance		1,191	1,086
Comprehensive income attributable to noncontrolling interests		69	253
Dividends attributable to noncontrolling interests		(131)	(142)
Change in noncontrolling interest share		5	(6)
Ending Balance		1,134	1,191
Total Shareholders' Equity		$ 17,402	$ 18,753
Cash Dividends Declared per Ordinary Share		$ 1.39	$ 1.07

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

1. BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The consolidated financial statements include the consolidated accounts of Johnson Controls International plc, a corporation registered at One Albert Quay, Cork, Ireland and organized under the laws of Ireland under registered number 543654, and its subsidiaries (Johnson Controls International plc and all its subsidiaries, hereinafter collectively referred to as the "Group," "Johnson Controls" or "JCI plc").

The Group's fiscal year ends on September 30. Unless otherwise stated, references to years in this report relate to fiscal years rather than calendar years.

The Directors have elected to prepare the consolidated financial statements in accordance with Section 279 (1) of the Companies Act 2014, which provides that a true and fair view of the state of affairs and profit or loss may be given by preparing the financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"), as defined in Section 279 of the Companies Act 2014, to the extent that the use of those principles in the preparation of the consolidated financial statements does not contravene any provision of the Companies Act 2014 or of any regulations made thereunder.

Consolidated financial statements and notes prepared in accordance with U.S. GAAP were included in the Group's Annual Report on Form 10-K for the year ended September 30, 2022, filed with the U.S. Securities and Exchange Commission ("SEC"). These consolidated financial statements were prepared in accordance with Irish Company Law, to present to shareholders and file with the Companies Registration Office in Ireland. Accordingly, these consolidated financial statements include presentation and disclosures required by Ireland’s Companies Act 2014 in addition to those disclosures required under U.S. GAAP.

Nature of Operations

Johnson Controls International plc, headquartered in Cork, Ireland, is a global leader in smart, healthy and sustainable buildings, serving a wide range of customers in more than 150 countries. The Group’s products, services, systems and solutions advance the safety, comfort and intelligence of spaces to serve people, places and the planet. The Group is committed to helping its customers win and creating greater value for all of its stakeholders through its strategic focus on buildings.

The Group is a global leader in engineering, manufacturing, commissioning and retrofitting building products and systems, including residential and commercial heating, ventilating, air-conditioning ("HVAC") equipment, industrial refrigeration systems, controls, security systems, fire-detection systems and fire-suppression solutions. The Group further serves customers by providing technical services, including maintenance, management and repair of equipment (in the HVAC, industrial refrigeration, controls, security and fire-protection space), energy-management consulting and data-driven “smart building” services and solutions powered by its OpenBlue software platform and capabilities. The Group partners with customers by leveraging its broad product portfolio and digital capabilities powered by OpenBlue, together with its direct channel service and solutions capabilities, to deliver outcome-based solutions across the lifecycle of a building that address customers’ needs to improve energy efficiency, enhance security, create healthy environments and reduce greenhouse gas emissions.

Principles of Consolidation

The consolidated financial statements include the consolidated accounts of Johnson Controls International plc, a corporation organized under the laws of Ireland, and its subsidiaries. The financial statements have been prepared in United States dollars ("USD") and in accordance with U.S. GAAP as defined in Section 279 (1) of the Companies Act 2014. 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 Group exercises significant influence, which typically occurs when its ownership interest exceeds 20%, and the Group does not have a controlling interest.

The Group consolidates variable interest entities ("VIE") when it has the power to direct the significant activities of the entity and the obligation to absorb losses or receive benefits from the entity that may be significant. The Group did not have any material consolidated or nonconsolidated VIEs in its continuing operations for the presented reporting periods.

Going Concern

The Board has formed a judgment at the time of approving the financial statements that there is a reasonable expectation that the Group has adequate resources to continue in operational existence for at least the next twelve month period extending from the time of approving the financial statements. The Board considered both current and anticipated uncertainties its going concern assessment.

The Group has experienced, and expects to continue to experience, increased input material cost inflation and component shortages, as well as disruptions and delays in its supply chain, as a result of global macroeconomic trends, including increased global demand, the conflict between Russia and Ukraine, government-mandated actions in response to COVID-19, particularly in China, and labor shortages. Actions taken by the Group to mitigate supply chain disruptions and inflation, including expanding and redistributing its supplier network, supplier financing, price increases and productivity improvements, have generally been successful in offsetting some, but not all, of the impact of these trends. The collective impact of these trends has been to positively impact revenue due to increased demand and price increases to offset inflation, while negatively impacting margins due to supply chain disruptions and cost pressures. The Group has also experienced delays in converting its backlog due to continued supply chain disruptions, negatively impacting both revenues and margins. Although the Group has experienced recent improvement in its supply chain, the Group expects that these trends will continue to impact its results into fiscal 2023. Therefore, the Group could experience further disruptions, shortages and cost increases in the future, the effect of which will depend on the Group’s ability to successfully mitigate and offset the impact of these events.

In assessing the potential impact of these uncertainties on its liquidity, the Group prepared cash flow forecasts covering a period of at least twelve months from the date of approval of these financial statements. This assessment included consideration of the forecasted business performance, the cash and financial facilities available to the Group and the potential impact of COVID-19 on economic activity. The Group continues to expect that existing cash and cash equivalents of $2.0 billion as of September 30, 2022, cash generated by its operations, amounts available on its $3.0 billion revolving credit facilities and its ability to access the capital and debt markets will be sufficient to fund the Group’s operating and capital needs for at least the next twelve months and thereafter for the foreseeable future. To its knowledge, the Board reasonably believes these uncertainties would not have a material impact on the Group’s ability to continue as a going concern as of the financial statements’ approval date.

Given the Group’s assessment of its ability to fund its expected operating and capital needs, the Group's financial statements have been prepared on a going concern basis.

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

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.

The fair values of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values.

Assets and Liabilities Held for Sale

Assets and liabilities (disposal groups) to be sold are classified 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;
- 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 Group'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.

The Group 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 Group 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 Group 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 statement of financial position.

Cash and Cash Equivalents

Cash equivalents include all highly liquid investments with an original maturity of three months or less when purchased.

Restricted Cash

Restricted cash relates to amounts restricted for payment of asbestos liabilities and certain litigation and environmental matters. Restricted cash is recorded within other current assets in the consolidated statement of financial position and totaled $35 million and $6 million at September 30, 2022 and 2021, respectively.

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 Group extends credit to customers in the normal course of business and maintains an allowance for expected credit losses resulting from the inability or unwillingness of customers to make required payments. The allowance for expected credit losses is based on historical experience, existing economic conditions, reasonable and supportable forecasts, and any specific customer collection issues the Group has identified. The Group evaluates the reasonableness of the allowance for expected credit losses on a quarterly basis.

The Group enters into various factoring agreements to sell certain accounts receivable to third-party financial institutions. For the majority of these agreements, for ease of administration, the Group collects customer payments related to the factored

receivables on behalf of the financial institutions but otherwise maintains no continuing involvement with respect to the factored receivables. Sales of accounts receivable are reflected as a reduction of accounts receivable in the consolidated statement of financial position and the proceeds are included in cash flows from operating activities in the consolidated statement of cash flows.

Inventories

Inventories are stated at the lower of cost or net realizable value 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, up to 15 years for subscriber systems, and from 3 to 15 years for machinery and equipment. Interest on borrowings is capitalized during the active construction period of major capital projects, added to the cost of the underlying assets and amortized over the useful lives of the assets.

Goodwill and Indefinite-Lived Intangible Assets

Irish Company Law requires indefinite-lived intangible assets and goodwill to be amortized. However, amortization of indefinite-lived assets and goodwill may not give a true and fair view because not all goodwill and intangible assets decline in value. In addition, since goodwill that does decline in value rarely does so on a straight-line basis, straight-line amortization of goodwill over an arbitrary period may not reflect the economic reality. Therefore, in accordance with U.S. GAAP, goodwill and indefinite-lived intangible assets are not amortized. Rather, the Group assesses the impairment of goodwill and indefinite-lived intangible assets on an annual basis or more frequently if triggering events occur.

Goodwill reflects the cost of an acquisition in excess of the fair values assigned to identifiable net assets acquired. Goodwill is reviewed for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired. The Group performs impairment reviews for its reporting units, which have been determined to be the Group'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 Group uses the multiples of earnings approach based on the average of published multiples of earnings of comparable entities with similar operations and economic characteristics and applies the multiples to the Group's average of historical and future financial results for each reporting unit. In certain instances, the Group 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 to the carrying amount of the reporting unit, including recorded goodwill. The Group is subject to financial statement risk to the extent that the carrying amount exceeds the estimated fair value.

Indefinite-lived intangible assets are also subject to at least annual impairment testing. Indefinite-lived intangible assets primarily consist of trademarks and trade names 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.

Leases

Lessee arrangements

The Group leases certain administrative, production and other facilities, fleet vehicles, information technology equipment and other equipment under arrangements that are accounted for as operating leases. The Group determines whether an arrangement contains a lease at contract inception based on whether the arrangement involves the use of a physically distinct identified asset and whether the Group has the right to obtain substantially all of the economic benefits from the use of the asset throughout the period as well as the right to direct the use of the asset.

The Group adopted ASU 2016-02, "Leases (Topic 842)" and the related amendments using a modified-retrospective approach as of October 1, 2019.

Right-of-use assets represent the Group’s right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Right-of-use assets and the corresponding lease liabilities are recognized at commencement date based on the present value of lease payments for all leases with terms longer than twelve months. The majority of the Group's leases do not provide an implicit interest rate. To determine the present value of lease payments, the Group uses its incremental borrowing rate based on information available on the lease commencement date or the implicit rate if it is readily determinable. The Group determines its incremental borrowing rate based on a comparable market yield curve consistent with its credit rating, term of the lease and relative economic environment. The Group has elected to combine lease and nonlease components for its leases.

Most leases contain options to renew or terminate the lease. Right-of-use assets and lease liabilities reflect only the options which the Group is reasonably certain to exercise.

The Group has certain real estate leases that contain variable lease payments which are based on changes in the Consumer Price Index (CPI). Additionally, the Group’s leases generally require it to pay for fuel, maintenance, repair, insurance and taxes. These payments are not included in the right-of-use asset or lease liability and are expensed as incurred.

Lease expense is recognized on a straight-line basis over the lease term.

Lessor arrangements

The Group has monitoring services and maintenance agreements within its security business that include subscriber system assets for which the Group retains ownership. These agreements contain both lease and nonlease components. The Group has elected to combine lease and nonlease components for these arrangements where the timing and pattern of transfer of the lease and nonlease components are the same and the lease component would be classified as an operating lease if accounted for separately. The Group has concluded that in these arrangements the nonlease components are the predominant characteristic, and as a result, the combined component is accounted for under the revenue guidance.

Impairment of Long-Lived Assets

Long-lived assets, including right-of-use assets under operating leases, other tangible assets and intangible assets with definitive lives, are reviewed for impairment whenever events or changes in circumstances indicate that the asset’s carrying amount may not be recoverable. The Group conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets," ASC 350-30, "General Intangibles Other than Goodwill" and ASC 985-20, "Costs of Software to be Sold, Leased, or Marketed."

Assets and liabilities are grouped at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluates 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 group 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. Intangible assets acquired in a business combination that are used in research and development activities are considered indefinite-lived until the completion or abandonment of the associated research and development efforts. During the period that those assets are considered indefinite lived, they are not amortized but are tested for impairment annually and more frequently if events or changes in circumstances indicate that it is more likely than not that the asset is impaired. If the carrying amount of an intangible asset exceeds its fair value, the Group recognizes an impairment loss in an amount equal to that excess. Unamortized capitalized costs of a computer software product are compared to the net realizable value of the product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset is written off.

Revenue Recognition

Revenue from certain long-term contracts to design, manufacture and install building products and systems as well as unscheduled repair or replacement services is recognized on an over time basis, with progress towards completion measured using a cost-to-cost input method based on the relationship between actual costs incurred and total estimated costs at completion. The cost-to-cost input method is used as it best depicts the transfer of control to the customer that occurs as the Group incurs costs. Changes to the original estimates may be required during the life of the contract and such estimates are reviewed monthly. If contract modifications result in additional goods or services that are distinct from those transferred before the modification, they are accounted for prospectively as if the Group entered into a new contract. If the goods or services in the modification are not distinct from those in the original contract, 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. The

Group does not adjust the promised amount of consideration for the effects of a significant financing component as at contract inception the Group expects to receive the payment within twelve months of transfer of goods or services.

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

The Group also sells certain HVAC and refrigeration products and services in bundled arrangements with multiple performance obligations, such as 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 Group sells security monitoring systems that may have multiple performance obligations, including equipment, installation, monitoring services and maintenance agreements. Revenues associated with the sale of equipment and related installations are recognized over time on a cost-to-cost input method, while the revenue for monitoring and maintenance services are recognized over time as services are rendered. The transaction price is allocated to each performance obligation based on the relative selling price method. In order to estimate relative selling price, market data and transfer price studies are utilized. If the standalone selling price is not directly observable, the Group estimates the standalone selling price using an adjusted market assessment approach or expected cost plus margin approach. For transactions in which the Group retains ownership of the subscriber system asset, fees for monitoring and maintenance services are recognized over time 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 contract.

In all other cases, the Group recognizes revenue at the point in time when control over the goods or services transfers to the customer.

The Group considers the contractual consideration payable by the customer and assesses variable consideration that may affect the total transaction price, including discounts, rebates, refunds, credits or other similar sources of variable consideration, when determining the transaction price of each contract. The Group includes variable consideration in the estimated transaction price when it is probable that significant reversal of revenue recognized would not occur when the uncertainty associated with variable consideration is subsequently resolved. These estimates are based on the amount of consideration that the Group expects to be entitled to.

Shipping and handling costs billed to customers are included in sales and the related costs are included in cost of sales when control transfers to the customer. The Group presents amounts collected from customers for sales and other taxes net of the related amounts remitted.

Subscriber System Assets, Dealer Intangibles and Related Deferred Revenue Accounts

The Group 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)
- 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 Group 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, touch pad, motion detectors, window sensors, and other equipment) and installation costs associated with electronic security monitoring arrangements under which the Group 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 Group 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 Group.

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 statement 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 Group has a large number of customers that behave in a similar manner over time, the Group 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. Pooled subscriber system assets and related deferred revenue are depreciated using a straight-line method with lives up to 12 years and considering customer attrition. Non-pooled subscriber systems (primarily in Europe, Latin America and Asia) and related deferred revenue are depreciated using a straight-line method with a 15-year life, 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 Group to the dealer for the full amount of the contract purchase price. The Group 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 in the consolidated statement of income. Such expenditures for the years ended September 30, 2022 and 2021 were $295 million and $275 million, respectively.

Stock-Based Compensation

Restricted (Non-vested) Stock /Units

Restricted stock and restricted stock units are typically settled in shares for employees in the U.S. and in cash for employees not in the U.S. Restricted awards typically vest over a period of three years from the grant date. The Group's Compensation and Talent Development Committee may approve different vesting terms on specific grants. The fair value of each share-settled restricted award is based on the closing market value of the Group’s ordinary shares on the date of grant. The fair value of each cash-settled restricted award is recalculated at the end of each reporting period based on the closing market value of the Group's ordinary shares at the end of the reporting period, and the liability and expense are adjusted based on the new fair value.

Performance Share Awards

Performance-based share unit ("PSU") awards are generally contingent on the achievement of predetermined performance goals over a performance period of one to three years and on the award holder's continuous employment until the vesting date. The majority of PSUs are also indexed to the achievement of specified levels of total shareholder return versus a peer group over the performance period.

Upon completion of the performance period, earned PSUs are typically settled with shares of the Group's ordinary shares for employees in the U.S. and in cash for employees not in the U.S.

The fair value of the portion of the PSU which is linked to the achievement of performance goals is based on the closing market value of the Group's ordinary shares on the date of grant. Share-based compensation expense for these PSUs is recognized over the performance period based on the probability of achieving the performance targets.

The fair value of the portion of the PSU that is indexed to total shareholder return is estimated on the date of grant using a Monte Carlo simulation that uses the following assumptions:

- 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.
- The expected volatility is based on the historical volatility of the Group's stock over the most recent three-year period as of the grant date.

Share-based compensation expense for PSUs which are indexed to total shareholder return is not adjusted for changes in performance subsequent to the grant date because the likelihood of achieving the market condition is incorporated in the grant date fair value of the award.

Stock Options

Stock options are granted with an exercise price equal to the market price of the Group’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 following assumptions:

- The expected life of options represents the period of time that options granted are expected to be outstanding.
- 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.
- Expected volatility is based on the historical volatility of the Group's stock since October 2016 blended with the historical volatility of certain peer companies' stock prior to October 2016 over the most recent period corresponding to the expected life as of the grant date.
- The expected dividend yield is based on the expected annual dividend as a percentage of the market value of the Group’s ordinary shares as of the grant date.

The Group uses historical data to estimate option exercises and employee terminations within the valuation model.

Stock Appreciation Rights

SARs vest under the same terms and conditions as stock option awards, but 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 Group’s consolidated statement of financial position as a liability until the date of exercise.

The fair value of each SAR award is estimated using a similar method to that used 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.

Amounts related to SARs are not material.

Earnings Per Share

The Group 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 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 Group 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 and compensation cost for future service that the Group has not yet recognized. For unvested restricted stock and unvested performance share awards, assumed proceeds under the treasury stock method include unamortized compensation cost.

Foreign Currency Translation

Substantially all of the Group’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. Aggregate transaction gains, net of the impact of foreign currency hedges, for the years ended September 30, 2022 and 2021 were $49 million and $56 million, respectively.

Derivative Financial Instruments

The Group 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 Group 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 statement 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.

Investments

Investments in debt and equity securities are are marked to market at the end of each accounting period. Unrealized gains and losses on these securities are recognized in the Group's consolidated statement of income. 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 statement of income.

Pension and Postretirement Benefits

The Group 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.

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 Group records receivables from third party insurers when recovery has been determined to be probable.

The Group is subject to laws and regulations relating to protecting the environment. Expenses associated with environmental remediation obligations are recognized when such amounts are probable and can be reasonably estimated.

Liabilities and expenses for workers' compensation, product, general and auto liabilities 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. Receivables from third party insurers are recorded when recovery has been determined to be probable. The Group maintains captive insurance companies to manage its insurable liabilities.

Asbestos-Related Contingencies and Insurance Receivables

The Group 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 estimated liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Group'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 Group's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be filed against its affiliates). Estimated asbestos-related defense costs are included in the asbestos liability. The Group's legal strategy for resolving claims also impacts these estimates. The Group 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. At least annually, the Group 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 Group considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Group's defense strategy. The Group also evaluates the recoverability of its insurance receivable on an annual basis. The Group 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 Group records asbestos-related insurance recoveries that are probable. Estimated asbestos-related insurance recoveries represents estimated amounts due to the Group 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 Group considers available insurance, allocation methodologies, solvency and creditworthiness of the insurers.

