UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

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

For the quarterly period ended June 30, 2020

Commission File Number: 001-13836

JOHNSON CONTROLS INTERNATIONAL PLC

(Exact name of registrant as specified in its charter)

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

One Albert Quay, Cork, Ireland, T12 X8N6
(Address of principal executive offices and postal code)

(353) 21-423-5000	**Not Applicable**
(Registrant's telephone number)	(Former name, former address and former fiscal year, if changed since last report)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Ordinary Shares, Par Value $0.01	JCI	New York Stock Exchange
0.000% Senior Notes due 2020	JCI20B	New York Stock Exchange
4.25% Senior Notes due 2021	JCI21B	New York Stock Exchange
3.750% Senior Notes due 2021	JCI21C	New York Stock Exchange
4.625% Notes due 2023	JCI23	New York Stock Exchange
1.000% Senior Notes due 2023	JCI23A	New York Stock Exchange
3.625% Senior Notes due 2024	JCI24A	New York Stock Exchange
1.375% Notes due 2025	JCI25A	New York Stock Exchange
3.900% Notes due 2026	JCI26A	New York Stock Exchange
6.000% Notes due 2036	JCI36A	New York Stock Exchange
5.70% Senior Notes due 2041	JCI41B	New York Stock Exchange
5.250% Senior Notes due 2041	JCI41C	New York Stock Exchange
4.625% Senior Notes due 2044	JCI44A	New York Stock Exchange
5.125% Notes due 2045	JCI45B	New York Stock Exchange
6.950% Debentures due December 1, 2045	JCI45A	New York Stock Exchange
4.500% Senior Notes due 2047	JCI47	New York Stock Exchange
4.950% Senior Notes due 2064	JCI64A	New York Stock Exchange

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

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

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

Large accelerated filer	☑	Accelerated filer	☐	Smaller reporting company	☐
Non-accelerated filer	☐			Emerging growth company	☐

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Ordinary Shares Outstanding at June 30, 2020
Ordinary Shares, $0.01 par value per share	744,047,527

JOHNSON CONTROLS INTERNATIONAL PLC

FORM 10-Q

Report Index

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

Johnson Controls International plc
Consolidated Statements of Financial Position
(in millions, except par value; unaudited)

	June 30, 2020	September 30, 2019
Assets		
Cash and cash equivalents	$ 2,342	$ 2,805
Accounts receivable - net	5,344	5,770
Inventories	1,996	1,814
Assets held for sale	89	98
Other current assets	1,369	1,906
Current assets	11,140	12,393
Property, plant and equipment - net	3,041	3,348
Goodwill	17,759	18,178
Other intangible assets - net	5,364	5,632
Investments in partially-owned affiliates	834	853
Noncurrent assets held for sale	199	60
Other noncurrent assets	2,941	1,823
Total assets	$ 41,278	$ 42,287
Liabilities and Equity		
Short-term debt	$ 1,321	$ 10
Current portion of long-term debt	1,102	501
Accounts payable	3,057	3,582
Accrued compensation and benefits	685	953
Deferred revenue	1,451	1,407
Liabilities held for sale	38	44
Other current liabilities	2,650	2,573
Current liabilities	10,304	9,070
Long-term debt	5,671	6,708
Pension and postretirement benefits	1,053	1,044
Noncurrent liabilities held for sale	17	—
Other noncurrent liabilities	5,360	4,636
Long-term liabilities	12,101	12,388
Commitments and contingencies (Note 21)		
Ordinary shares, $0.01 par value	8	8
Ordinary A shares, €1.00 par value	—	—
Preferred shares, $0.01 par value	—	—
Ordinary shares held in treasury, at cost	(1,119)	(1,086)
Capital in excess of par value	16,904	16,812
Retained earnings	2,955	4,827
Accumulated other comprehensive loss	(943)	(795)
Shareholders’ equity attributable to Johnson Controls	17,805	19,766
Noncontrolling interests	1,068	1,063
Total equity	18,873	20,829
Total liabilities and equity	$ 41,278	$ 42,287

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

Johnson Controls International plc
Consolidated Statements of Income
(in millions, except per share data; unaudited)