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 reduce the carrying or book value of 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.

Retrospective Changes

Effective October 1, 2021, the Group's marine businesses, which were previously included in the Building Solutions Asia Pacific and Global Products segments, became part of the Building Solutions EMEA/LA segment. Historical information has been re-cast to present the comparative periods on a consistent basis. This change was not material to the segment presentation.

New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In October 2021, the FASB issued ASU No. 2021-08, “Business Combinations (Topic 805), Accounting for Contract Assets and Contract Liabilities from Contracts with Customers,” which requires contract assets and contract liabilities (e.g. deferred revenue) acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, “Revenue from Contracts with Customers.” Generally, this new guidance will result in the acquirer recognizing contract assets and contract liabilities at the same amounts recorded by the acquiree. Historically, such amounts were recognized by the acquirer at fair value in acquisition accounting. The guidance is applied prospectively to acquisitions occurring on or after the effective date. The Group early adopted ASU No. 2021-08 at the beginning of fiscal 2022. The adoption of the new standard did not have a material impact on the Group's consolidated financial statements.

Recently Issued Accounting Pronouncements

In September 2022, the FASB issued ASU 2022-04, "Disclosure of Supplier Finance Program Obligations", which is intended to enhance the transparency surrounding the use of supplier finance programs. Supplier finance programs may also be referred to as reverse factoring, payables finance, or structured payables arrangements. The amendments require a buyer that uses supplier finance programs to make annual disclosures about the program’s key terms, the balance sheet presentation of related amounts, the confirmed amount outstanding at the end of the period, and associated rollforward information. Only the amount outstanding at the end of the period must be disclosed in interim periods. The Group expects to adopt the new disclosures, other than the rollforward disclosure, as required at the beginning of fiscal 2024. The rollforward disclosures will be adopted as required at the beginning of fiscal 2025.

Other recently issued accounting pronouncements are not expected to have a material impact on the Group's consolidated financial statements.

2. ACQUISITIONS AND DIVESTITURES

During fiscal 2022, the Group acquired several businesses for a combined purchase price, net of cash acquired, of $323 million, of which $269 million was paid as of September 30, 2022. Intangible assets associated with these acquisitions totaled $123 million and primarily relate to customer relationships and technology. In connection with these acquisitions, the Group recorded goodwill of $194 million, of which $68 million was assigned to the Building Solutions EMEA/LA segment, $45 million was assigned to the Global Products segment, $44 million was assigned to the Building Solutions APAC segment and $36 million was assigned to the Building Solutions North America segment.

Silent-Aire Acquisition

In May 2021, the Group completed its acquisition of Silent-Aire, a global leader in hyperscale data center cooling and modular critical infrastructure solutions, for approximately $755 million, net of cash acquired, which was comprised of an upfront net cash payment of approximately $661 million, the estimated fair value at the acquisition date of contingent earn-out liabilities of approximately $86 million and a working capital adjustment of $8 million. The contingent earn-out liabilities are based upon the achievement of certain defined operating results in each of the three years following the acquisition, with a maximum payout of approximately $250 million. The fair value of contingent earn-out liabilities is reassessed on a quarterly basis and could differ materially from the initial estimates. Subsequent changes in the estimated fair value of contingent earn-out liabilities are recorded in the consolidated statement of income when incurred. Earn-out payments that are less than or equal to the contingent earn-out liabilities on the acquisition date are reflected as financing cash outflows and amounts paid in excess of the contingent earn-out liabilities on the acquisition date are reflected as operating cash outflows. During the year ended September 30, 2022, the Group recorded a reduction in the fair value of the contingent earn-out liability of $43 million. No earn-out payments were made for the first twelve-month earn-out period ended April 30, 2022 as the performance measures for the period were not achieved.

In connection with the acquisition, the Group recorded goodwill of $244 million in the Global Products segment. Goodwill is attributable primarily to expected synergies, expanded market opportunities and other benefits that the Group believes will result from combining its operations with the operations of Silent-Aire. The goodwill created in the acquisition is not deductible for tax purposes.

The original fair values of the assets acquired and liabilities assumed related to Silent-Aire are as follows (in millions):

Cash and cash equivalents	$	5
Accounts receivable		141
Inventories		60
Other current assets		4
Property, plant, and equipment - net		33
Goodwill		244
Intangible assets - net		497
Other noncurrent assets		84
Total assets acquired		1,068
Accounts payable		62
Accrued compensation and benefits		6
Deferred revenue		32
Other current liabilities		12
Other noncurrent liabilities		196
Total liabilities acquired		308
Net assets acquired	$	760

The purchase price allocation to identifiable intangible assets acquired related to Silent-Aire is as follows:

	Fair Value (in millions)	Weighted Average Life (in years)
Customer relationships	$ 291	19
Technology	116	13
Other definite-lived intangibles	23	1
Indefinite-lived trademarks	67	
Total identifiable intangible assets	$ 497	

Other acquisitions and divestitures were not material individually or in the aggregate in fiscal 2021.

3. ASSETS AND LIABILITIES HELD FOR SALE

During fiscal 2022, the Group determined that its Global Retail business within its Building Solutions North America, Building Solutions Asia Pacific and Building Solutions EMEA/LA segments and a business within the Building Solutions Asia Pacific segment both met the criteria to be classified as held for sale. The assets and liabilities of both businesses are presented as held for sale in the consolidated statement of financial position as of September 30, 2022. Assets and liabilities held for sale are recorded at the lower of carrying value or fair value, less costs to sell in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets". The carrying amount of any assets, including goodwill, that are part of the disposal group, but not in the scope of ASC 360-10, are tested for impairment under the relevant guidance prior to measuring the disposal group at fair value, less cost to sell.

As a result of classifying the Global Retail business as held for sale, during the year ended September 30, 2022, the Group recorded impairment charges of $235 million to write down goodwill related to its North America Retail reporting unit and $86 million to write down the disposal group to its estimated fair value, less costs to sell. The Group also fully impaired $38 million of internal-use software projects that were no longer probable of being completed. Refer to Note 8, "Goodwill and Other Intangible Assets," of the notes to the consolidated financial statements for further information regarding the goodwill impairment charge.

An additional $60 million was recorded in the year ended September 30, 2022 to write down the business classified as held for sale in the Building Solutions Asia Pacific segment to its estimated fair value, less costs to sell.

During the third quarter of fiscal 2020, the Group determined that certain assets of the Building Solutions Asia Pacific segment met the criteria to be classified as held for sale. During the fourth quarter of fiscal 2022, the Group determined that these assets no longer met the criteria to be classified as held for sale as the Group can no longer assert that the sale of the assets is probable within a year due to the real estate market downturn in China that has worsened in the period after the COVID-19 lockdowns. As a result, the Group reclassified the held for sale assets to held and used as of September 30, 2022. Upon reclassification, an impairment of $45 million was recorded within restructuring and impairment costs in the consolidated statement of income to adjust the asset to the lower of its carrying value adjusted for depreciation and the fair value of the asset as of September 30, 2022.

All of the impairments were recorded within restructuring and impairment costs in the consolidated statement of income. The divestiture of the businesses held for sale could result in a gain or loss on sale to the extent the ultimate selling prices differ from the current carrying value of the net assets recorded, which could be material. The businesses did not meet the criteria to be classified as discontinued operations as neither divestiture represents a strategic shift that will have a major effect on the Group's operations and financial results.

The following table presents a reconciliation of the consolidated statement of financial position of the continuing operations of the Group to the total operations of the Group (in millions):

(in millions, except par value and share data)	September 30, 2022 Continuing Operations	September 30, 2022 Assets and Liabilities Held for Sale	September 30, 2022 Total	September 30, 2021 Continuing Operations	September 30, 2021 Assets and Liabilities Held for Sale	September 30, 2021 Total
Assets						
Cash and cash equivalents	$ 2,031	$ —	$ 2,031	$ 1,336	$ —	$ 1,336
Accounts receivable - net	5,528	205	5,733	5,613	—	5,613
Inventories	2,510	157	2,667	2,057	—	2,057
Current assets held for sale	387	(387)	—	—	—	—
Other current assets	1,229	25	1,254	992	—	992
Current assets	11,685	—	11,685	9,998	—	9,998
Property, plant and equipment - net	3,042	143	3,185	3,228	156	3,384
Goodwill	17,328	22	17,350	18,335	—	18,335
Other intangible assets - net	4,641	514	5,155	5,549	—	5,549
Investments in partially-owned affiliates	963	—	963	1,066	—	1,066
Noncurrent assets held for sale	751	(751)	—	156	(156)	—
Other noncurrent assets	3,748	72	3,820	3,558	—	3,558
Total assets	$ 42,158	$ —	$ 42,158	$ 41,890	$ —	$ 41,890
Liabilities and Equity						
Short-term debt	$ 669	$ —	669	$ 8	$ —	8
Current portion of long-term debt	865	—	865	226	—	226
Accounts payable	4,241	135	4,376	3,746	—	3,746
Accrued compensation and benefits	955	28	983	982	—	982
Deferred revenue	1,768	38	1,806	1,637	—	1,637
Current liabilities held for sale	236	(236)	—	—	—	—
Current provisions	508	—	508	594	—	594
Other current liabilities	1,997	35	2,032	1,905	—	1,905
Current liabilities	11,239	—	11,239	9,098	—	9,098
Long-term debt	7,426	—	7,426	7,506	—	7,506
Noncurrent liabilities held for sale	62	(62)	—	—	—	—
Noncurrent provisions	4,399	1	4,400	4,457	—	4,457
Other noncurrent liabilities	1,630	61	1,691	2,076	—	2,076
Noncurrent liabilities	13,517	—	13,517	14,039	—	14,039
Shareholders’ equity attributable to Johnson Controls	16,268	—	16,268	17,562	—	17,562
Noncontrolling interests	1,134	—	1,134	1,191	—	1,191
Total equity	17,402	—	17,402	18,753	—	18,753
Total liabilities and equity	$ 42,158	$ —	$ 42,158	$ 41,890	$ —	$ 41,890

4. REVENUE RECOGNITION

Disaggregated Revenue

The following table presents the Group's revenues disaggregated by segment and by products and systems versus services revenue (in millions):

	Year Ended September 30,					
	2022			2021		
	Products & Systems	Services	Total	Products & Systems	Services	Total
Building Solutions North America	$ 5,708	$ 3,659	$ 9,367	$ 5,312	$ 3,373	$ 8,685
Building Solutions EMEA/LA	2,188	1,657	3,845	1,929	1,955	3,884
Building Solutions Asia Pacific	2,005	709	2,714	1,478	1,138	2,616
Global Products	9,373	—	9,373	8,483	—	8,483
Total	$ 19,274	$ 6,025	$ 25,299	$ 17,202	$ 6,466	$ 23,668

The following table presents further disaggregation of Global Products revenues by product type (in millions):

	Year Ended September 30,	
	2022	2021
HVAC	$ 6,756	$ 6,054
Fire & Security	2,367	2,192
Industrial Refrigeration	250	237
Total	$ 9,373	$ 8,483

Contract Balances

Contract assets relate to the Group's right to consideration for performance obligations satisfied but not billed and consist of unbilled receivables and costs in excess of billings. Contract liabilities relate to customer payments received in advance of satisfaction of performance obligations under the contract. Contract balances are classified as assets or liabilities on a contract-by-contract basis at the end of each reporting period.

The following table presents the location and amount of contract balances in the Group's consolidated statement of financial position (in millions):

		September 30,	
	Location of contract balances	2022	2021
Contract assets - current	Accounts receivable - net	$ 2,020	$ 1,718
Contract assets - noncurrent	Other noncurrent assets	79	99
Contract liabilities - current	Deferred revenue	(1,768)	(1,637)
Contract liabilities - noncurrent	Other noncurrent liabilities	(282)	(269)

The Group recognized revenue that was included in the beginning of period contract liability balance of approximately $1.5 billion and $1.2 billion for the years ended September 30, 2022 and 2021, respectively.

Performance Obligations

A performance obligation is a distinct good, service, or bundle of goods and services promised in a contract. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. When contracts with customers require significant and complex integration, contain goods or services which are highly interdependent or interrelated, or are goods or services which significantly modify or customize other promises in the contracts and, therefore, are not distinct, then the entire contract is accounted for as a single performance obligation. For any contracts with multiple performance obligations, the contract's transaction price is allocated to each performance obligation based on the estimated relative standalone selling price of each distinct good or service in the contract. For product sales, each product sold to a customer typically represents a distinct performance obligation.

Performance obligations are satisfied as of a point in time or over time. The timing of satisfying the performance obligation is typically indicated by the terms of the contract. As of September 30, 2022, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $17.5 billion, of which approximately 65% is expected to be recognized as revenue over the next two years. The remaining performance obligations expected to be recognized in revenue beyond two years primarily relate to large, multi-purpose contracts to construct hospitals, schools and other governmental buildings, which include services to be performed over the building's lifetime, with average initial contract terms of 25 to 35 years. Future contract modifications could affect both the timing and the amount of the remaining performance obligations. The Group excludes the value of remaining performance obligations for contracts with an original expected duration of one year or less.

Costs to Obtain or Fulfill a Contract

The Group recognizes the incremental costs incurred to obtain or fulfill a contract with a customer as an asset when these costs are recoverable. These costs consist primarily of sales commissions and bid/proposal costs. Costs to obtain or fulfill a contract are capitalized and amortized to revenue over the period of contract performance.

The following table presents the location and amount of costs to obtain or fulfill a contract recorded in the Group's consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Other current assets	$ 139	$ 149
Other noncurrent assets	174	117
Total	$ 313	$ 266

Amortization related to costs to obtain or fulfill a contract were $191 million and $173 million during the years ended September 30, 2022 and 2021, respectively. There were no impairment losses recognized in the year ended September 30, 2022 or 2021.

5. ACCOUNTS RECEIVABLE

Accounts receivable, net consisted of the following (in millions):

	September 30,	
	2022	2021
Accounts receivable	$ 5,590	$ 5,723
Less: Allowance for expected credit losses	(62)	(110)
Accounts receivable, net	$ 5,528	$ 5,613

The changes in the allowance for expected credit losses related to accounts receivable were as follows (in millions):

	Year Ended September 30, 2022	
	2022	2021
Balance at beginning of period	$ 110	$ 173
Benefit for expected credit losses	(2)	(3)
Write-offs charged against the allowance for expected credit losses	(38)	(65)
Currency translation	(3)	1
Other	(5)	4
Balance at end of period	$ 62	$ 110

The Group sold receivables where it collected customer payments related to the factored receivables on behalf of the financial institution but otherwise maintained no continuing involvement totaling $1,115 million and $129 million during the years ended

September 30, 2022 and 2021, respectively. The costs of factoring such receivables were not material. Outstanding receivables sold under the factoring agreements were $476 million as of September 30, 2022 and $127 million as of September 30, 2021.

6. INVENTORIES

Inventories consisted of the following (in millions):

	September 30, 2022	September 30, 2021
Raw materials and supplies	$ 1,009	$ 769
Work-in-process	196	166
Finished goods	1,305	1,122
Inventories	$ 2,510	$ 2,057

7. PROPERTY, PLANT AND EQUIPMENT

The changes in property, plant and equipment by type for fiscal 2022 are as follows (in millions):

	Land	Buildings	Subscriber Systems	Machinery and Equipment	Construction in Progress	Total
Cost:						
At September 30, 2021	$ 231	$ 1,313	$ 802	$ 3,669	$ 500	$ 6,515
Capital expenditures and acquisitions	—	48	113	287	96	544
Disposals and divestitures	(5)	(76)	4	(22)	(1)	(100)
Reclassified (to) from assets held for sale	(1)	93	(102)	(195)	(5)	(210)
Impairments	—	—	—	—	(39)	(39)
Currency translation and other	(29)	(78)	(84)	(189)	(39)	(419)
At September 30, 2022	$ 196	$ 1,300	$ 733	$ 3,550	$ 512	$ 6,291
Accumulated depreciation:						
At September 30, 2021	$ —	$ (478)	$ (182)	$ (2,627)	$ —	$ (3,287)
Depreciation expense	—	(66)	(75)	(262)	—	(403)
Disposals and divestitures	—	35	(17)	19	—	37
Reclassified to assets held for sale	—	12	39	126	—	177
Currency translation and other	—	43	40	144	—	227
At September 30, 2022	$ —	$ (454)	$ (195)	$ (2,600)	$ —	$ (3,249)
Net book value:						
At September 30, 2021	$ 231	$ 835	$ 620	$ 1,042	$ 500	$ 3,228
At September 30, 2022	$ 196	$ 846	$ 538	$ 950	$ 512	$ 3,042

8. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

Effective October 1, 2021, the Group's marine businesses previously included in the Building Solutions Asia Pacific and Global Products reportable segments became part of the Building Solutions EMEA/LA reportable segment. Historical information has been re-cast to present the comparative periods on a consistent basis. This change was not material to the segment presentation or the allocation of goodwill.

The changes in the carrying amount of goodwill in each of the Group's reportable segments were as follows (in millions):

	September 30, 2021	Business Acquisitions	Business Divestitures [1]	Impairments	Currency Translation and Other	September 30, 2022
Building Solutions North America	$ 9,215	$ 37	$ —	$ (235)	$ (46)	$ 8,971
Building Solutions EMEA/LA	2,041	78	(98)	—	(296)	1,725
Building Solutions Asia Pacific	1,237	44	(29)	—	(136)	1,116
Global Products	5,842	60	—	(75)	(311)	5,516
Total	$ 18,335	$ 219	$ (127)	$ (310)	$ (789)	$ 17,328

[1] Business divestitures include $93 million and $29 million of goodwill within the Building Solutions EMEA/LA and Building Solutions Asia Pacific reportable segments, respectively, transferred to noncurrent assets held for sale on the consolidated statement of financial position.

As of September 30, 2022, the accumulated impairment loss totaled $781 million, of which $659 million related to the Building Solutions North America segment, $75 million related to the Global Products segment and $47 million related to the Building Solutions EMEA/LA segment.

The Group reviews goodwill for impairment annually as of July 31 or more frequently if events or changes in circumstances indicate the asset might be impaired. During its fiscal 2022 annual impairment test, the Group determined that its Silent-Aire reporting unit's goodwill was impaired. As a result, the Group recorded a non-cash impairment charge of $75 million within restructuring and impairment costs in the consolidated statement of income in the fourth quarter of fiscal 2022, which was determined by comparing the carrying amount of the reporting unit to its fair value. The Silent-Aire reporting unit has a remaining goodwill balance of $183 million at September 30, 2022. The Group used a discounted cash flow model to estimate the fair value of the reporting unit. The primary assumptions used in the model were management's internal projections of future cash flows, the weighted-average cost of capital and long-term growth rates, which are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement." Although the Group'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 business, there was significant judgment in determining the expected future cash flows attributable to the Silent-Aire reporting unit. Other than the Silent-Aire reporting unit that is recorded at fair value, no other reporting unit was determined to be at risk of failing the goodwill impairment test.

In the second quarter of fiscal 2022, the Group concluded it had a triggering event requiring assessment of goodwill impairment for its North America Retail reporting unit in conjunction with classifying its Global Retail business as held for sale. Refer to Note 3, "Assets and Liabilities Held for Sale," of the notes to the consolidated financial statements for further disclosure related to the Global Retail assets held for sale. As a result, the Group recorded a non-cash impairment charge of $235 million within restructuring and impairment costs in the consolidated statement of income in the second quarter of fiscal 2022. The North America Retail reporting unit has no remaining goodwill balance as of September 30, 2022. The Group used the market approach to estimate the fair value of the reporting unit based on the relative estimated sales proceeds for the planned disposal of the Global Retail business attributable to the North America Retail reporting unit. The inputs utilized in the analysis are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

There were no other triggering events requiring that an impairment assessment be conducted in fiscal 2022.

Other Intangible Assets

The Group’s other intangible assets, primarily from business acquisitions, consisted of (in millions):

	Definite-Lived			Indefinite-Lived		
	Technology	Customer relationships	Miscellaneous	Trademarks and tradenames	Miscellaneous	Total
Cost:						
At September 30, 2021	$ 1,464	$ 3,097	$ 750	$ 2,332	$ 80	$ 7,723
Acquisitions and additions	80	53	142	—	—	275
Reclassified to assets held for sale	(129)	(284)	(114)	(152)	(79)	(758)
Currency translation and other	(62)	(124)	(22)	(92)	(1)	(301)
At September 30, 2022	$ 1,353	$ 2,742	$ 756	$ 2,088	$ —	$ 6,939
Accumulated amortization:						
At September 30, 2021	$ (629)	$ (1,191)	$ (354)	$ —	$ —	$ (2,174)
Amortization expense	(126)	(220)	(81)	—	—	(427)
Reclassified to assets held for sale	70	90	39	—	—	199
Currency translation and other	27	67	10	—	—	104
At September 30, 2022	$ (658)	$ (1,254)	$ (386)	$ —	$ —	$ (2,298)
Net book value:						
At September 30, 2021	$ 835	$ 1,906	$ 396	$ 2,332	$ 80	$ 5,549
At September 30, 2022	$ 695	$ 1,488	$ 370	$ 2,088	$ —	$ 4,641

The Group reviews indefinite-lived intangible assets for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired.

There were no indefinite-lived intangible asset impairments resulting from the fiscal 2022 annual impairment test. However, it is possible that future changes in circumstances would require the Group to record non-cash impairment charges. For fiscal 2022, the estimated fair values of all indefinite-lived intangibles substantially exceeded their carrying values, with the exception of the indefinite-lived trademarks related to the Group's Asia Pacific subscriber business. The estimated fair value for the Asia Pacific indefinite-lived trademark was consistent with its carrying value of $54 million.

The following table summarizes the expected amortization of definite-lived intangible assets, excluding the impact of future acquisitions, by year (in millions):

2023	$ 414
2024	406
2025	382
2026	317
2027	282

9. LEASES

The following table presents the Group's lease costs (in millions):

	Year Ended September 30, 2022	Year Ended September 30, 2021
Operating lease cost	$ 352	$ 384
Variable lease cost	165	130
Total lease costs	$ 517	$ 514

The following table presents supplemental consolidated statementsof financial position information (in millions):

	Location of lease balances	September 30, 2022	September 30, 2021
Operating lease right-of-use assets	Other noncurrent assets	$ 1,271	$ 1,376
Operating lease liabilities - current	Other current liabilities	280	319
Operating lease liabilities - noncurrent	Other noncurrent liabilities	987	1,055
Weighted-average remaining lease term		7 years	7 years
Weighted-average discount rate		2.1 %	1.8 %

The following table presents supplemental cash flow information related to operating leases (in millions):

	Year Ended September 30, 2022	Year Ended September 30, 2021
Cash paid for amounts included in the measurement of lease liability:		
Operating cash outflows from operating leases	$ 367	$ 398
Noncash operating lease activity:		
Right-of-use assets obtained in exchange for operating lease liabilities	369	515

The following table presents maturities of operating lease liabilities (in millions):

	September 30, 2022
2023	$ 301
2024	269
2025	203
2026	149
2027	109
After 2027	345
Total operating lease payments	1,376
Less: Interest	(109)
Present value of lease payments	$ 1,267

10. DEBT AND FINANCING ARRANGEMENTS

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

	September 30,	
	2022	2021
Bank borrowings	$ 10	$ 8
Commercial paper	172	—
Term loans	487	—
	$ 669	$ 8
Weighted average interest rate on short-term debt outstanding	0.5 %	0.2 %

As of September 30, 2022, the Group had a syndicated $2.5 billion committed revolving credit facility, which is scheduled to expire in December 2024, and a syndicated $500 million committed revolving credit facility, which was scheduled to expire in December 2022. There were no draws on the facilities as of September 30, 2022.

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

	September 30,	
	2022	2021
Unsecured notes		
JCI plc - Term Loan -¥25 billion; LIBOR JPY plus 0.40% due in 2022	$ —	$ 223
JCI plc - 4.625% due in 2023 ($25 million par value)	25	25
Tyco International Finance S.A. ("TIFSA") - 4.625% due in 2023 ($7 million par value)	7	7
JCI plc - 1.00% due in 2023 (€846 million par value)	830	980
JCI plc - 3.625% due in 2024 ($453 million par value)	453	453
JCI Inc. - 3.625% due in 2024 ($31 million par value)	31	31
JCI plc - 1.375% due in 2025 (€423 million par value)	419	496
TIFSA - 1.375% due in 2025 (€54 million par value)	53	63
JCI plc - 3.90% due in 2026 ($487 million par value)	505	510
TIFSA - 3.90% due in 2026 ($51 million par value)	51	51
JCI plc - Term Loan - ¥30 billion; TORF plus 0.40% due in 2027	208	—
JCI plc and Tyco Fire & Security Finance S.C.A. ("TFSCA") - 0.375% due in 2027 (€500 million par value)	488	577
JCI plc and TFSCA - 3.00% due in 2028 (€600 million par value)	586	—
JCI plc and TFSCA - 1.75% due in 2030 ($625 million par value)	623	623
JCI plc and TFSCA - 2.00% due in 2031 ($500 million par value)	496	496
JCI plc and TFSCA - 1.00% due in 2032 (€500 million par value)	489	578
JCI plc and TFSCA - 4.90% due in 2032 ($400 million par value)	394	—
JCI plc - 6.00% due in 2036 ($342 million par value)	339	339
JCI Inc. - 6.00% due in 2036 ($8 million par value)	8	8
JCI plc - 5.70% due in 2041 ($190 million par value)	189	189
JCI Inc. - 5.70% due in 2041 ($30 million par value)	30	30
JCI plc - 5.25% due in 2042 ($155 million par value)	155	155
JCI Inc. - 5.25% due in 2042 ($6 million par value)	6	6
JCI plc - 4.625% due in 2044 ($444 million par value)	441	441
JCI Inc. - 4.625% due in 2044 ($6 million par value)	6	6
JCI plc - 5.125% due in 2045 ($477 million par value)	557	560
TIFSA - 5.125% due in 2045 ($23 million par value)	23	22
JCI plc - 6.95% due in 2046 ($32 million par value)	32	32
JCI Inc. - 6.95% due in 2046 ($4 million par value)	4	4
JCI plc - 4.50% due in 2047 ($500 million par value)	496	496
JCI plc - 4.95% due in 2064 ($341 million par value)	340	340
JCI Inc. - 4.95% due in 2064 ($15 million par value)	15	15
Other	25	8
Gross long-term debt	8,324	7,764
Less: current portion	865	226
Less: debt issuance costs	33	32
Long-term debt	$ 7,426	$ 7,506

The following table presents maturities of long-term debt as of September 30, 2022 (in millions):

2023	$	865
2024		485
2025		473
2026		557
2027		697
After 2027		5,247
Total	$	8,324

As of September 30, 2022, the Group was in compliance with all financial covenants set forth in its credit agreements and the indentures governing its outstanding notes, and expects to remain in compliance for the foreseeable future.

Total interest paid on both short and long-term debt for the years ended September 30, 2022 and 2021 was $226 million and $242 million, respectively.

Financing Arrangements

In November 2021, the Group entered into a €200 million ($196 million as of September 30, 2022) bank term loan which had an interest rate of EURIBOR plus 0.5% and was due in October 2022.

In March 2022, the Group entered into two bank term loans totaling €285 million ($280 million as of September 30, 2022) which both have an interest rate of EURIBOR plus 0.5% and are due in March 2023.

In September 2022, the Group and its wholly owned subsidiary, TFSCA issued €600 million ($589 million as of September 30, 2022) of bonds with an interest rate of 3.0%, which are due in September 2028 and $400 million of bonds with an interest rate of 4.9%, which are due in December 2032.

In September 2022, the Group repaid a ¥25 billion ($181 million) term loan and entered into a ¥30 billion ($208 million as of September 30, 2022) term loan which is due in September 2027. The new ¥30 billion loan has an interest rate of TORF plus 0.4%. The original ¥25 billion loan had an interest rate of LIBOR JPY plus 0.4%.

Net Financing Charges

The Group's net financing charges line item in the consolidated statement of income contained the following components (in millions):

	Year Ended September 30,	
	2022	2021
Interest expense, net of capitalized interest costs	$ 225	$ 219
Other financing charges	27	25
Interest income	(6)	(9)
Net foreign exchange results for financing activities	(33)	(29)
Net financing charges	$ 213	$ 206

Interest expense is comprised of (in millions):

	Year Ended September 30,	
	2022	2021
Interest on debt payable within five years	$ 68	$ 59
Interest on debt payable beyond five years	157	160
	$ 225	$ 219

11. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Cash Flow Hedges

The Group has global operations and participates in foreign exchange markets to minimize its risk of loss from fluctuations in foreign currency exchange rates. The Group selectively hedges anticipated transactions that are subject to foreign exchange rate risk primarily using foreign currency exchange forward contracts. The Group hedges 70% to 90% of the notional amount of each of its known foreign exchange transactional exposures.

The Group selectively hedges anticipated transactions that are subject to commodity price risk, primarily using commodity hedge contracts, to minimize overall price risk associated with the Group's purchases of copper and aluminum 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. The maturities of the commodity hedge contracts coincide with the expected purchase of the commodities.

As cash flow hedges under ASC 815, "Derivatives and Hedging," 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. These contracts were highly effective in hedging the variability in future cash flows attributable to changes in currency exchange rates during the years ended September 30, 2022 and 2021.

The Group had the following outstanding contracts to hedge forecasted commodity purchases (in metric tons):

	Volume Outstanding as of September 30,	
Commodity	2022	2021
Copper	3,629	2,656
Aluminum	6,758	5,159

The Group enters into forward-starting interest rate swaps in conjunction with anticipated note issuances. The following table summarizes forward-starting interest rate swaps and the related anticipated note issuances (in millions):

	Year Ended September 30,	
	2022	2021
US dollar denominated		
Forward-starting interest swaps	$ 300	$ 500
Anticipated note issuance	400	500
Euro denominated		
Forward-starting interest swap	€ 200	—
Anticipated note issuance	600	—

All of the forward-starting interest swaps were terminated when the anticipated notes were issued and none were outstanding at September 30, 2022. Accumulated amounts recorded in AOCI as of the date of the note issuance are amortized to interest expense over the life of the related note to reflect the difference between the swap's reference rate and the fixed rate of the note.

Net Investment Hedges

The Group 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 currency gains and losses recorded on the Group's net investments globally.

The following table summarizes net investment hedges (in billions):

	September 30,	
	2022	2021
Euro-denominated bonds designated as net investment hedges in Europe	€ 2.9	€ 2.3
Yen-denominated debt designated as a net investment hedge in Japan	¥ 30	¥ 25

Derivatives Not Designated as Hedging Instruments

The Group 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 Group's stock price increases and decrease as the Group's stock price decreases. In contrast, the value of the swap agreement moves in the opposite direction of these liabilities, allowing the Group to fix a portion of the liabilities at a stated amount. The Group hedged approximately 0.3 million ordinary shares, which had a cost basis of $23 million, as of September 30, 2021. No shares were hedged as of September 30, 2022.

The Group also holds certain foreign currency forward contracts not designated as hedging instruments under ASC 815 to hedge foreign currency exposure resulting from monetary assets and liabilities denominated in nonfunctional currencies. The changes in fair value of these foreign currency exchange derivatives are recorded in the consolidated statement of income where they offset foreign currency transactional gains and losses on the nonfunctional currency denominated assets and liabilities being hedged.

Fair Value of Derivative Instruments

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

	Designated as Hedging Instruments		Not Designated as Hedging Instruments	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Other current assets				
Foreign currency exchange derivatives	$ 30	$ 15	$ 24	$ 17
Commodity derivatives	—	2	—	—
Other noncurrent assets				
Equity swap	—	—	—	23
Total assets	$ 30	$ 17	$ 24	$ 40
Other current liabilities				
Foreign currency exchange derivatives	$ 24	$ 11	$ 27	$ 6
Commodity derivatives	10	1	—	—
Long-term debt				
Foreign currency denominated debt	3,077	2,918	—	—
Total liabilities	$ 3,111	$ 2,930	$ 27	$ 6

Counterparty Credit Risk

The use of derivative financial instruments exposes the Group to counterparty credit risk. The Group 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 Group deals with major banks worldwide having strong investment grade long-term credit ratings. To further reduce the risk of loss, the Group generally enters into International Swaps and Derivatives Association ("ISDA") master netting agreements with substantially all of its counterparties. The Group 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 Group has not elected to offset the fair value positions of the derivative contracts recorded in the consolidated statement of financial position.

The Group'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 Group or the counterparties. The Group'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 Group 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 Group.

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, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Gross amount recognized	$ 54	$ 57	$ 3,138	$ 2,936
Gross amount eligible for offsetting	(42)	(16)	(42)	(16)
Net amount	$ 12	$ 41	$ 3,096	$ 2,920

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

The following table presents the pre-tax gains (losses) recorded in other comprehensive income (loss) related to cash flow hedges (in millions):

Derivatives in Cash Flow Hedging Relationships	Year Ended September 30, 2022	Year Ended September 30, 2021
Foreign currency exchange derivatives	$ 26	$ 15
Commodity derivatives	(21)	4
Interest rate swaps	16	(21)
Total	$ 21	$ (2)

The following table presents the location and amount of the pre-tax gains (losses) on cash flow hedges reclassified from AOCI into the Group's consolidated statement of income (in millions):

Derivatives in Cash Flow Hedging Relationships	Location of Gain (Loss) Reclassified from AOCI into Income	Year Ended September 30, 2022	Year Ended September 30, 2021
Foreign currency exchange derivatives	Cost of sales	$ 25	$ 11
Commodity derivatives	Cost of sales	(7)	3
Interest rate swaps	Net financing charges	(2)	—
Total		$ 16	$ 14

The following table presents the location and amount of pre-tax gains (losses) on derivatives not designated as hedging instruments recognized in the Group's consolidated statement of income (in millions):

Derivatives Not Designated as Hedging Instruments	Location of Gain (Loss) Recognized in Income on Derivative	Year Ended September 30, 2022	Year Ended September 30, 2021
Foreign currency exchange derivatives	Cost of sales	$ 10	$ (6)
Foreign currency exchange derivatives	Net financing charges	85	174
Foreign currency exchange derivatives	Selling, general and administrative	—	(2)
Foreign currency exchange derivatives	Income tax provision	—	(1)
Equity swap	Selling, general and administrative	(5)	28
Total		$ 90	$ 193

Pre-tax gains (losses) on net investment hedges recorded as foreign currency translation adjustment ("CTA") within other comprehensive income (loss) were $470 million and $42 million for the years ended September 30, 2022 and 2021, respectively. No gains or losses were reclassified from CTA into income for the years ended September 30, 2022 and 2021.

12. FAIR VALUE MEASUREMENTS

The following tables present the Group's fair value hierarchy for those assets and liabilities measured at fair value (in millions):

	Fair Value Measurements Using:			
	Total as of September 30, 2022	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	$ 54	$ —	$ 54	$ —
Exchange traded funds (fixed income)[1]	22	22	—	—
Other noncurrent assets				
Deferred compensation plan assets	46	46	—	—
Exchange traded funds (fixed income)[1]	86	86	—	—
Exchange traded funds (equity)[1]	131	131	—	—
Total assets	$ 339	$ 285	$ 54	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 51	$ —	$ 51	$ —
Commodity derivatives	10	—	10	—
Contingent earn-out liabilities	30	—	—	30
Other noncurrent liabilities				
Contingent earn-out liabilities	30	—	—	30
Total liabilities	$ 121	$ —	$ 61	$ 60

	Fair Value Measurements Using:			
	Total as of September 30, 2021	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	$ 32	$ —	$ 32	$ —
Commodity derivatives	2	—	2	—
Other noncurrent assets				
Deferred compensation plan assets	63	63	—	—
Exchange traded funds (fixed income)[1]	146	146	—	—
Exchange traded funds (equity)[1]	168	168	—	—
Equity swap	23	—	23	—
Total assets	$ 434	$ 377	$ 57	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 17	$ —	$ 17	$ —
Commodity derivatives	1	—	1	—
Contingent earn-out liabilities	32	—	—	32
Other noncurrent liabilities				
Contingent earn-out liabilities	50	—	—	50
Total liabilities	$ 100	$ —	$ 18	$ 82

[1]Classified as restricted investments for payment of asbestos liabilities. Refer to Note 21, "Commitments and Contingencies" of the notes to consolidated financial statements for further details.

The following table summarizes the changes in contingent earn-out liabilities, which are valued using significant unobservable inputs (Level 3) (in millions):

Balance at September 30, 2021	$	82
Acquisitions		29
Payments		(5)
Reduction for change in estimates		(43)
Currency translation		(3)
Balance at September 30, 2022	$	60

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.

Equity swaps: The equity swaps are valued under a market approach as the fair value of the swaps is equal to the Group'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 Group'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. Unrealized gains (losses) on the deferred compensation plan assets are recognized in the consolidated statement of income where they offset unrealized gains and losses on the related deferred compensation plan liability.

Investments in exchange traded funds: Investments in exchange traded funds are valued using a market approach based on quoted market prices, where available, or broker/dealer quotes of identical or comparable instruments. Refer to Note 21, "Commitments and Contingencies," of the notes to consolidated financial statements for further information.

Contingent earn-out liabilities: The contingent earn-out liabilities are typically established using a Monte Carlo simulation based on the forecasted operating results and the earn-out formulas specified in the purchase agreements.