	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019
Net sales				
Products and systems	$ 3,919	$ 4,896	$ 11,877	$ 13,058
Services	1,424	1,555	4,486	4,636
	5,343	6,451	16,363	17,694
Cost of sales				
Products and systems	2,711	3,380	8,318	9,233
Services	800	927	2,609	2,748
	3,511	4,307	10,927	11,981
Gross profit	1,832	2,144	5,436	5,713
Selling, general and administrative expenses	(1,334)	(1,388)	(4,212)	(4,284)
Restructuring and impairment costs	(610)	(235)	(783)	(235)
Net financing charges	(58)	(119)	(169)	(302)
Equity income	47	62	110	137
Income (loss) from continuing operations before income taxes	(123)	464	382	1,029
Income tax provision (benefit)	(1)	239	77	394
Income (loss) from continuing operations	(122)	225	305	635
Income from discontinued operations, net of tax (Note 4)	—	4,051	—	4,598
Net income (loss)	(122)	4,276	305	5,233
Income from continuing operations attributable to noncontrolling interests	60	84	115	147
Income from discontinued operations attributable to noncontrolling interests	—	—	—	24
Net income (loss) attributable to Johnson Controls	$ (182)	$ 4,192	$ 190	$ 5,062
Amounts attributable to Johnson Controls ordinary shareholders:				
Income (loss) from continuing operations	$ (182)	$ 141	$ 190	$ 488
Income from discontinued operations	—	4,051	—	4,574
Net income (loss)	$ (182)	$ 4,192	$ 190	$ 5,062
Basic earnings (loss) per share attributable to Johnson Controls				
Continuing operations	$ (0.24)	$ 0.16	$ 0.25	$ 0.54
Discontinued operations	—	4.65	—	5.09
Net income (loss)	$ (0.24)	$ 4.81	$ 0.25	$ 5.63
Diluted earnings (loss) per share attributable to Johnson Controls				
Continuing operations	$ (0.24)	$ 0.16	$ 0.25	$ 0.54
Discontinued operations	—	4.63	—	5.07
Net income (loss)	$ (0.24)	$ 4.79	$ 0.25	$ 5.61

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

Johnson Controls International plc
Consolidated Statements of Comprehensive Income (Loss)
(in millions; unaudited)

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Net income (loss)	$ (122)	$ 4,276	$ 305	$ 5,233
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments	76	(94)	(157)	(95)
Realized and unrealized gains (losses) on derivatives	6	(9)	3	10
Pension and postretirement plans	—	—	(1)	—
Other comprehensive income (loss)	82	(103)	(155)	(85)
Total comprehensive income (loss)	(40)	4,173	150	5,148
Comprehensive income attributable to noncontrolling interests	64	76	108	179
Comprehensive income (loss) attributable to Johnson Controls	$ (104)	$ 4,097	$ 42	$ 4,969

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

Johnson Controls International plc
Consolidated Statements of Cash Flows
(in millions; unaudited)

	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019
Operating Activities of Continuing Operations		
Net income from continuing operations attributable to Johnson Controls	$ 190	$ 488
Income from continuing operations attributable to noncontrolling interests	115	147
Net income from continuing operations	305	635
Adjustments to reconcile net income from continuing operations to cash provided by operating activities:		
Depreciation and amortization	616	625
Pension and postretirement benefit expense (income)	42	(85)
Pension and postretirement contributions	(43)	(51)
Equity in earnings of partially-owned affiliates, net of dividends received	9	6
Deferred income taxes	(148)	382
Noncash restructuring and impairment charges	582	235
Equity-based compensation	61	66
Other - net	(38)	42
Changes in assets and liabilities, excluding acquisitions and divestitures:		
Accounts receivable	428	(494)
Inventories	(205)	(289)
Other assets	(120)	(62)
Restructuring reserves	58	(84)
Accounts payable and accrued liabilities	(731)	(36)
Accrued income taxes	683	(179)
Cash provided by operating activities from continuing operations	1,499	711
Investing Activities of Continuing Operations		
Capital expenditures	(347)	(401)
Sale of property, plant and equipment	98	15
Acquisition of businesses, net of cash acquired	(59)	(16)
Business divestitures, net of cash divested	—	12
Proceeds from equity swap	—	14
Changes in long-term investments	(1)	13
Cash used by investing activities from continuing operations	(309)	(363)
Financing Activities of Continuing Operations		
Increase (decrease) in short-term debt - net	1,312	(1,286)
Repayment of long-term debt	(505)	(2,333)
Debt financing costs	(4)	—
Stock repurchases and retirements	(1,467)	(5,122)
Payment of cash dividends	(596)	(712)
Proceeds from the exercise of stock options	42	111
Employee equity-based compensation withholding taxes	(33)	(26)
Dividends paid to noncontrolling interests	(67)	(132)
Other - net	2	—
Cash used by financing activities from continuing operations	(1,316)	(9,500)
Discontinued Operations		
Cash provided (used) by operating activities	(255)	117
Cash provided by investing activities	—	12,580
Cash used by financing activities	(113)	(35)
Cash provided (used) by discontinued operations	(368)	12,662
Effect of exchange rate changes on cash, cash equivalents and restricted cash	28	(24)
Change in cash held for sale	—	15
Increase (decrease) in cash, cash equivalents and restricted cash	(466)	3,501
Cash, cash equivalents and restricted cash at beginning of period	2,821	200
Cash, cash equivalents and restricted cash at end of period	2,355	3,701
Less: Restricted cash	13	16
Cash and cash equivalents at end of period	$ 2,342	$ 3,685