The following table presents the portion of unrealized gains (losses) recognized in the consolidated statement of income that relate to equity securities still held at September 30, 2022 and 2021 (in millions):

	Year Ended September 30,	
	2022	2021
Deferred compensation plan assets	$ (10)	$ 7
Investments in exchange traded funds	(55)	37

All of the gains and losses on investments in exchange traded funds related to restricted investments.

The fair values of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values. At September 30, 2022, the fair value of long-term debt was $7.3 billion, including public debt of $7.1 billion and other long-term debt of $0.2 billion. At September 30, 2021, the fair value of long-term debt was $8.5 billion, including public debt of $8.3 billion and other long-term debt of $0.2 billion. The fair value of public debt was determined primarily using market quotes which are classified as Level 1 inputs within the ASC 820 fair value hierarchy. The fair value of other long-term debt was determined using quoted market prices for similar instruments and are classified as Level 2 inputs within the ASC 820 fair value hierarchy.

13. STOCK-BASED COMPENSATION

On March 10, 2021, the shareholders of the Group approved the Johnson Controls International plc 2021 Equity and Incentive Plan, which terminated the Johnson Controls International plc 2012 Share and Incentive Plan, as amended in September 2016 (collectively, the "Plans"). Both Plans authorize stock options, stock appreciation rights, restricted (non-vested) stock/units, performance shares, performance units and other stock-based awards. The Compensation and Talent Development Committee of the Group's Board of Directors determines the types of awards to be granted to individual participants and the terms and conditions of the awards. As of September 30, 2022, there were 55 million shares of the Group's common stock reserved and 54 million shares available for issuance under the 2021 Equity and Incentive Plan.

The following table summarizes stock-based compensation related charges and benefits (in millions):

	Year Ended September 30,	
	2022	2021
Compensation expense	$ 104	$ 97
Income tax benefit resulting from share-based compensation arrangements	26	24
Tax impact from exercise and vesting of equity settled awards	12	12

Compensation expense excludes the offsetting impact of equity swaps and is recorded in selling, general and administrative expenses. The Group does not settle stock options granted under share-based payment arrangements in cash.

Restricted (Non-vested) Stock / Units

A summary of non-vested restricted stock awards at September 30, 2022, and changes for the year then ended, is presented below:

	Weighted Average Price	Shares/Units Subject to Restriction
Non-vested, September 30, 2021	$ 44.06	3,334,437
Granted	74.63	1,508,550
Vested	42.52	(1,497,497)
Forfeited	56.58	(396,296)
Non-vested, September 30, 2022	$ 58.78	2,949,194

At September 30, 2022, the Group had approximately $107 million of total unrecognized compensation cost related to non-vested restricted stock arrangements granted for continuing operations which is expected to be recognized over a weighted-average period of 2.0 years.

Performance Share Awards

The following table summarizes the assumptions used in determining the fair value of stock options granted:

	Year Ended September 30,	
	2022	2021
Risk-free interest rate	0.99%	0.20%
Expected volatility of the Group’s stock	30.00%	30.90%

A summary of the status of the Group's non-vested PSUs at September 30, 2022, and changes for the year then ended, is presented below:

	Weighted Average Price	Shares/Units Subject to PSU
Non-vested, September 30, 2021	$ 43.11	1,196,318
Granted	82.88	482,030
Vested	36.35	(402,465)
Forfeited	60.02	(132,812)
Non-vested, September 30, 2022	$ 60.30	1,143,071

At September 30, 2022, the Group had approximately $37 million of total unrecognized compensation cost related to non-vested performance-based share unit awards granted for continuing operations which is expected to be recognized over a weighted-average period of 1.7 years.

Stock Options

The following table summarizes the assumptions used in determining the fair value of stock options granted:

	Year Ended September 30,	
	2022	2021
Expected life of option (years)	6.0	6.5
Risk-free interest rate	1.35%	0.60%
Expected volatility of the Group's stock	27.80%	27.60%
Expected dividend yield on the Group's stock	1.71%	2.28%

A summary of stock option activity at September 30, 2022, 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, 2021	$ 38.84	5,951,011		
Granted	79.54	548,398		
Exercised	33.77	(542,903)		
Forfeited or expired	50.97	(272,659)		
Outstanding, September 30, 2022	$ 42.46	5,683,847	5.7	$ 52
Exercisable, September 30, 2022	$ 37.86	4,082,897	4.1	$ 47

The following table summarizes additional stock option information:

	Year Ended September 30,	
	2022	2021
Weighted-average grant-date fair value of options granted	$ 18.59	$ 9.36
Intrinsic value of options exercised (in millions)	19	94

At September 30, 2022, the Group had approximately $10 million of total unrecognized compensation cost related to non-vested stock options granted for continuing operations which is expected to be recognized over a weighted-average period of 1.6 years.

14. EARNINGS PER SHARE

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

	Year Ended September 30,	
	2022	2021
Income Available to Ordinary Shareholders		
Income from continuing operations	$ 1,532	$ 1,513
Basic and diluted income available to shareholders	1,532	1,513
Weighted Average Shares Outstanding		
Basic weighted average shares outstanding	696.1	716.6
Effect of dilutive securities:		
Stock options, unvested restricted stock and unvested performance share awards	3.5	4.5
Diluted weighted average shares outstanding	699.6	721.1
Antidilutive Securities		
Stock options and unvested restricted stock	0.4	—

15. EQUITY

Authorized Share Capital

As of September 30, 2022, the Group's authorized share capital amounted to $22 million and 40,000 euro, divided into 2 billion ordinary shares with a par value of $0.01 per share, 200 million preferred shares with a par value of $0.01 per share and 40,000 ordinary A shares with a par value of 1.00 euro per share. The authorized share capital includes 40,000 ordinary A shares with a par value of 1.00 euro per share in order to satisfy statutory requirements for the incorporation of all Irish public limited companies. Johnson Controls International plc Parent Company may issue shares subject to the maximum prescribed by its authorized share capital contained in its memorandum of association. In connection with the re-domicile, the Group canceled all the outstanding treasury shares of JCI Inc., including shares held by subsidiaries, with an offsetting reduction in the share premium account.

Called-Up Share Capital

All ordinary shares issued at the effective time of the re-domicile were issued as fully paid-up and non-assessable. As of September 30, 2022, the Group's called-up share capital amounted to $7 million, which is recorded in ordinary shares within the consolidated statement of financial position, comprised of 717,726,243 ordinary shares with a par value of $0.01 per share. As of September 30, 2021, the Group's called-up share capital amounted to $7 million, comprised of 737,090,363 ordinary shares with a par value of $0.01 per share. There were no preferred shares or ordinary A shares issued as of September 30, 2022 and 2021.

Share Premium

Share premium reflects the fair value of consideration received in excess of the par value of shares issued for stock option exercises, vesting of restricted stock units and other issuances of shares and is recorded in share premium within the consolidated statement of financial position. It also includes Company share premium as defined by Irish law of $695 million and $675 million as of September 30, 2022 and 2021, respectively.

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 Group's ordinary shares is determined by the Group's Board of Directors and depends upon many factors, including the Group's financial condition and results of operations, the capital requirements of the Group'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 Merger.

Share Repurchase Program

As of September 30, 2022, approximately $3.6 billion remained available under the share repurchase program which was approved by the Group's Board of Directors in March 2021. 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.

The Group repurchased and retired its ordinary shares of approximately $1,441 million and $1,307 million during the years ended September 30, 2022 and 2021, respectively.

Accumulated Other Comprehensive Income

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

	Year Ended September 30,	
	2022	2021
Foreign currency translation adjustments		
Balance at beginning of period	$ (421)	$ (778)
Aggregate adjustment for the period (net of tax effect of $0 and $0)	(480)	357
Balance at end of period	(901)	(421)
Realized and unrealized gains (losses) on derivatives		
Balance at beginning of period	(17)	2
Current period changes in fair value (net of tax effect of $2 and,$5)	18	(8)
Reclassification to income (net of tax effect of $(4) and $(3) [1]	(12)	(11)
Balance at end of period	(11)	(17)
Pension and postretirement plans		
Balance at beginning of period	4	—
Reclassification to income (net of tax effect of $0 and $0)	(3)	(3)
Other changes (net of tax effect of $0 and $(1))	—	7
Balance at end of period	1	4
Accumulated other comprehensive loss, end of period	$ (911)	$ (434)

(1) Refer to Note 11, "Derivative Instruments and Hedging Activities," of the notes to consolidated financial statements for disclosure of the line items in the consolidated statement of income affected by reclassifications from AOCI into income related to derivatives.

16. RETIREMENT PLANS

Pension Benefits

The Group 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 Group’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 Group makes contributions to union-trusteed pension funds for construction and service personnel.

The following table includes information for pension plans with accumulated benefit obligations ("ABO") in excess of plan assets (in millions):

	September 30,	
	2022	2021
Accumulated benefit obligation	$ 2,004	$ 4,402
Fair value of plan assets	1,720	3,841

The following table includes information for pension plans with projected benefit obligations ("PBO") in excess of plan assets (in millions):

	September 30,	
	2022	2021
Projected benefit obligation	$ 2,013	$ 4,519
Fair value of plan assets	1,729	3,954

During the year ended September 30, 2022, total employer contributions to the defined benefit pension plans were $93 million, none of which were voluntary contributions made by the Group. The Group expects to contribute approximately $38 million in cash to its defined benefit pension plans in the year ended September 30, 2023. Projected benefit payments from the plans as of September 30, 2022 are estimated as follows (in millions):

2023	$ 266
2024	248
2025	246
2026	245
2027	243
2028 - 2032	1,180

Postretirement Benefits

The Group provides certain health care and life insurance benefits for eligible retirees and their dependents primarily in the U.S. and Canada. Most non-U.S. employees are covered by government sponsored programs. The cost to the Group 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. The Group has reserved the right to modify these benefits.

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

The following table includes information for postretirement plans with accumulated postretirement benefit obligations ("APBO") in excess of plan assets (in millions):

	September 30,	
	2022	2021
Accumulated postretirement benefit obligation	$ 68	$ 96
Fair value of plan assets	28	38

During the year ended September 30, 2022, total employer contributions to the postretirement plans were $3 million. The Group expects to contribute approximately $3 million in cash to its postretirement plans in the year ended September 30, 2023. Projected benefit payments from the plans as of September 30, 2022 are estimated as follows (in millions):

2023	$ 11
2024	10
2025	10
2026	10
2027	9
2028 - 2032	31

Defined Contribution Plans

The Group 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 Group will contribute to certain savings plans based on predetermined percentages of compensation earned by the employee and/or will match a percentage of the employee contributions up to certain limits. The Group temporarily suspended certain contributions in fiscal 2021 in response to the COVID-19 pandemic. Defined contribution plan contributions charged to expense amounted to $196 million and $118 million during the years ended September 30, 2022 and 2021, respectively.

Multiemployer Benefit Plans

The Group 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 Group stops participating in some of its multiemployer benefit plans, the Group 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 Group participates in approximately 270 multiemployer benefit plans, none of which are individually significant to the Group. The number of employees covered by the Group'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 2022 and 2021 contributions. The Group recognizes expense for the contractually-required contribution for each period. The Group contributed $71 million and $67 million to multiemployer benefit plans during the years ended September 30, 2022 and 2021, respectively.

Based on the most recent information available, the Group 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 Group is not aware of any significant multiemployer benefit plans for which it is probable or reasonably possible that the Group will be obligated to make up any shortfall in funds. Moreover, if the Group were to exit certain markets or otherwise cease making contributions to these funds, the Group could trigger a withdrawal liability. Currently, the Group is not aware of any multiemployer benefit plans for which it is probable or reasonably possible that the Group 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 Group’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 capitalization. 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 the Group's diversification strategies, there are no significant concentrations of risk within the portfolio of investments.

The Group’s actual asset allocations are in line with target allocations. The Group 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 Group’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 Group's plan assets at September 30, 2022 and 2021, by asset category, are as follows (in millions):

Asset Category	Total as of September 30, 2022	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	$ 40	$ —	$ 40	$ —
Equity Securities				
Large-Cap	160	160	—	—
Small-Cap	175	175	—	—
International - Developed	139	139	—	—
International - Emerging	39	39	—	—
Fixed Income Securities				
Government	217	216	1	—
Corporate/Other	804	804	—	—
Total Investments in the Fair Value Hierarchy	1,574	$ 1,533	$ 41	$ —
Real Estate Investments Measured at Net Asset Value[(1)]	322			
Due to Broker	(166)			
Total Plan Assets	$ 1,730			
Non-U.S. Pension				
Cash and Cash Equivalents	$ 150	$ 150	$ —	$ —
Equity Securities				
Large-Cap	45	8	37	—
International - Developed	43	12	31	—
International - Emerging	3	—	3	—
Fixed Income Securities				
Government	650	50	600	—
Corporate/Other	418	277	141	—
Hedge Fund	18	—	18	—
Real Estate	9	9	—	—
Total Investments in the Fair Value Hierarchy	1,336	$ 506	$ 830	$ —
Real Estate Investments Measured at Net Asset Value[(1)]	97			
Total Plan Assets	$ 1,433			
Postretirement				
Cash and Cash Equivalents	$ 13	$ 13	$ —	$ —
Equity Securities				
Global	66	—	66	—
Total Investments in the Fair Value Hierarchy	79	$ 13	$ 66	$ —
Multi-Credit Strategy Investments Measured at Net Asset Value[(1)]	65			
Total Plan Assets	$ 144			

Asset Category	Total as of September 30, 2021	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	$ 75	$ —	$ 75	$ —
Equity Securities				
Large-Cap	185	185	—	—
Small-Cap	215	215	—	—
International - Developed	182	182	—	—
International - Emerging	34	34	—	—
Fixed Income Securities				
Government	286	98	188	—
Corporate/Other	1,279	1,279	—	—
Total Investments in the Fair Value Hierarchy	2,256	$ 1,993	$ 263	$ —
Real Estate Investments Measured at Net Asset Value[(1)]	280			
Due to Broker	(77)			
Total Plan Assets	$ 2,459			
Non-U.S. Pension				
Cash and Cash Equivalents	$ 151	$ 151	$ —	$ —
Large-Cap	197	23	174	—
International - Developed	128	30	98	—
International - Emerging	2	—	2	—
Fixed Income Securities				
Government	1,123	77	1,046	—
Corporate/Other	597	320	277	—
Hedge Fund	27	—	27	—
Real Estate	14	14	—	—
Total Investments in the Fair Value Hierarchy	2,239	$ 615	$ 1,624	$ —
Real Estate Investments Measured at Net Asset Value[(1)]	105			
Total Plan Assets	$ 2,344			
Postretirement				
Cash and Cash Equivalents	$ 5	$ 5	$ —	$ —
Equity Securities				
Large-Cap	24	—	24	—
Small-Cap	8	—	8	—
International - Developed	19	—	19	—
International - Emerging	12	—	12	—
Fixed Income Securities				
Government	20	—	20	—
Corporate/Other	56	—	56	—
Commodities	17	—	17	—
Real Estate	11	—	11	—
Total Plan Assets	$ 172	$ 5	$ 167	$ —

[(1)]The fair value of certain real estate and multi-credit strategy investments do not have a readily determinable fair value and require 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 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 investments are updated every quarter. Due to the fact that the fund managers calculate NAV per share, the Group utilizes a practical expedient for measuring the fair value of its real estate and multi-credit strategy investments, as provided for under ASC 820, "Fair Value Measurement." In applying the practical expedient, the Group is not required to further adjust the NAV provided by the fund manager in order to determine the fair value of its investments 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 Group's measurement date. The Group 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 are disclosed separate from the fair value hierarchy. The fair value amounts presented in these tables 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 and cash equivalents 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 Group and custodian review the methods used by the underlying managers to value the assets. The Group believes this is an appropriate methodology to obtain the fair value of these assets.

Real Estate: The fair value of real estate is determined by quoted market prices of the underlying Real Estate Investment Trusts ("REITs"), which are securities 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 Group 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, 2022 or 2021 or any Level 3 asset activity during fiscal 2022 or 2021.

Funded Status

The following table 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,	2022	2021	2022	2021	2022	2021
Accumulated Benefit Obligation	$ 1,822	$ 2,629	$ 1,417	$ 2,540	$ 89	$ —
Change in Projected Benefit Obligation						
Projected benefit obligation at beginning of year	$ 2,629	$ 3,217	$ 2,625	$ 2,726	$ 123	$ 146
Service cost	—	—	20	27	1	1
Interest cost	56	47	39	32	2	2
Plan participant contributions	—	—	2	3	3	3
Actuarial gain	(587)	(52)	(651)	(103)	(25)	(13)
Amendments made during the year	—	—	(1)	(6)	—	—
Benefits and settlements paid	(276)	(583)	(166)	(124)	(14)	(17)
Curtailment	—	—	—	(3)	—	—
Other	—	—	(2)	(2)	—	—
Currency translation adjustment	—	—	(395)	75	(1)	1
Projected benefit obligation at end of year	$ 1,822	$ 2,629	$ 1,471	$ 2,625	$ 89	$ 123
Change in Plan Assets						
Fair value of plan assets at beginning of year	$ 2,459	$ 2,706	$ 2,344	$ 2,213	$ 172	$ 153
Actual return on plan assets	(454)	333	(459)	125	(20)	30
Employer and employee contributions	1	3	94	65	6	6
Benefits paid	(85)	(108)	(74)	(79)	(14)	(17)
Settlement payments	(191)	(475)	(92)	(45)	—	—
Other	—	—	(2)	(1)	—	—
Currency translation adjustment	—	—	(378)	66	—	—
Fair value of plan assets at end of year	$ 1,730	$ 2,459	$ 1,433	$ 2,344	$ 144	$ 172
Funded status	$ (92)	$ (170)	$ (38)	$ (281)	$ 55	$ 49
Amounts recognized in the statement of financial position consist of:						
Prepaid benefit cost	$ 37	$ 44	$ 151	$ 79	$ 95	$ 107
Accrued benefit liability	(129)	(214)	(189)	(360)	(40)	(58)
Net amount recognized	$ (92)	$ (170)	$ (38)	$ (281)	$ 55	$ 49
Weighted Average Assumptions [1]						
Discount rate [2]	5.08 %	2.50 %	4.36 %	1.80 %	4.92 %	2.30 %
Rate of compensation increase	N/A	N/A	3.00 %	2.85 %	N/A	N/A
Interest crediting rate	N/A	N/A	1.69 %	1.45 %	N/A	N/A

[1] Plan assets and obligations are determined based on a September 30 measurement date at September 30, 2022 and 2021.

[2] The Group considers the expected benefit payments on a plan-by-plan basis when setting assumed discount rates. As a result, the Group 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 Group 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 Group consistently uses the relevant country specific benchmark indices for determining the various

discount rates. The Group 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.

The fiscal 2022 and fiscal 2021 net actuarial gains related to changes in the projected benefit obligation were primarily the result of the increase in discount rates globally.

Net Periodic Benefit Cost

The following table contains the components of net periodic benefit costs, which are primarily recorded in selling, general and administrative expenses in the consolidated statement of income (in millions):

	Pension Benefits				Postretirement Benefits	
	U.S. Plans		Non-U.S. Plans			
Year ended September 30,	2022	2021	2022	2021	2022	2021
Components of Net Periodic Benefit Credit:						
Service cost	$ —	$ —	$ 20	$ 27	$ 1	$ 1
Interest cost	56	47	39	32	2	2
Expected return on plan assets	(150)	(171)	(81)	(112)	(9)	(8)
Net actuarial (gain) loss	16	(214)	(116)	(115)	4	(35)
Amortization of prior service cost (credit)	—	—	—	1	(4)	(4)
Curtailment gain	—	—	—	(3)	—	—
Settlement (gain) loss	1	—	5	(1)	—	—
Special termination benefit cost	—	—	—	2	—	—
Net periodic benefit credit	$ (77)	$(338)	$(133)	$(169)	$ (6)	$ (44)
Expense Assumptions:						
Discount rate	2.52 %	2.25 %	1.79 %	1.35 %	2.30 %	1.90 %
Expected return on plan assets	7.00 %	6.50 %	3.70 %	4.90 %	5.29 %	5.30 %
Rate of compensation increase	N/A	N/A	2.85 %	2.75 %	N/A	N/A
Interest crediting rate	N/A	N/A	1.44 %	1.50 %	N/A	N/A

17. 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 Group commits to restructuring plans as necessary. Restructuring plans generally result in charges for workforce reductions, plant closures, asset impairments and other related costs which are reported as restructuring and impairment costs in the Group's consolidated statement of income. The other related costs consist primarily of consulting costs incurred as a direct result of the restructuring initiatives. The Group expects the restructuring actions to reduce cost of sales and SG&A due to reduced employee-related costs, depreciation and amortization expense.

In fiscal 2021, the Group committed to a significant multi-year restructuring plan ("2021 Plan") which is expected to be completed during fiscal 2023. The Group originally expected to incur $385 million of restructuring costs across all segments and at Corporate through fiscal 2023. The Group has incurred and exceeded these costs during fiscal 2022 due to certain restructuring actions and expenses planned for fiscal 2023 being accelerated into fiscal 2022. In total, the Group recorded $424 million of restructuring and impairment costs related to the 2021 Plan, which is the total amount expected to be incurred for this restructuring plan.

The following table summarizes restructuring and impairment costs related to the 2021 Plan (in millions):

	Year Ended September 30, 2022	Inception to September 30, 2022
Building Solutions North America	$ 41	$ 111
Building Solutions EMEA/LA	33	62
Building Solutions Asia Pacific	21	49
Global Products	75	166
Corporate	12	36
Total	$ 182	$ 424

The following table summarizes the changes in the Group's 2021 Plan reserve, included primarily within current provisions in the consolidated statement of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments [1]	Other	Total
Original reserve	$ 68	$ 98	$ 76	$ 242
Utilized—cash	(28)	—	(51)	(79)
Utilized—noncash	—	(98)	—	(98)
Balance at September 30, 2021	40	—	25	65
Additional restructuring costs	116	17	49	182
Utilized—cash	(81)	—	(66)	(147)
Utilized—noncash	—	(17)	—	(17)
Currency translation	(1)	—	—	(1)
Balance at September 30, 2022	$ 74	$ —	$ 8	$ 82

[1] Of the $98 million of long-lived asset impairment charges in fiscal 2021, $50 million related to the Global Products segment, $33 million related to the Building Solutions North America segment, $6 million related to Corporate assets, $5 million related to the Building Solutions EMEA/LA segment and $4 million related to the Building Solutions Asia Pacific segment. Of the $17 million of long-lived asset impairment charges in fiscal 2022, $6 million related to the Building Solutions Asia Pacific segment, $5 million related to Corporate assets, $3 million related to the Global Products segment, $2 million related to the Building Solutions EMEA/LA segment and $1 million related to the Building Solutions North America segment.

The 2021 Plan included workforce reductions of approximately 6,200 employees. 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, 2022, approximately 4,000 of the employees have been separated from the Group pursuant to the restructuring plans.

Group 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.

18. INCOME TAXES

The more significant components of the Group's income tax provision from continuing operations are as follows (in millions):

	2022	2021
Tax expense at Ireland statutory rate	$ 214	$ 327
U.S. state income tax, net of federal benefit	(23)	34
Income subject to the U.S. federal tax rate	(95)	3
Income subject to rates different than the statutory rate	125	30
Reserve and valuation allowance adjustments	(274)	66
Intercompany intellectual property transfer	—	417
Restructuring and impairment costs	40	(9)
Income tax provision (benefit)	$ (13)	$ 868

The statutory tax rate in Ireland of 12.5% is being used as a comparison since the Group is domiciled in Ireland.

For fiscal 2022, the effective tax rate for continuing operations was (1)% and was lower than the statutory tax rate primarily due to tax reserve adjustments as the result of expired statute of limitations for certain tax years and the benefits of continuing global tax planning initiatives, partially offset by the income tax effects of impairment and restructuring charges, valuation allowance adjustments, the establishment of a deferred tax liability on the outside basis difference of the Group's investment in certain subsidiaries as a result of the planned divestitures and tax rate differentials.

For fiscal 2021, the effective tax rate for continuing operations was 33% and was higher than the statutory tax rate primarily due to the tax impacts of an intercompany transfer of certain of the Group's intellectual property rights, valuation allowance adjustments, the income tax effects of mark-to-market adjustments and tax rate differentials, partially offset by the benefits of continuing global tax planning initiatives.

Valuation Allowances

The Group reviews the realizability of its deferred tax assets and related 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 Group's valuation allowances may be necessary.

In fiscal 2022, due to changes in forecasted taxable income, the Group determined that it was more likely than not that certain deferred tax assets of Japan would not be realized. The valuation allowance adjustment resulted in a tax charge of $27 million.

In fiscal 2021, as a result of an intercompany transfer of certain of the Group's intellectual property rights, the Group determined that it is more likely than not that certain deferred tax assets of Switzerland would be realized, and it was more likely than not that certain deferred tax assets of Canada would not be realized. The valuation allowance adjustments resulted in a $39 million net benefit to income tax expense. Due to changes in forecasted taxable income, the Group also recorded a discrete tax charge of $105 million related to valuation allowances on certain Mexico deferred tax assets now considered unrealizable.

Uncertain Tax Positions

The Group 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 Group's business, there are many transactions and calculations where the ultimate tax determination is uncertain. The Group is regularly under audit by tax authorities.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in millions):

	2022	2021
Beginning balance, October 1	$ 2,726	$ 2,528
Additions for tax positions related to the current year	169	240
Additions for tax positions of prior years	31	33
Reductions for tax positions of prior years	(48)	(6)
Settlements with taxing authorities	(7)	(24)
Statute closings and audit resolutions	(334)	(45)
Ending balance, September 30	$ 2,537	$ 2,726

The following table summarizes gross tax effected unrecognized tax benefits that, if recognized, would impact the effective tax rate and the related accrued interest, net of tax benefit (in millions):

	September 30,	
	2022	2021
Gross tax effected unrecognized tax benefits	$ 1,973	$ 2,268
Net accrued interest	284	252

In fiscal 2022, the statute of limitations for certain tax years expired, which resulted in a $301 million benefit to income tax expense.

In the U.S., fiscal years 2017 through 2018 are currently under exam by the Internal Revenue Service ("IRS") for certain legal entities. Additionally, the Group is currently under exam in the following major non-U.S. jurisdictions for continuing operations:

Tax Jurisdiction	Tax Years Covered
Belgium	2015 - 2021
Germany	2007 - 2018
Luxembourg	2017 - 2018
Mexico	2015 - 2017
United Kingdom	2014 - 2015, 2017 - 2018; 2020

It is reasonably possible that certain tax examinations and/or tax litigation will conclude within the next twelve months, which could have a material impact on tax expense. Based upon the circumstances surrounding these examinations, the impact is not currently quantifiable.

Other Tax Matters

During fiscal 2022 and 2021, the Group incurred charges for restructuring and impairment costs of $721 million and $242 million which generated tax benefits of $50 million and $39 million, respectively.

In fiscal 2021, the Group completed an intercompany transfer of certain of the Group's intellectual property rights which resulted in a net tax charge of $417 million.

Impacts of Tax Legislation and Change in Statutory Tax Rates

On August 16, 2022, the U.S. enacted the Inflation Reduction Act ("IRA") which, among other things, creates a new book minimum tax of at least 15% of consolidated GAAP pre-tax income for corporations with average book income in excess of $1 billion. The book minimum tax is first applicable in fiscal year 2024. The Group does not expect this provision to have a material impact on its effective tax rate.

During fiscal 2022 and 2021, other tax legislation was adopted in various jurisdictions. These law changes did not have a material impact on the Group's consolidated financial statements.

Continuing Operations

Selected income tax data related to continuing operations were as follows (in millions):

	2022	2021
Components of income (loss) from continuing operations before income taxes:		
U.S.	$ 67	$ 543
Non-U.S.	1,643	2,071
Income from continuing operations before income taxes	$ 1,710	$ 2,614
Components of the provision (benefit) for income taxes:		
Current		
U.S. federal	$ (219)	$ 459
U.S. state	53	108
Non-U.S.	294	265
	128	832
Deferred		
U.S. federal	(175)	(7)
U.S. state	(69)	46
Non-U.S.	103	(3)
	(141)	36
Income tax provision (benefit)	$ (13)	$ 868
Income taxes paid (refunded)	$ 568	$ 504

At September 30, 2022 and 2021, the Group recorded within the consolidated statement of financial position in other current assets approximately $253 million and $120 million, respectively, of income tax assets. At September 30, 2022 and 2021, the Group recorded within the consolidated statement of financial position in other current liabilities approximately $143 million and $201 million, respectively, of accrued income tax liabilities.

The Group has not provided U.S. or non-U.S. income taxes on approximately $23.6 billion of outside basis differences of consolidated subsidiaries of Johnson Controls International plc. The Group is indefinitely reinvested in these basis differences. The reduction of the outside basis differences via the sale or liquidation of these subsidiaries and/or distributions could create taxable income. The Group'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.

Deferred taxes were classified in the consolidated statement of financial position as follows (in millions):

	September 30,	
	2022	2021
Other noncurrent assets	$ 944	$ 755
Noncurrent provisions	(500)	(443)
Net deferred tax asset	$ 444	$ 312

Temporary differences and carryforwards which gave rise to deferred tax assets and liabilities included (in millions):

	September 30,	
	2022	2021
Deferred tax assets		
Accrued expenses and reserves	$ 376	$ 407
Employee and retiree benefits	77	148
Property, plant and equipment	444	369
Net operating loss and other credit carryforwards	6,472	6,293
Research and development	52	42
Operating lease liabilities	309	334
Other, net	58	28
	7,788	7,621
Valuation allowances	(5,967)	(5,853)
	1,821	1,768
Deferred tax liabilities		
Subsidiaries, joint ventures and partnerships	338	346
Intangible assets	730	776
Operating lease right-of-use assets	309	334
	1,377	1,456
Net deferred tax asset	$ 444	$ 312

At September 30, 2022, the Group had available net operating loss carryforwards of approximately $24.3 billion, of which $14.0 billion will expire at various dates between 2023 and 2042, and the remainder has an indefinite carryforward period. The Group had available U.S. foreign tax credit carryforwards at September 30, 2022 of $35 million which will expire in 2029. The valuation allowance, generally, is for loss and credit carryforwards for which realization is uncertain because it is unlikely that the losses and/or credits will be realized given the lack of sustained profitability and/or limited carryforward periods in certain countries.

Deferred taxation activity for fiscal 2022 is as follows:

At September 30, 2021	$ 312
Benefit, net	141
Acquisitions	(17)
Currency translation and other	8
At September 30, 2022	$ 444

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 Group has determined that it has four reportable segments for financial reporting purposes.

Building Solutions North America: Building Solutions North America designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security and integrated fire-detection and suppression systems for commercial, industrial, retail, small business, institutional and governmental customers in the United States and Canada. Building Solutions North America also provides energy efficiency solutions and technical services, including inspection, scheduled maintenance, and repair and replacement of mechanical and controls systems, as well as data-driven “smart building” solutions, to non-residential building and industrial applications in the United States and Canadian marketplace.

Building Solutions EMEA/LA: Building Solutions EMEA/LA designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security, integrated fire-detection and suppression systems, and provides technical services, including data-driven “smart building” solutions, to markets in Europe, the Middle East, Africa and Latin America.

Building Solutions Asia Pacific: Building Solutions Asia Pacific designs, sells, installs and services HVAC, controls, building management, refrigeration, integrated electronic security, integrated fire-detection and suppression systems, and provides technical services, including data-driven “smart building” solutions, in the Asia Pacific marketplace.

Global Products: Global Products designs, manufactures and sells HVAC equipment, controls software and software services for residential and commercial applications to commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. In addition, Global Products designs, manufactures and sells refrigeration equipment and controls globally. The Global Products business also designs, manufactures and sells fire protection, fire suppression and security products, including intrusion security, anti-theft devices, access control, and video surveillance and management systems, for commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. Global Products includes the Johnson Controls-Hitachi joint venture.

Effective October 1, 2021, the Group's marine businesses previously included in the Building Solutions Asia Pacific and Global Products reportable segments became part of the Building Solutions EMEA/LA reportable segment. Historical information has been re-cast to present the comparative periods on a consistent basis. This change was not material to the segment presentation or the allocation of goodwill.

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, restructuring and impairment costs, and net mark-to-market adjustments related to pension and postretirement plans and restricted asbestos investments.

Financial information relating to the Group’s reportable segments is as follows (in millions):

	Year Ended September 30,	
	2022	2021
Net Sales		
Building Solutions North America	$ 9,367	$ 8,685
Building Solutions EMEA/LA	3,845	3,884
Building Solutions Asia Pacific	2,714	2,616
Global Products	9,373	8,483
Total net sales	$ 25,299	$ 23,668

	Year Ended September 30,	
	2022	2021
Segment EBITA [(1)]		
Building Solutions North America	$ 1,122	$ 1,204
Building Solutions EMEA/LA	358	401
Building Solutions Asia Pacific	332	344
Global Products	1,594	1,436
Total segment EBITA	$ 3,406	$ 3,385
Amortization of intangible assets	(427)	(435)
Corporate expenses	(369)	(290)
Net financing charges	(213)	(206)
Restructuring and impairment costs	(721)	(242)
Net mark-to-market adjustments	34	402
Income from continuing operations before income taxes	$ 1,710	$ 2,614

	September 30,	
	2022	2021
Assets [(2)]		
Building Solutions North America	$ 14,429	$ 15,317
Building Solutions EMEA/LA	4,766	5,397
Building Solutions Asia Pacific	2,424	2,728
Global Products	15,185	15,227
	36,804	38,669
Assets held for sale	1,138	156
Unallocated	4,216	3,065
Total	$ 42,158	$ 41,890

	Year Ended September 30,	
	2022	2021
Depreciation/Amortization		
Building Solutions North America	$ 213	$ 245
Building Solutions EMEA/LA	96	103
Building Solutions Asia Pacific	21	25
Global Products	461	432
	791	805
Corporate	39	40
Total	$ 830	$ 845

	Year Ended September 30,	
	2022	2021
Capital Expenditures		
Building Solutions North America	$ 141	$ 87
Building Solutions EMEA/LA	119	128
Building Solutions Asia Pacific	22	31
Global Products	257	265
	539	511
Corporate	53	41
Total	$ 592	$ 552

(1) For the years ended September 30, 2022 and 2021, segment EBITA includes $240 million and $250 million, respectively, of equity income for the Global Products segment. Equity income for other segments is immaterial.

(2) Building Solutions EMEA/LA assets as of September 30, 2022 and 2021 include $115 million and $111 million, respectively, of investments in partially-owned affiliates. Global Products assets as of September 30, 2022 and, 2021 include $834 million and $945 million, respectively, of investments in partially-owned affiliates. Investments in partially-owned affiliates for other segments is immaterial.

In fiscal 2022 and 2021, no customer exceeded 10% of consolidated net sales.

Geographic Segments

Financial information relating to the Group's operations by geographic area is as follows (in millions):

	Year Ended September 30,	
	2022	2021
Net Sales		
United States	$ 12,864	$ 11,577
Europe	4,186	4,069
Asia Pacific	5,791	5,748
Other Non-U.S.	2,458	2,274
Total	$ 25,299	$ 23,668
Long-Lived Assets (Year-end)		
United States	$ 1,573	$ 1,638
Europe	412	436
Asia Pacific	656	727
Other Non-U.S.	401	427
Total	$ 3,042	$ 3,228

Net sales attributed to geographic locations are based on the location of where the sale originated. Long-lived assets by geographic location consist of net property, plant and equipment.

20. GUARANTEES

Certain of the Group'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 Group's financial position, results of operations or cash flows.

The Group offers warranties to its customers depending upon the specific product and terms of the customer purchase agreement. A typical warranty program requires that the Group replace defective products within a specified time period from the date of sale. The Group 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 Group's warranty provisions are adjusted as necessary. The Group monitors its warranty activity and adjusts its reserve estimates when it is probable that future warranty costs will be different than those estimates.

The Group's product warranty liability is recorded in the consolidated statement 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 Group's total product warranty liability were as follows (in millions).

	Year Ended September 30,	
	2022	2021
Balance at beginning of period	$ 192	$ 167
Accruals for warranties issued during the period	119	91
Accruals from acquisitions and divestitures	(1)	—
Changes in estimates to pre-existing warranties	(6)	11
Settlements made (in cash or in kind) during the period	(114)	(77)
Currency translation	(11)	—
Balance at end of period	$ 179	$ 192

21. COMMITMENTS AND CONTINGENCIES

Environmental Matters

The Group accrues for potential environmental liabilities when it is probable a liability has been incurred and the amount of the liability is reasonably estimable. The following table presents the location and amount of reserves for environmental liabilities in the Group's consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Current provisions	$ 66	$ 48
Noncurrent provisions	220	54
Total reserves for environmental liabilities	$ 286	$ 102

The Group periodically examines whether the contingent liabilities related to the environmental matters described below are probable and reasonably estimable based on experience and ongoing developments in those matters, including continued study and analysis of ongoing remediation obligations. During the three months ended September 30, 2022, with the assistance of independent environmental consultants and taking into consideration investigation and remediation actions previously completed, new information available to the Group during the fourth quarter of 2022 and ongoing discussions with the Wisconsin Department of Natural Resources ("WDNR"), the Group completed a comprehensive long-term analysis and cost assessment related to the Group's ongoing environmental remediation obligations. As a result of this analysis, the Group increased its accrual for environmental liabilities by $228 million, which are recorded on an undiscounted basis. The Group expects that it will pay the amounts recorded over an estimated period of up to 20 years. The Group is not able to estimate a possible loss or range of loss, if any, in excess of the established accruals for environmental liabilities at this time.