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

Johnson Controls International plc
Consolidated Statements of Shareholders' Equity Attributable to Johnson Controls Ordinary Shareholders
(in millions, except per share data; unaudited)

	Nine Months Ended June 30, 2019					
	Total	Ordinary Shares	Capital in Excess of Par Value	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Loss
At September 30, 2018	$ 21,164	$ 10	$ 16,549	$ 6,604	$ (1,053)	$ (946)
Comprehensive income (loss)	4,969	—	—	5,062	—	(93)
Cash dividends Ordinary ($0.78 per share)	(683)	—	—	(683)	—	—
Repurchases and retirements of ordinary shares	(5,122)	(1)	—	(4,034)	(1,087)	—
Divestiture of Power Solutions	483	—	—	—	—	483
Adoption of ASC 606	(45)	—	—	(45)	—	—
Adoption of ASU 2016-01	—	—	—	8	—	(8)
Adoption of ASU 2016-16	(546)	—	—	(546)	—	—
Other, including options exercised	143	—	171	—	(28)	—
At June 30, 2019	$ 20,363	$ 9	$ 16,720	$ 6,366	$ (2,168)	$ (564)

	Three Months Ended June 30, 2019					
	Total	Ordinary Shares	Capital in Excess of Par Value	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Loss
At March 31, 2019	$ 20,036	$ 10	$ 16,640	$ 6,416	$ (2,078)	$ (952)
Comprehensive income (loss)	4,097	—	—	4,192	—	(95)
Cash dividends Ordinary ($0.26 per share)	(208)	—	—	(208)	—	—
Repurchases and retirements of ordinary shares	(4,122)	(1)	—	(4,034)	(87)	—
Divestiture of Power Solutions	483	—	—	—	—	483
Other, including options exercised	77	—	80	—	(3)	—
At June 30, 2019	$ 20,363	$ 9	$ 16,720	$ 6,366	$ (2,168)	$ (564)

	Nine Months Ended June 30, 2020					
	Total	Ordinary Shares	Capital in Excess of Par Value	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Loss
At September 30, 2019	$ 19,766	$ 8	$ 16,812	$ 4,827	$ (1,086)	$ (795)
Comprehensive income (loss)	42	—	—	190	—	(148)
Cash dividends Ordinary ($0.78 per share)	(590)	—	—	(590)	—	—
Repurchases and retirements of ordinary shares	(1,467)	—	—	(1,467)	—	—
Adoption of ASC 842	(5)	—	—	(5)	—	—
Other, including options exercised	59	—	92	—	(33)	—
At June 30, 2020	$ 17,805	$ 8	$ 16,904	$ 2,955	$ (1,119)	$ (943)