A substantial portion of the increase to the Group's environmental reserves relates to ongoing long-term remediation efforts to address contamination relating to fire-fighting foams containing perfluorooctane sulfonate ("PFOS"), perfluorooctanoic acid ("PFOA"), and/or other per- and poly-fluoroalkyl substances ("PFAS") at or near the Tyco Fire Products L.P. ("Tyco Fire Products") Fire Technology Center ("FTC") located in Marinette, Wisconsin and surrounding areas in the City of Marinette and Town of Peshtigo, Wisconsin, as well as the continued remediation of PFAS, arsenic and other contaminants at the Tyco Fire Products Stanton Street manufacturing facility also located in Marinette, Wisconsin (the "Stanton Street Facility"). The increase in reserves was recorded as a result of several events that occurred in the three months ended September 30, 2022, including the

completion and testing of the Groundwater Extraction and Treatment System ("GETS") at the FTC (as further discussed below), the completion of resident surveys in Peshtigo regarding long-term drinking water solutions, correspondence with regulators on planned remediation activities, finalization of cost estimates for system upgrades and related long-term run rate costs in response to new permit requirements at the Stanton Street Facility, and the development of additional information through ongoing investigation and analysis. These events have allowed the Group to develop estimates of costs associated with the long-term remediation actions expected to be performed over an estimated period of up to 20 years, including the continued operation of the GETS, the implementation of long-term drinking water solutions, continued monitoring and testing of the wells, the operation and wind-down of other legacy remediation and treatment systems and the completion of ongoing investigation obligations.

The use of fire-fighting foams at the FTC was primarily for training and testing purposes to ensure that such products sold by the Group's affiliates, Chemguard, Inc. ("Chemguard") and Tyco Fire Products, were effective at suppressing high intensity fires that may occur at military installations, airports, or elsewhere. In May 2021, as part of Tyco Fire Products' ongoing investigation and remediation program, the WDNR approved Tyco Fire Products' proposed GETS, a permanent groundwater remediation system that will extract groundwater that contains PFAS, treat it using advanced filtration systems, and return the treated water to the environment. Tyco Fire Products has completed construction of the GETS, which is now in operation. Tyco Fire Products is also in the process of completing the removal and disposal of PFAS-affected soil from the FTC.

Tyco Fire Products has been engaged in remediation activities at the Stanton Street Facility since 1990. Its corporate predecessor, Ansul Incorporated ("Ansul") manufactured arsenic-based agricultural herbicides at the Stanton Street Facility, which resulted in significant arsenic contamination of soil and groundwater on the site and in parts of the adjoining Menominee River. In 2009, Ansul entered into an Administrative Consent Order (the "Consent Order") with the U.S. Environmental Protection Agency ("EPA") to address the presence of arsenic at the site. Under this agreement, Tyco Fire Products' principal obligations are to contain the arsenic contamination on the site, pump and treat on-site groundwater, dredge, treat and properly dispose of contaminated sediments in the adjoining river areas, and monitor contamination levels on an ongoing basis. Activities completed under the Consent Order since 2009 include the installation of a subsurface barrier wall around the facility to contain contaminated groundwater, the installation of a groundwater extraction and treatment system and the dredging and offsite disposal of treated river sediment. In addition to ongoing remediation activities, the Group is also working with the WDNR to investigate and remediate the presence of PFAS at or near the Stanton Street Facility as part of the evaluation and remediation of PFAS in the Marinette region.

PFOA, PFOS, and other PFAS compounds are being studied by EPA and other environmental and health agencies and researchers. EPA has not issued binding regulatory limits, but had initially stated that it would propose regulatory standards for PFOS and PFOA in drinking water by the end of 2019, in accordance with its PFAS Action Plan released in February 2019, and issued interim recommendations for addressing PFOA and PFOS in groundwater in December 2019. In March 2021, EPA published its final determination to regulate PFOS and PFOA in drinking water. While those studies continue, EPA issued in June 2022 an updated set of interim health advisory levels for PFOA and PFOS in drinking water, as well as final health advisory levels for two other types of PFAS (PFBS and GenX chemicals). In November 2022, EPA added a class definition of PFAS to the final version of EPA's fifth Contaminant Candidate List (CCL 5), which is a list of substances not currently subject to national drinking water regulation, but which EPA believes may require future regulation.

In October 2021, EPA released its "PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024." The 2021-2024 Roadmap sets timelines by which EPA plans to take specific actions, including, among other items, publishing a national PFAS testing strategy, proposing to designate PFOA and PFOS as Comprehensive Environmental Response, Compensation and Liability Act hazardous substances, restricting PFAS discharges from industrial sources through Effluent Limitations Guidelines, publishing the final toxicity assessment for five additional PFAS, requiring water systems to test for 29 PFAS under the Safe Drinking Water Act, and publishing improved analytical methods in eight different environmental matrices to monitor 40 PFAS present in wastewater and stormwater discharges. Both PFOA and PFOS are types of synthetic chemical compounds that have been present in firefighting foam. However, both are also present in many existing consumer products. According to EPA, PFOA and PFOS have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. In August 2022, EPA published a proposed rule that would designate PFOA and PFOS as "hazardous substances" under CERCLA.

It is difficult to estimate the Group'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 financial viability of other potentially responsible parties and third-party indemnitors, the uncertainty as to the nature and scope of the investigations and remediation to be conducted, changes in environmental regulations, changes in permissible levels of specific compounds in drinking water sources, or changes in enforcement theories and policies, including efforts to recover natural resource damages, 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. It is possible that technological, regulatory or enforcement developments, the results of additional environmental studies or other factors could change the Group's expectations with respect to future charges and cash outlays, and such changes could be material to the Group's future results of operations, financial condition or cash flows. Nevertheless, the Group does not currently believe that any claims, penalties or costs in addition to the amounts accrued will have a material adverse effect on the Group's financial position, results of operations or cash flows.

In addition, the Group 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. Conditional asset retirement obligations were $17 million and $29 million at September 30, 2022 and 2021, respectively.

FTC-Related Remediation and Litigation

On June 21, 2019, the WDNR announced that it had received from the Wisconsin Department of Health Services ("WDHS") a recommendation for groundwater quality standards as to, among other compounds, PFOA and PFOS. The WDHS recommended a groundwater enforcement standard for PFOA and PFOS of 20 parts per trillion. Although Wisconsin recently approved final regulatory standards for PFOA and PFOS in drinking water and surface water, the Wisconsin Natural Resources Board did not approve WDNR's proposed standards for PFOA and PFOS in groundwater. In September 2022, the Governor of Wisconsin signed a scope statement setting out parameters for the WDNR to draft a final rule regarding groundwater quality standards for PFOA and PFOS, among other compounds. The WDNR is now in the process of drafting the rule.

In July 2019, the Group received a letter from the WDNR directing the expansion of the evaluation of PFAS in the Marinette region to include (1) biosolids sludge produced by the City of Marinette Waste Water Treatment Plant and spread on certain fields in the area and (2) the Menominee and Peshtigo Rivers. Tyco Fire Products responded to the WDNR's letter by requesting additional necessary information. On October 16, 2019, the WDNR issued a "Notice of Noncompliance" to Tyco Fire Products and Johnson Controls, Inc. regarding the WDNR's July 3, 2019 letter. The WDNR issued a further letter regarding the issue on November 4, 2019. In February 2020, the WDNR sent a letter to Tyco Fire Products and Johnson Controls, Inc. further directing the expansion of the evaluation of PFAS in the Marinette region to include investigation activities south and west of the previously defined FTC study area. In September 2021, the WDNR sent an additional "Notice of Noncompliance" to Tyco Fire Products and Johnson Controls, Inc. concerning land-applied biosolids, which reviewed and responded to the Group's biosolids investigation conducted to date. Tyco Fire Products responded to the WDNR's September 2021 notice by the December 27, 2021 deadline set by WDNR and submitted a Land Applied Biosolids Interim Site Status Update Report to WDNR on October 25, 2022. Tyco Fire Products and Johnson Controls, Inc. believe that they have complied with all applicable environmental laws and regulations. The Group cannot predict what regulatory or enforcement actions, if any, might result from the WDNR's actions, or the consequences of any such actions.

In March 2022, the Wisconsin Department of Justice ("WDOJ") filed a civil enforcement action against Johnson Controls Inc. and Tyco Fire Products in Wisconsin state court relating to environmental matters at the FTC (*State of Wisconsin v. Tyco Fire Products, LP and Johnson Controls, Inc.*, Case No. 22-CX-1 (filed March 14, 2022 in Circuit Court in Marinette County, Wisconsin)). The WDOJ alleges that the Group failed to timely report the presence of PFAS chemicals at the FTC, and that the Group has not sufficiently investigated or remediated PFAS at or near the FTC. The WDOJ seeks monetary penalties and an injunction ordering these two subsidiaries to complete a site investigation and cleanup of PFAS contamination in accordance with the WDNR's requests. The lawsuit is presently at the beginning stages of litigation. Tyco Fire Products and Johnson Controls, Inc. each filed Answers to the Complaint on April 4, 2022 and the parties are proceeding with initial fact discovery. The Group is vigorously defending this civil enforcement action and believes that it has meritorious defenses, but the Group is presently unable to predict the duration, scope, or outcome of this action.

In October 2022, the Town of Peshtigo filed a tort action in Wisconsin state court against Tyco Fire Products, Johnson Controls Inc., Chemguard, Inc., and ChemDesign, Inc. relating to environmental matters at the FTC (*Town of Peshtigo v. Tyco Fire Products L.P. et al.*, Case No. 2022CV000234 (filed October 18, 2022 in Circuit Court in Marinette County, Wisconsin)). The Town alleges that use of AFFF products at the FTC caused contamination of water supplies in Peshtigo. The Town seeks monetary penalties and an injunction ordering abatement of PFAS contamination in Peshtigo. The case has been removed to federal court and transferred to the MDL. The Group plans to vigorously defend against this case and believes that it has meritorious defenses, but the Group is presently unable to predict the duration, scope, or outcome of this action.

In November 2022, individuals filed six actions in Dane County, Wisconsin alleging personal injury and/or property damage against Tyco Fire Products, Johnson Controls Inc., Chemguard, Inc., and other unaffiliated defendants related to environmental matters at the FTC. Plaintiffs allege that use of AFFF products at the FTC and activities by third parties unrelated to the Group contaminated nearby drinking water sources, surface waters, and other natural resources and properties, including their personal

properties. The individuals seek monetary damages for their personal injury and/or property damage. These lawsuits were removed to federal court on December 21, 2022, and were tagged to the MDL on December 22, 2022. On December 27, 2022, the Plaintiffs moved to remand these cases to state court. These lawsuits are presently at the beginning stages of litigation. The Group is vigorously defending these cases and believes that it has meritorious defenses, but the Group is presently unable to predict the duration, scope, or outcome of this action

Aqueous Film-Forming Foam ("AFFF") Litigation

Two of the Group's subsidiaries, Chemguard and Tyco Fire Products, have been named, along with other defendant manufacturers, suppliers and distributors, and, in some cases, certain subsidiaries of the Group affiliated with Chemguard and Tyco Fire Products, in a number of class action and other 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 contain or break down into the chemicals PFOS and PFOA and/or other PFAS compounds and that the use of these products by others at various airbases, airports and other sites resulted in the release of these chemicals into the environment and ultimately into communities' drinking water supplies neighboring those airports, airbases and other sites. Plaintiffs generally seek compensatory damages, including damages for alleged personal injuries, medical monitoring, diminution in property values, investigation and remediation costs, and natural resources damages, and also seek punitive damages and injunctive relief to address remediation of the alleged contamination.

In September 2018, Tyco Fire Products and Chemguard filed a Petition for Multidistrict Litigation with the United States Judicial Panel on Multidistrict Litigation ("JPML") seeking to consolidate all existing and future federal cases into one jurisdiction. On December 7, 2018, the JPML issued an order transferring various AFFF cases to a multi-district litigation ("MDL") before the United States District Court for the District of South Carolina. Additional cases have been identified for transfer to or are being directly filed in the MDL.

AFFF Putative Class Actions

Chemguard and Tyco Fire Products are named in 33 pending putative class actions in federal courts originating from 15 states and territories. All of these cases have been direct-filed in or transferred to the MDL.

AFFF Individual or Mass Actions

There are more than 3,000 individual or "mass" actions pending that were filed in state or federal courts originating from 51 states and territories against Chemguard and Tyco Fire Products and other defendants in which the plaintiffs generally seek compensatory damages, including damages for alleged personal injuries, medical monitoring, and alleged diminution in property values. The cases involve plaintiffs from various states including approximately 7,000 plaintiffs in Colorado and more than 3,000 other plaintiffs. The vast majority of these matters have been tagged for transfer to, transferred to, or directly-filed in the MDL, and it is anticipated that several newly filed state court actions will be similarly tagged and transferred. There are several matters that are proceeding in state courts, including actions in Arizona and Illinois.

Tyco and Chemguard are also periodically notified by other individuals that they may assert claims regarding PFOS and/or PFOA contamination allegedly resulting from the use of AFFF.

AFFF Municipal and Water Provider Cases

Chemguard and Tyco Fire Products have been named as defendants in more than 270 cases involving municipal or water provider plaintiffs that were filed in state or federal courts originating from 27 states. The vast majority of these cases have been transferred to or were directly filed in the MDL, and it is anticipated that the remaining cases will be transferred to the MDL. These municipal and water provider plaintiffs generally allege that the use of the defendants' fire-fighting foam products at fire training academies, municipal airports, Air National Guard bases, or Navy or Air Force bases released PFOS and PFOA into public water supply wells and/or other public property, allegedly requiring remediation.

Tyco and Chemguard are also periodically notified by other municipal entities that those entities may assert claims regarding PFOS and/or PFOA contamination allegedly resulting from the use of AFFF.

State or U.S. Territory Attorneys General Litigation related to AFFF

In June 2018, the State of New York filed a lawsuit in New York state court (*State of New York v. The 3M Company et al.* No. 904029-18 (N.Y. Sup. Ct., Albany County)) against a number of manufacturers, including affiliates of the Group, with respect

to alleged PFOS and PFOA contamination purportedly resulting from firefighting foams used at locations across New York, including Stewart Air National Guard Base in Newburgh and Gabreski Air National Guard Base in Southampton, Plattsburgh Air Force Base in Plattsburgh, Griffiss Air Force Base in Rome, and unspecified "other" sites throughout the State. The lawsuit seeks to recover costs and natural resource damages associated with contamination at these sites. This suit has been removed to the United States District Court for the Northern District of New York and transferred to the MDL.

In February 2019, the State of New York filed a second lawsuit in New York state court (*State of New York v. The 3M Company et al.* (N.Y. Sup. Ct., Albany County)), against a number of manufacturers, including affiliates of the Group, with respect to alleged PFOS and PFOA contamination purportedly resulting from firefighting foams used at additional locations across New York. This suit has been removed to the United States District Court for the Northern District of New York and transferred to the MDL. In July 2019, the State of New York filed a third lawsuit in New York state court (*State of New York v. The 3M Company et al.* (N.Y. Sup. Ct., Albany County)), against a number of manufacturers, including affiliates of the Group, with respect to alleged PFOS and PFOA contamination purportedly resulting from firefighting foams used at further additional locations across New York. This suit has been removed to the United States District Court for the Northern District of New York and transferred to the MDL. In November 2019, the State of New York filed a fourth lawsuit in New York state court (*State of New York v. The 3M Company et al.* (N.Y. Sup. Ct., Albany County)), against a number of manufacturers, including affiliates of the Group, with respect to alleged PFOS and PFOA contamination purportedly resulting from firefighting foams used at further additional locations across New York. This suit has been removed to federal court and transferred to the MDL.

In January 2019, the State of Ohio filed a lawsuit in Ohio state court (*State of Ohio v. The 3M Company et al.*, No. G-4801-CI-021804752-000 (Court of Common Pleas of Lucas County, Ohio)) against a number of manufacturers, including affiliates of the Group, with respect to PFOS and PFOA contamination allegedly resulting from the use of firefighting foams at various specified and unspecified locations across Ohio. The lawsuit seeks to recover costs and natural resource damages associated with the contamination. This lawsuit has been removed to the United States District Court for the Northern District of Ohio and transferred to the MDL.

In addition, in May and June 2019, three other states filed lawsuits in their respective state courts against a number of manufacturers, including affiliates of the Group, with respect to PFOS and PFOA contamination allegedly resulting from the use of firefighting foams at various specified and unspecified locations across their jurisdictions (*State of New Hampshire v. The 3M Company et al.*; *State of Vermont v. The 3M Company et al*.; *State of New Jersey v. The 3M Company et al*.). All three of these suits have been removed to federal court and transferred to the MDL.

In September 2019, the government of Guam filed a lawsuit in the superior court of Guam against a number of manufacturers, including affiliates of the Group, with respect to PFOS and PFOA contamination allegedly resulting from the use of firefighting foams at various locations within its jurisdiction. This complaint has been removed to federal court and transferred to the MDL.

In November 2019, the government of the Commonwealth of the Northern Mariana Islands filed a lawsuit in the superior court of the Northern Mariana Islands against a number of manufacturers, including affiliates of the Group, with respect to PFOS and PFOA contamination allegedly resulting from the use of firefighting foams at various locations within its jurisdiction. This complaint has been removed to federal court and transferred to the MDL.

In August 2020, the Attorney General of the State of Michigan filed two substantially similar lawsuits—one in federal court and one in state court—against a number of manufacturers, including affiliates of the Group, with respect to PFOS and PFOA contamination allegedly resulting from the use of firefighting foams at various locations within the State. The federal action has been transferred to the MDL, and the state court action has been removed to federal court and transferred to the MDL.

In December 2020, the State of Mississippi filed a lawsuit against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State's land and natural resources allegedly resulting from the use of firefighting foams at various locations throughout the State. This complaint was direct-filed in the MDL in South Carolina.

In April 2021, the State of Alaska filed a lawsuit in the superior court of the State of Alaska against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State's land and natural resources allegedly resulting from the use of firefighting foams at various locations throughout the State. The State's case has been removed to federal court and transferred to the MDL. The State of Alaska has also named a number of manufacturers and other defendants, including affiliates of the Group, as third-party defendants in two cases brought by individuals against the State. These two cases have also been transferred to the MDL.

In early November 2021, the Attorney General of the State of North Carolina filed four individual lawsuits in the superior courts of the State of North Carolina against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State’s land, natural resources, and property allegedly resulting from the use of firefighting foams at four separate locations throughout the State. These four cases have been removed to federal court and transferred to the MDL. In October 2022, the Attorney General filed two similar lawsuits in the superior courts of the State of North Carolina regarding alleged PFAS damages at two additional locations. It is anticipated that these two cases will be removed to federal court and transferred to the MDL.

In February 2022, the Attorney General of the State of Colorado filed a lawsuit in Colorado state court against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State's land and natural resources, public health, and State property allegedly resulting from the use of firefighting foams at various locations throughout the State. This complaint has been removed to federal court and transferred to the MDL.

In April 2022, the Attorney General of the State of Florida filed a lawsuit in Florida state court against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage to the State's natural resources and public health allegedly resulting from the use of firefighting foams at various locations throughout the State. It is anticipated that this complaint will be removed to federal court and transferred to the MDL.

In May 2022, the Attorney General of the Commonwealth of Massachusetts filed a lawsuit against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State's natural resources, property, residents, and consumers allegedly resulting from the use of firefighting foams at various locations throughout the State. This complaint was direct-filed in the MDL in South Carolina.

In July 2022, the Attorney General of the State of Wisconsin filed a lawsuit in Wisconsin state court against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFAS damage to the State's natural resources and public health allegedly resulting, in part, from the use of firefighting foams at various locations throughout the State. This complaint has been removed to federal court and transferred to the MDL.

In November 2022, the Attorney General of the State of California filed a lawsuit in California state court against a number of manufacturers and other defendants, including affiliates of the Group, with respect to PFOS and PFOA damage of the State’s land and natural resources allegedly resulting from the manufacture, use, marketing, or sale of PFAS-containing products, including firefighting foams, at various locations throughout the State. On December 20, 2022, the case was removed to federal court and tagged to the MDL. The Attorney General has opposed removal and transfer.

Other AFFF Related Matters

In March 2020, the Kalispel Tribe of Indians (a federally recognized Tribe) and two tribal corporations filed a lawsuit in the United States District Court for the Eastern District of Washington against a number of manufacturers, including affiliates of the Group, and the United States with respect to PFAS contamination allegedly resulting from the use and disposal of AFFF by the United States Air Force at and around Fairchild Air Force Base in eastern Washington. This case has been transferred to the MDL.

In October 2022, the Red Cliff Band of Lake Superior Chippewa Indians (a federally recognized tribe) filed a lawsuit in the United States District Court for the Western District of Wisconsin against a number of manufacturers, including affiliates of the Group, with respect to PFAS contamination allegedly resulting from the use and disposal of AFFF at Duluth Air National Guard Base in Duluth, Minnesota. This complaint has been transferred to the MDL.

The Group is vigorously defending the above matters and believes that it has meritorious defenses to class certification and the claims asserted, including statutes of limitations, the government contractor defense, various medical and scientific defenses, and other factual and legal defenses. The government contractor defense is a form of immunity available to government contractors that produced products for the United States government pursuant to the government’s specifications. In September 2022, the AFFF MDL Court declined to grant summary judgment on the government contractor defense, ruling that various factual issues relevant to the defense must be decided by a jury rather than the Court. Tyco and Chemguard have insurance that has been in place for many years and the Group is pursuing this coverage for these matters. 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, and there can be no assurance that any such exposure will not be material.

Asbestos Matters

The Group 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.

The Group estimates the asbestos-related liability for pending and future claims and related defense costs on a discounted basis. In connection with the recognition of liabilities for asbestos-related matters, the Group records asbestos-related insurance recoveries that are probable.

The following table presents the location and amount of asbestos-related assets and liabilities in the Group's consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Other current liabilities	$ 58	$ 58
Other noncurrent liabilities	380	400
Total asbestos-related liabilities	438	458
Other current assets	37	13
Other noncurrent assets	263	365
Total asbestos-related assets	300	378
Net asbestos-related liabilities	$ 138	$ 80

The following table presents the components of asbestos-related assets (in millions):

	September 30,	
	2022	2021
Restricted		
Cash	$ 6	$ 6
Investments	239	314
Total restricted assets	245	320
Insurance recoveries for asbestos-related liabilities	55	58
Total asbestos-related assets	$ 300	$ 378

The Group's estimate of the liability and corresponding insurance recovery for pending and future claims and defense costs is based on the Group'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 Group's reasonable best estimate of the actuarially determined time period through which asbestos-related claims will be paid by Group affiliates). Estimated asbestos-related defense costs are included in the asbestos liability. The Group's legal strategy for resolving claims also impacts these estimates. The Group 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 paid through 2068. At least annually, the Group 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 Group considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Group's defense strategy. The Group also evaluates the recoverability of its insurance receivable on an annual basis. The Group 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 Group for asbestos-related liabilities and insurance-related assets are based on the Group'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 Group's insurance carriers. Many of these factors are closely linked, such that a change in one

variable or assumption may impact one or more of the others, and no single variable or assumption predominately influences the determination of the Group'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 Group'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 Group's calculations vary significantly from actual results.

Insurable Liabilities

The Group 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 Group maintains captive insurance companies to manage its insurable liabilities.

The following table presents the location and amount of insurable liabilities in the Group's consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Other current liabilities	$ 89	$ 77
Accrued compensation and benefits	22	22
Other noncurrent liabilities	230	226
Total insurable liabilities	$ 341	$ 325

The following table presents the location and amount of insurable receivables in the Group's consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Other current assets	$ 10	$ 5
Other noncurrent assets	20	15
Total insurable receivables	$ 30	$ 20

Other Matters

The Group 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 Group’s financial position, results of operations or cash flows. Costs related to such matters were not material to the periods presented.

22. SUBSEQUENT EVENTS

In October 2022, the Group acquired Rescue Air Systems, a leading provider of firefighter air replenishment systems, for $100 million to enhance its Fire Suppression portfolio.

In October 2022, the Group repaid a €200 million ($196 million as of September 30, 2022) term loan with an interest rate of EURIBOR plus 0.5% and entered into a €150 million term loan with an interest rate of EURIBOR plus 0.7% which is due in April 2024.

In October 2022, a third party warehouse in Menominee, Michigan, at which the Group stores certain Global Products inventory related to its fire suppression business, was severely damaged by a fire. The fire originated at an adjacent location not owned or operated by the Group. The Group is evaluating the losses incurred, including inventory and other assets that were damaged or destroyed, as well as expected lost revenues and profits due to the business interruption. The Group believes losses will be at least partially covered by insurance and also plans to seek recovery from the responsible parties. The Group expects the majority of the financial impact will be recognized in the first quarter of fiscal 2023. Based on the current evaluation, the Group believes the warehouse fire will not have a material impact on fiscal 2023 financial results, financial position or cash flows.

In November 2022, the Group renewed its syndicated $500 million committed revolving credit facility, which is now scheduled to expire in November 2023.

23. SUPPLEMENTAL BALANCE SHEET INFORMATION

As of September 30, 2022 and 2021, other current assets were comprised of (in millions):

	September 30,	
	2022	2021
Income tax asset (Note 18)	$ 253	$ 120
Non-income tax receivable	180	150
Derivative assets (Note 11)	54	34
Prepayments	177	211
Other	565	477
Other current assets	$ 1,229	$ 992

As of September 30, 2022 and 2021, other noncurrent assets were comprised of (in millions):

	September 30,	
	2022	2021
Asbestos-related insurance receivables	$ 46	$ 51
Prepaid income taxes	403	304
Deferred income taxes (Note 18)	944	755
Prepaid retirement benefit (Note 16)	283	230
Financial assets (Note 24)	313	416
Equity swap (Note 11)	—	23
Operating lease right-of-use asset (Note 9)	1,271	1,376
Other	488	403
Other noncurrent assets	$ 3,748	$ 3,558

As of September 30, 2022 and 2021, other current liabilities were comprised of (in millions):

	September 30,	
	2022	2021
Income taxes payable (Note 18)	$ 143	$ 201
Value-added taxes	95	55
Sales and use taxes	81	47
Other taxation	9	29
Dividends payable	241	192
Derivative liabilities (Note 11)	61	18
Accrued rebates	199	212
Operating lease liabilities (Note 9)	280	319
Other	888	832
Other current liabilities	$ 1,997	$ 1,905

Payroll taxes are recorded in the accrued compensation and benefits within the consolidated statement of financial position and were approximately $72 million and $18 million as of September 30, 2022 and 2021, respectively. Income taxes payable, sales and use taxes, payroll taxes and value added taxes are payable in the timeframe set in the relevant legislation.

Trade and other creditors are payable at various dates within a year after the end of the fiscal year in accordance with the creditors usual and customary credit terms.

As of September 30, 2022 and 2021, other noncurrent liabilities were comprised of (in millions):

	September 30,	
	2022	2021
Income taxes payable	$ 415	$ 317
Deferred compensation	117	155
Operating lease liabilities (Note 9)	987	1,055
Other	404	549
Other noncurrent liabilities	$ 1,923	$ 2,076

24. FINANCIAL ASSETS

The Group's activity for financial assets during fiscal year 2022 was as follows (in millions):

	Investments in Partially Owned Affiliates	Investments	Total
At September 30, 2021	$ 1,066	$ 416	$ 1,482
Income from equity investments	246	—	246
Dividends	(276)	—	(276)
Additions	8	16	24
Reductions	—	(97)	(97)
Currency translation and other	(81)	—	(81)
At September 30, 2022	$ 963	$ 335	$ 1,298

Investments were recorded in the following accounts within the consolidated statement of financial position (in millions):

	September 30,	
	2022	2021
Other current assets	$ 22	$ —
Other noncurrent assets	313	416
	$ 335	$ 416

25. PROVISIONS FOR LIABILITIES

Material provisions for liabilities were comprised of (in millions):

	September 30,	
	2022	2021
Pension and postretirement obligations (Note 16)	$ 358	$ 632
Deferred taxation and uncertain tax positions	2,746	2,982
Warranty reserves (Note 20)	179	192
Restructuring reserves (Note 17)	82	102
Other provisions (included below)	1,249	1,143
	$ 4,614	$ 5,051
Current provisions	$ 508	$ 594
Noncurrent provisions	4,106	4,457
	$ 4,614	$ 5,051

The activity in other provisions accounts for 2022 is as follows (in millions):

	Other Provisions	Environmental Reserves	Asset Retirement Obligation	Asbestos-Related and Insurable Liabilities	Total
At September 30, 2021	$ 229	$ 102	$ 29	$ 783	$ 1,143
Additions	27	229	1	120	377
Reductions	(86)	(45)	(10)	(124)	(265)
Currency translation and other	(3)	—	(3)	—	(6)
At September 30, 2022	$ 167	$ 286	$ 17	$ 779	$ 1,249

26. DIRECTORS' REMUNERATION

Group's directors' remuneration for fiscal years 2022 and 2021 is set forth in the table below.

George Oliver, the Group's Chief Executive Officer and the Chairman of the Board has not been compensated for his service as director. Accordingly, the amounts below include compensation for Mr. Oliver's service as Chairman and Chief Executive Officer as well as compensation for all Group non-employee directors in their capacities as such ($ in millions):

	Year Ended September 30,	
	2022	2021
Emoluments paid for qualifying services	$ 5	$ 7
Benefits under long-term incentive schemes	24	13
Gain on exercise of share options	—	23
Other (1)	1	—
	$ 30	$ 43

(1) Amounts include reimbursements with respect to personal use of the Group aircraft, personal use of a vehicle, and retirement plan matching contributions. Retirement plan matching contributions, which are benefiting one director, totaled $0.3 million and $0.2 million for fiscal years 2022 and 2021, respectively.

27. AUDITORS' REMUNERATION

Auditors' remuneration to PricewaterhouseCoopers Ireland for fiscal years 2022 and 2021 included $1.6 million and $1.5 million of audit fees, respectively.

Auditors' remuneration to PricewaterhouseCoopers Ireland and its affiliates for fiscal years 2022 and 2021 was as follows ($ in millions):

	Year Ended September 30,	
	2022	2021
Audit fees	$ 22	$ 22
Audit related fees	3	1
Tax fees	2	3
All other fees	—	1
	$ 27	$ 27

See Note 5, "Auditors' Remuneration," of the notes to company financial statements for the Group's auditors' remuneration.

28. EMPLOYEES

The average number of persons, including executive directors, employed by the Group during the years ended September 30, 2022 and 2021 was as follows (in thousands):

	Year Ended September 30,	
	2022	2021
North America	29	28
EMEA LA	20	19
Asia Pacific	9	9
Global Products	37	36
Corporate	6	6
Total employees	101	98

Total employee costs expensed during the period consist of the following ($ in millions):

	Year Ended September 30,	
	2022	2021
Wages, salaries and fringe benefits	$ 6,314	$ 6,040
Social insurance costs	320	298
Stock-based compensation	104	97
Other compensation costs	(58)	(483)
	$ 6,680	$ 5,952

Other retirement benefit credits included above were $20 million and $433 million for the years ended September 30, 2022 and 2021, respectively. Refer to Note 16, "Retirement Plans," of the notes to consolidated financial statements for further information on the retirement plans.

In addition, employee costs of $1.1 billion were capitalized into inventories, intangible assets and property, plant & equipment - net during fiscal 2022 and 2021.

29. SUBSIDIARY UNDERTAKINGS

In accordance with section 316 (1) of the Act, the related undertakings that have been included below are restricted to significant subsidiaries as of September 30, 2022. The remaining entities are annexed to the annual return of the Group.

Name	Nature of Business	Group Ordinary Share %	Registered Office and Country of Incorporation
Johnson Controls Security Solutions LLC	Holding Entity	100%	c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware, United States, 19801
Johnson Controls, Inc.	Corporate	100%	c/o CT Corporation System, 301 S. Bedford Street, Suite 1, Madison, Wisconsin, United States, 53703

JOHNSON CONTROLS INTERNATIONAL PLC

Company Financial Statements

For the Year Ended September 30, 2022

JOHNSON CONTROLS INTERNATIONAL PLC

COMPANY BALANCE SHEET

(in millions)

	Note	September 30, 2022	September 30, 2021
Fixed assets			
Financial assets	2	$ 33,406	$ 33,327
Current assets			
Debtors	6	494	524
Creditors (amounts falling due within one year)	7	(6,218)	(2,933)
Net current liabilities		(5,724)	(2,409)
Total assets less current liabilities		27,682	30,918
Creditors (amounts falling due after more than one year)	8	(7,468)	(8,557)
Net assets		$ 20,214	$ 22,361
Capital and reserves			
Called-up share capital presented as equity	11	$ 7	$ 7
Share premium account	11	695	675
Profit and loss account	11	18,902	21,157
Share-based compensation reserve	11	610	522
Equity shareholders' funds		$ 20,214	$ 22,361

The Company’s profit (loss) for financial years 2022 and 2021 as determined in accordance with FRS 102 was $203 million and $(176) million, respectively.

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

Approved by the Board of Directors on January 19, 2023 and signed on its behalf by:

/s/ George R. Oliver

George R. Oliver

Chairman and Chief Executive Officer

/s/ Gretchen R. Haggerty

Gretchen R. Haggerty

Director

JOHNSON CONTROLS INTERNATIONAL PLC

COMPANY STATEMENT OF CHANGES IN EQUITY

(in millions)

	Ordinary Share Number	Called-up Share Capital	Share Premium Account	Profit and Loss Account	Share-based Compensation Reserve	Equity Shareholders' Funds
Balance as of September 30, 2020	754	$8	$433	$23,437	$446	$24,324
Loss for the year	—	—	—	(176)	—	(176)
Dividends declared	—	—	—	(770)	—	(770)
Share vestings and option exercises	7	—	242	—	—	242
Share-based compensation	—	—	—	—	76	76
Repurchase and cancellation of ordinary shares	(24)	(1)	—	(1,307)	—	(1,308)
Other	—	—	—	(27)	—	(27)
Balance as of September 30, 2021	737	7	675	21,157	522	22,361
Profit for the year	—	—	—	203	—	203
Dividends declared	—	—	—	(965)	—	(965)
Share vestings and option exercises	3	—	20	—	—	20
Share-based compensation	—	—	—	—	88	88
Repurchase and cancellation of ordinary shares	(22)	—	—	(1,441)	—	(1,441)
Other	—	—	—	(52)	—	(52)
Balance as of September 30, 2022	**718**	**$ 7**	**$ 695**	**$ 18,902**	**$ 610**	**$ 20,214**

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

NOTES TO THE COMPANY FINANCIAL STATEMENTS

1. Basis of Preparation and Summary of Significant Accounting Policies

On September 2, 2016 (the "Merger date"), Johnson Controls Inc. ("JCI Inc.") organized under the laws of United States of America, reverse merged into Tyco International plc (the "Merger"). The Irish public limited company is now known as Johnson Controls International plc ("JCI plc"), registered at One Albert Quay, Cork, domiciled in Ireland, and incorporated under the laws of Ireland under registered number 543654 as a result of this reverse merger. Johnson Controls International plc and all its subsidiaries are hereinafter collectively referred to as the "Group" or "Johnson Controls."

The accompanying financial statements have been prepared in United States dollars ("USD") and reflect the operations of Johnson Controls International plc ("plc," "JCI plc" or "the Company").

Financial Year - The Company's financial year end is September 30 of each year.

Statement of Compliance - The entity financial statements have been prepared on a going concern basis and in accordance with accounting standards issued by the UK Financial Reporting Council and the Companies Act 2014. The entity financial statements comply with Financial Reporting Standard 102, The Financial Reporting Standard applicable in the UK and Republic of Ireland ("FRS 102").

Basis of Preparation - The entity financial statements have been prepared under the historical cost convention. The preparation of financial statements in conformity with FRS 102 requires the use of certain key assumptions concerning the future, and other key sources of estimation uncertainty at the reporting date. It also requires the directors to exercise judgment in the process of applying the Company's accounting policies. The areas involving a higher degree of judgment or areas where assumptions and estimates have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are disclosed in the "Critical Accounting Estimates and Judgements" section of this Note

Foreign currency - Functional and presentation currency - The Company's functional and presentation currency is the U.S. dollar ("USD") which is denominated by the symbol "$." Unless otherwise stated, the financial statements have been presented in millions.

Foreign currency - Transactions and balances - Foreign currency transactions, including settlements of debtors and creditors, are translated into the functional currency using the prior month-end exchange rates at the dates of the transactions. Foreign currency monetary items are revalued to USD using the month-end exchange rate. Non-monetary items measured at historical cost are revalued using the exchange rate at the date of the transaction and non-monetary items measured at fair value are measured using the exchange rate when fair value was determined. Foreign exchange gains and losses resulting from the settlement of transactions and from the revaluation at period-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the profit and loss account, including the revaluation of intercompany permanent loans and foreign currency denominated debt.

Cash at Bank and in Hand - The Company considers all highly liquid investments purchased with maturities of three months or less from the time of purchase to be cash equivalents. Negative cash balances are reclassified to Creditors (amounts falling due within one year).