	Three Months Ended June 30, 2020					
	Total	Ordinary Shares	Capital in Excess of Par Value	Retained Earnings	Treasury Stock, at Cost	Accumulated Other Comprehensive Loss
At March 31, 2020	$ 18,084	$ 8	$ 16,883	$ 3,332	$ (1,118)	$ (1,021)
Comprehensive income (loss)	(104)	—	—	(182)	—	78
Cash dividends Ordinary ($0.26 per share)	(195)	—	—	(195)	—	—
Other, including options exercised	20	—	21	—	(1)	—
At June 30, 2020	$ 17,805	$ 8	$ 16,904	$ 2,955	$ (1,119)	$ (943)

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

1. Financial Statements

The consolidated financial statements include the consolidated accounts of Johnson Controls International plc, a corporation organized under the laws of Ireland, and its subsidiaries (Johnson Controls International plc and all its subsidiaries, hereinafter collectively referred to as the "Company" or "Johnson Controls"). In the opinion of management, the accompanying unaudited consolidated financial statements contain all adjustments (which include normal recurring adjustments) necessary to state fairly the financial position, results of operations and cash flows for the periods presented. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") have been omitted pursuant to the rules and regulations of the United States Securities and Exchange Commission ("SEC"). These consolidated financial statements should be read in conjunction with the audited financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the year ended September 30, 2019 filed with the SEC on November 21, 2019. The results of operations for the three and nine month periods ended June 30, 2020 are not necessarily indicative of results for the Company’s 2020 fiscal year because of seasonal and other factors.

Nature of Operations

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

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

Principles of Consolidation

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

The Company consolidates variable interest entities ("VIE") in which the Company 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 Company did not have a significant variable interest in any consolidated or nonconsolidated VIEs in its continuing operations for the presented reporting periods.

Restricted Cash

At June 30, 2020 and September 30, 2019, the Company held restricted cash of approximately $13 million and $16 million, respectively, all of which was recorded within other current assets in the consolidated statements of financial position. These amounts were related to cash restricted for payment of asbestos liabilities.

2. New Accounting Standards

Recently Adopted Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)." ASU No. 2016-02 requires recognition of operating leases as lease assets and liabilities on the balance sheet, and disclosure of key information about leasing arrangements. The Company adopted Topic 842 and the related amendments using a modified-retrospective approach as of October 1, 2019 and applied the new guidance to all leases through a cumulative-effect adjustment to beginning retained earnings. The comparative periods have not been recast and continue to be reported under the previous lease accounting guidance. The Company has elected to apply the package of transitional practical expedients, under which the Company did not reassess prior conclusions about lease identification, lease classification, and initial direct costs of existing leases as of the date of adoption. The adoption of the new guidance resulted in recognition of a right-of-use asset and related lease liabilities of $1.1 billion, with an immaterial impact to retained earnings. Refer to Note 6, “Leases,” for additional lease disclosures.

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

3. Acquisitions and Divestitures

During the first nine months of fiscal 2020, the Company completed certain acquisitions for a combined purchase price, net of cash acquired, of $63 million, of which $59 million was paid as of June 30, 2020. In connection with the acquisitions, the Company recorded goodwill of $19 million within the Global Products segment and $23 million within the Building Solutions EMEA/LA segment. The acquisitions were not material to the Company's consolidated financial statements.

On April 30, 2019, the Company completed the sale of its Power Solutions business to BCP Acquisitions LLC for a purchase price of $13.2 billion. The net cash proceeds after tax and transaction-related expenses were $11.6 billion. In connection with the sale, the Company recorded a gain, net of transaction and other costs, of $5.2 billion ($4.0 billion after tax), subject to post-closing working capital and net debt adjustments, within income from discontinued operations, net of tax, in the consolidated statements of income. During the first quarter of fiscal 2019, the Company determined that its Power Solutions business met the criteria to be classified as a discontinued operation and, as a result, Power Solutions' historical financial results are reflected in the Company's consolidated financial statements as a discontinued operation. Refer to Note 4, "Discontinued Operations," of the notes to consolidated financial statements for further disclosure related to the Company's discontinued operations.

During the first nine months of fiscal 2019, the Company completed certain divestitures within the Global Products and Building Solutions EMEA/LA businesses. The combined selling price was $18 million, $12 million of which was received as of June 30, 2019. In connection with the sale, the Company reduced goodwill by $1 million within the Building Solutions EMEA/LA segment. The divestitures were not material to the Company's consolidated financial statements.