Share-Based Payment Accounting - The Company has applied the requirements of FRS 102 Share-Based Payment in accounting for all stock based compensation. Consequently, the measurement and recognition of compensation expense for all share-based payment awards made to employees and directors is based on estimated fair values. The Company issues equity-settled share-based payments to certain employees of its subsidiaries. Equity-settled share-based payments are measured at fair value at the date of grant and recognized over the vesting period, based on the Company's estimate of the shares that will eventually vest and adjusted for the effect of non-market-based vesting conditions. Since the Company grants its shares directly to employees of its subsidiaries, it accounts for share-based compensation payment as a capital contribution with an increase in the investment in the subsidiaries. The share-based compensation payment is recharged by the Company to certain subsidiaries. The share-based payment recharge to subsidiaries for the awards granted prior to the Tyco merger on September 2, 2016 is recorded to the share premium account on the Company balance sheet. The share-based payment recharge to subsidiaries for the awards granted after the Tyco merger on September 2, 2016 is recorded to the financial asset account on the Company balance sheet. Amounts recharged to subsidiaries for JCI plc options in excess of the original capital contribution are recognized in the profit and loss account.

Contingencies - Contingent liabilities, arising as a result of past events, are not recognized as a liability because it is not probable that the Company will be required to transfer economic benefits in settlement of the obligation or the amount cannot

be reliably measured at the end of the financial year. Possible but uncertain obligations are not recognized as liabilities but are contingent liabilities. Contingent liabilities are disclosed in the financial statements unless the probability of an outflow of resources is remote. Contingent assets are not recognized. Contingent assets are disclosed in the financial statements when an inflow of economic benefits is probable.

Financial Instruments - The Company has chosen to apply the provisions of Sections 11 and 12 of FRS 102 to account for all of its financial instruments.

Financial Assets - Basic financial assets, including cash and cash equivalents and short-term deposits, are initially recognized at transaction price (including transaction costs).

Cash and cash equivalents and financial assets from arrangements which constitute financing transactions are subsequently measured at amortized cost using the effective interest method.

At the end of each financial year, financial assets measured at amortized cost are assessed for objective evidence of impairment. If there is objective evidence that a financial asset measured at amortized cost is impaired, an impairment loss is recognized in profit or loss. The impairment loss is the difference between the financial asset's carrying amount and the present value of the financial asset's estimated cash inflows discounted at the asset's original effective interest rate.

If, in a subsequent financial year, the amount of an impairment loss decreases and the decrease can be objectively related to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed. The reversal is such that the current carrying amount does not exceed what the carrying amount would have been had the impairment loss not previously been recognized. The impairment reversal is recognized in profit or loss.

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

Certain other financial assets are initially measured at fair value, which is normally the transaction price. Such financial assets are subsequently measured at fair value and the changes in fair value are recognized in profit or loss.

Investment in Subsidiary Undertakings - Investment in subsidiary undertakings is recorded at the Company’s cost.

Impairment of Financial Assets - The Company monitors the carrying value of financial assets, using judgment on the future cash flows to be generated from each acquisition, synergy benefits arising and the interest rate to be used to discount future cash flows. The carrying value of financial assets is assessed for impairment based on the presence of impairment indicators - where events or changes in circumstances indicate that the carrying amount may not be recoverable. Any shortfall in the carrying value (as compared to the lower of value in use and net realizable value) is recorded as an impairment charge.

Financial Liabilities - Basic financial liabilities, including bank loans and amounts due to subsidiary undertakings, are initially recognized at transaction price, unless the arrangement constitutes a financing transaction. Where the arrangement constitutes a financing transaction, the resulting financial liability is initially measured at the present value of the future payments discounted at a market rate of interest for a similar debt instrument. Bank loans, amounts due to subsidiary undertakings, and financial liabilities from arrangements which constitute financing transactions are subsequently carried at amortized cost, using the effective interest method. Financial liabilities are derecognized when the liability is extinguished, that is when the contractual obligation is discharged, canceled or expired.

Taxation - Current Tax - Current tax is the amount of income tax payable in respect of the taxable profit for the financial year or past financial years. Current tax is measured as the amount of current tax that is expected to be paid using tax rates and laws that have been enacted or substantively enacted by the end of the financial year.

Taxation - Deferred Tax - Deferred tax is recognized in respect of timing differences, which are differences between taxable profits and total comprehensive income as stated in the financial statements. These timing differences arise from the inclusion of income and expenses in tax assessments in financial years different from those in which they are recognized in financial statements. Deferred tax is recognized on all timing differences at the end of each financial year with certain exceptions. Unrelieved tax losses and other deferred tax assets are recognized only when it is probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits. Deferred tax is measured using tax rates and laws that have been enacted or substantively enacted by the end of each financial year and that are expected to apply to the reversal of the timing difference.

Share Capital Presented as Equity - Equity shares issued are recognized at the proceeds received and presented as share capital and share premium. Incremental costs directly attributable to the issue of new equity shares or options are shown in equity as a deduction, net of tax, from the proceeds.

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 is determined by the Company's Board of Directors and depends upon many factors, including the Group's financial condition and results of operations, the capital requirements of the Group's businesses, industry practice and any other relevant factors. Dividends may only be declared and paid out of the profits available for distribution ("distributable reserves") in accordance with accounting practice generally accepted in Ireland and applicable Irish Company Law. See the Company Statement of Changes in Equity. Any dividends, if and when declared, are expected to be declared and paid in USD.

Treasury Shares - Treasury shares are Company owned shares following the share repurchase program approved by the Board of Directors and the repurchase from employees who have sold a portion of their vested restricted units to cover withheld taxes.

Going Concern - As the Company's operational existence relies on the activities of the Company and its subsidiaries as a group (collectively, the "Group"), a going concern assessment performed at the Group level was deemed relevant to support the Company's ability to continue as a going concern. The Company's Board of Directors formed a judgment at the time of approving these financial statements that there was a reasonable expectation that the Company has adequate resources to continue in operational existence for the next twelve months. In arriving at this conclusion, the Company's Board of Directors took account of current and anticipated uncertainties (as described in greater detail under the heading "Going Concern" on page 42 of the Directors' Report and in the accounting policies in Note 1, "Basis of Presentation and Summary of Significant Accounting Policies," of the notes to the consolidated financial statements) in its going concern assessment and believed that these uncertainties would not have a material impact on the Company's ability to continue as a going concern. For this reason, the going concern basis continues to be adopted in the preparation of the Company's financial statements.

Disclosure Exemptions for Qualifying Entities under FRS 102 - FRS 102 allows a qualifying entity to avail of certain disclosure exemptions. The Company has taken advantage of the following exemptions for qualifying entities:

- The requirement to prepare a statement of cash flows. [Section 7 of FRS 102 and paragraph 3 17(d)]
- Certain financial instrument disclosures providing equivalent disclosures are included in the consolidated financial statements of the Group in which the entity is consolidated. [FRS 102 paragraph 11.39-11 48A, 12.26 - 12.29]
- Certain disclosure requirements of Section 26 in respect of share-based payments provided that (a) for a subsidiary, the share-based payment concerns equity instruments of another group entity; or (b) for an ultimate parent, the share-based payment concerns its own equity instruments and its separate financial statements are presented alongside the consolidated financial statements of the group; and in both cases, the equivalent disclosures are included in the consolidated financial statements of the group in which the entity is consolidated. [FRS 102 paragraph 26.18(b), 26.19 - 26.21, 26.23]
- Related party disclosures related to key management services provided by a separate management entity. [paragraph 18A of ISA24]

Critical Accounting Estimates and Judgments

Use of Estimates - Estimates and judgments are required when applying accounting policies. These are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The Company makes estimates and assumptions concerning the future, which can involve a high degree of judgment or complexity. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

Investment in Subsidiary Undertakings - The Company periodically evaluates whether current facts or circumstances indicate that the carrying values of its investment in subsidiary undertakings may not be recoverable. If such circumstances are determined to exist, an estimate of the recoverable amount is compared to the carrying value to determine whether an impairment exists. If the asset is determined to be impaired, the loss is measured based on the difference between the asset's recoverable amount and its carrying value. There were no circumstances or indicators suggesting impairment of the Company's investment in subsidiary undertakings in either the current or prior financial years.

2. Financial Fixed Assets

Financial fixed assets included on the Company balance sheet were as follows ($ in millions):

	Investments in Subsidiaries
As of October 1, 2021	$ 33,327
Additions - share-based compensation	88
Reductions - share-based compensation	(9)
As of September 30, 2022	33,406

The Company grants shares directly to employees of its subsidiaries and accounts for share-based compensation payment as a capital contribution and an addition to the investment in the subsidiaries. Share-based payments recharged to subsidiaries for vesting of stock-based compensation awards granted after the Tyco merger date reduce the investment in subsidiaries.

The following schedule summarizes the Company's significant directly owned investments as of September 30, 2022:

Company	Registered Office Address	Country	Type	Ordinary Share Ownership %	Date of Acquisition
Tyco Fire & Security Finance SCA ("TFSCA")	29 avenue de la Porte Neuve, Luxembourg, Luxembourg (fr), Luxembourg, 2227	Luxembourg	Holding co.	99.924 (1)	August 2014
Tyco Fire & Security S.a.r.l	29 avenue de la Porte Neuve, Luxembourg, Luxembourg (fr), Luxembourg, 2227	Luxembourg	Holding co.	100	August 2014
JSV Holding S.a.r.l.	29 avenue de la Porte Neuve, Luxembourg, Luxembourg (fr), Luxembourg, 2227	Luxembourg	Holding co.	81.85	October 2016
Global Risk Underwriters (Bermuda) Ltd.	Clarendon House, 2 Church Street, Hamilton, Bermuda	Bermuda	Holding co.	100	September 2017
Johnson Controls International Finance Unlimited Company	One Albert Quay, Cork, Cork, Ireland	Ireland	Holding co.	100	December 2017
Johnson Controls Asia Investment Unlimited Company	One Albert Quay, Cork, Cork, Ireland	Ireland	Holding co.	100	September 2018
World Services Inc.	Ocean Centre, Montagu Foreshore East Bay Street, PO Box SS-19084, New Providence, Nassau, Bahamas	Bahamas	Holding co.	100	September 2019
Tyco Finance Corp	1209 Orange Street, Wilmington, Delaware 19801	United States	Holding co.	100	September 2020

(1) JCI plc holds common shares in TFSCA, registered at 29 Av Porte Neuve, L-2227 Luxembourg. It holds 49,999 shares directly and 2 common share indirectly through Tyco Fire & Security S.a.r.l ("TFSsarl") registered at the same address.

3. Guarantees and Contingencies

As of September 30, 2022 and 2021, JCI plc had parent guarantees of approximately $6.9 billion and $6.8 billion, respectively, which were primarily comprised of guarantees of subsidiaries' debt, credit facilities and lease obligations.

In September 2022, JCI plc and TFSCA, a corporate partnership limited by shares (*société en commandite par actions*) incorporated and organized under the laws of the Grand Duchy of Luxembourg ("Luxembourg") jointly issued EUR 600 million ($589 million as of September 30, 2022) of bonds with an interest rate of 3.0%, which are due in September 2028 and $400 million of bonds with an interest rate of 4.9%, which are due in December 2032.

In September 2021, JCI plc and TFSCA jointly issued $500 million of sustainability-linked bonds with an initial interest rate of 2.0%, which are due in 2031. Beginning in March 2026, the interest rate payable on the note will be increased by an additional 12.5 basis points per annum if the Scope 1 and Scope 2 emissions sustainability performance target is not met and an additional 12.5 basis points per annum if the Scope 3 emissions sustainability performance target is not met.

TFSCA is a wholly-owned consolidated subsidiary of the company that is 99.924% owned directly by JCI plc and 0.076% owned by TFSCA's sole general partner and manager, Tyco Fire & Security S.à r.l.. The bonds and senior notes are JCI plc's and TFSCA's unsecured, unsubordinated obligations. As TFSCA recognized the proceeds of the debt issuances, it is considered the primary obligor for the related liabilities which are recognized in TFSCA's financial statements with JCI plc acting in substance as a guarantor.

4. Directors' Remuneration

Refer to Note 26, "Directors' Remuneration," of the notes to consolidated financial statements for details of directors' remuneration paid by the Company and Group.

5. Auditors' Remuneration

Auditors' remuneration was as follows ($ in millions):

	Year Ended September 30,	
	2022	2021
Audit of individual accounts	$ 0.1	$ 0.1

Amounts for financial year 2022 represent estimated fees and expenses. See Note 27 "Auditors' Remuneration," of the consolidated financial statements for details of fees for the Group.

6. Debtors

Debtors included on the Company Balance Sheet were as follows ($ in millions):

	September 30,	
	2022	2021
Amounts falling due within one year:		
Amounts due from subsidiary undertakings	$ 473	$ 478
Other debtors and prepayments	21	23
	494	501
Amounts falling due after one year:		
Equity swap (fair value)	—	23
	$ 494	$ 524

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.

7. Creditors (amounts falling due within one year)

Creditors (amounts falling due within one year) included on the Company Balance Sheet were as follows ($ in millions):

	September 30, 2022	September 30, 2021
Amounts due to subsidiary undertakings		
World Services Inc. loan, interest free, payable on demand	$ 752	$ 752
Other	177	371
	929	1,123
Amounts owed to credit institutions		
Bank overdraft	3,627	1,351
Term loans	354	—
Commercial paper	172	—
	4,153	1,351
Current portion of long-term debt	854	223
Accrued dividends	241	192
Other accruals	41	44
	$ 6,218	$ 2,933

Other amounts due to subsidiary undertakings are payable at various dates after the financial year end in accordance with the Group's usual intercompany payment terms.

In November 2021, the Company entered into a EUR 200 million ($196 million as of September 30, 2022) bank term loan which had an interest rate of EURIBOR plus 0.5% and was due in October 2022.

In March 2022, the Company entered into two bank term loans totaling EUR 285 million ($280 million as of September 30, 2022) which both have an interest rate of EURIBOR plus 0.5% and are due in March 2023.

8. Creditors (amounts falling due after more than one year)

Creditors (amounts falling due after more than one year) were comprised of ($ in millions):

	September 30, 2022	September 30, 2021
Amounts falling due after more than one year:		
Amounts due to subsidiary undertakings	$ 3,348	$ 3,560
Long-term debt	4,120	4,997
	$ 7,468	$ 8,557

The amount due to subsidiary undertakings consisted of EUR 1,241 million ($1,248 million as of September 30, 2022 and $1,460 million as of September 30, 2021) of unsecured, 1.05% interest-bearing loans to Obsidian Luxembourg Holding S.a.r.l, maturing on June 9, 2025 and $2,100 million as of both September 30, 2022 and 2021 of unsecured 1.52% interest-bearing loans to Tyco Technology GmbH, maturing on January 28, 2026.

Long-term debt was as follows ($ in millions; due dates by fiscal year):

	September 30,	
	2022	2021
Unsecured notes:		
4.625% due in 2023 ($25 million par value)	$ 25	$ 25
1.00% due in 2023 (EUR 846 million par value)	829	979
3.625% due in 2024 ($453 million par value)	454	454
1.375% due in 2025 (EUR 423 million par value)	418	495
3.90% due in 2026 ($487 million par value)	488	489
TORF + 0.40% due in 2027 (JPY 30 billion par value)	208	—
LIBOR JPY + 0.40% due in 2022 (JPY 25 billion par value)	—	223
6.00% due in 2036 ($342 million par value)	374	375
5.70% due in 2041 ($190 million par value)	209	210
5.25% due in 2042 ($155 million par value)	164	164
4.625% due in 2044 ($444 million par value)	436	435
5.125% due in 2045 ($477 million par value)	500	501
6.95% due in 2046 ($32 million par value)	41	42
4.50% due in 2047 ($500 million par value)	496	496
4.95% due in 2064 ($341 million par value)	332	332
Gross long-term debt	4,974	5,220
Less: current portion	854	223
Net long-term debt	$ 4,120	$ 4,997

During financial year 2022, the Company repaid a JPY 25 billion ($181 million) term loan and entered into a JPY 30 billion ($208 million as of September 30, 2022) term loan which is due in September 2027. The new JPY 30 billion loan has an interest rate of TORF plus 0.4%. The original JPY 25 billion loan had an interest rate of LIBOR JPY plus 0.4%.

9. Related Party Transactions

The Company has availed of the exemption provided in FRS 102 Section 33, for disclosure of transactions with subsidiary undertakings, 100% of whose voting rights are controlled within the Group. Consequently, the financial statements do not contain disclosures of transactions with other related entities in the Group. During financial years 2022 and 2021, only transactions with subsidiaries which are fully owned have occurred.

10. Subsidiary Undertakings

Refer to Note 2, "Financial Assets," of the notes to Company financial statements.

11. Capital and Reserves

Called-up share capital is the number of issued ordinary shares of JCI plc. The par value of each ordinary share is $0.01.

The share premium account reflects the fair value of consideration received in excess of the par value of shares issued for stock option exercises, vesting of restricted stock units and other issuances of shares, including the consideration received from the subsidiaries for the issuance of stock for stock option exercises and vesting of restricted stock units for awards granted prior to the Merger date. In accordance with the requirements of FRS 102, the share-based payment recharge to subsidiaries for the awards granted post the Tyco Merger on September 2, 2016 is recorded as a reduction to the financial asset account. This treatment could differ from the legal substance of the transaction, which from a legal perspective may represent share premium.

The profit and loss account refers to the portion of net income which is retained by the Company rather than being distributed to shareholders as dividends. Treasury shares are accounted for in this account. The balance of these self owned shares as of September 30, 2022 and 2021 was $1,203 million and $1,152 million, respectively.

The share-based compensation reserve arises upon the granting of shares under the stock based compensation plan. The balance of this reserve as of September 30, 2022 and 2021 was $610 million and $522 million, respectively.

12. Dividends

Dividends of $916 million and $762 million were paid to external shareholders during financial years 2022 and 2021, respectively. As of September 30, 2022, there were $241 million of outstanding dividends declared. As of September 30, 2021, there were $192 million of outstanding dividends declared.

13. Profit (Loss) Attributable to JCI plc

In accordance with Section 304(2) of the Companies Act 2014, the Company is availing of the exemption provided from presenting and filing its individual Profit and Loss Account.

14. Subsequent Events

In October 2022, the Company repaid a EUR 200 million ($196 million as of September 30, 2022) term loan with an interest rate of EURIBOR plus 0.5% and entered into a EUR 150 million term loan with an interest rate of EURIBOR plus 0.7% which is due in April 2024.

Subsequent events have been evaluated through January 19, 2023, the date this report was approved by the Board of Directors. There were no subsequent events other than those listed above that would materially impact the Company's financial statements since the balance sheet.

15. Approval of Financial Statements

The financial statements were approved and authorized for issue by the Board of Directors on January 19, 2023 and were signed on its behalf on that date.