During the first nine months of fiscal 2019, the Company completed certain acquisitions for a combined purchase price of $16 million, all of which was paid as of June 30, 2019. In connection with the acquisition, the Company recorded goodwill of $9 million within the Global Products segment and $1 million within the Building Solutions EMEA/LA segment. The acquisitions were not material to the Company's consolidated financial statements.

4. Discontinued Operations

On November 13, 2018, the Company entered into a Stock and Asset Purchase Agreement (“Purchase Agreement”) with BCP Acquisitions LLC (“Purchaser”). The Purchaser was a newly-formed entity controlled by investment funds managed by Brookfield Capital Partners LLC. Pursuant to the Purchase Agreement, on the terms and subject to the conditions therein, the Company agreed to sell, and Purchaser agreed to acquire, the Company’s Power Solutions business for a purchase price of $13.2 billion. The transaction closed on April 30, 2019 with net cash proceeds of $11.6 billion after tax and transaction-related expenses.

During the first quarter of fiscal 2019, the Company determined that its Power Solutions business met the criteria to be classified as a discontinued operation and, as a result, Power Solutions' historical financial results are reflected in the Company's consolidated financial statements as a discontinued operation, and assets and liabilities were retrospectively reclassified as assets and liabilities held for sale. The Company did not allocate any general corporate overhead to discontinued operations.

The following table summarizes the results of Power Solutions reclassified as discontinued operations for the three and nine month periods ended June 30, 2019 (in millions):

	Three Months Ended June 30, 2019	Nine Months Ended June 30, 2019
Net sales	$ 562	$ 5,001
Income from discontinued operations before income taxes	5,315	6,039
Provision for income taxes on discontinued operations	(1,264)	(1,441)
Income from discontinued operations attributable to noncontrolling interests, net of tax	—	(24)
Income from discontinued operations	$ 4,051	$ 4,574

For the three months ended June 30, 2019, income from discontinued operations before income taxes included a gain on sale of the Power Solutions business, net of transaction and other costs, of $5.2 billion and a favorable impact of $21 million for ceasing depreciation and amortization expense as the business was held for sale. For the nine months ended June 30, 2019, income from discontinued operations before income taxes included a gain on sale of the Power Solutions business, net of transaction and other costs, of $5.2 billion and a favorable impact of $117 million for ceasing depreciation and amortization expense as the business was held for sale.

For the three and nine months ended June 30, 2019, the effective tax rate was more than the Irish statutory rate of 12.5% primarily due to the tax impacts of the divestiture of the Power Solutions business and tax rate differentials.

Assets and Liabilities Held for Sale

During the third quarter of fiscal 2019, the Company determined that a business within its Global Products segment met the criteria to be classified as held for sale. The assets and liabilities of this business are presented as held for sale in the consolidated statements of financial position as of June 30, 2020 and September 30, 2019. Assets and liabilities held for sale are required to be recorded at the lower of carrying value or fair value less any costs to sell. Accordingly, the Company has recorded total impairment charges of $250 million within restructuring and impairment costs in the consolidated statements of income to write down the carrying value of the assets held for sale to fair value less any costs to sell. Of the $250 million total impairment charges, $235 million was recorded during the third quarter of fiscal 2019, and $15 million was recorded during the first quarter of fiscal 2020. Refer to Note 18, "Impairment of Long-Lived Assets" of the notes to consolidated financial statements for further information regarding the impairment charges. The divestiture of the business held for sale could result in a gain or loss on sale to the extent the ultimate selling price differs from the current carrying value of the net assets recorded. The business did not meet the criteria to be classified as a discontinued operation as the divestiture of the business will not have a major effect on the Company's operations and financial results.

During the third quarter of fiscal 2020, the Company determined that certain assets of the Building Solutions Asia Pacific segment, with an estimated fair value, less costs to sell, of $141 million met the criteria to be classified as held for sale.

5. Revenue Recognition

Disaggregated Revenue

The following tables present the Company's revenues disaggregated by segment and by products and systems versus services revenue for the three and nine months ended June 30, 2020 and 2019 (in millions):

	Three Months Ended June 30, 2020			Three Months Ended June 30, 2019		
	Products & Systems	Services	Total	Products & Systems	Services	Total
Building Solutions North America	$ 1,250	$ 770	$ 2,020	$ 1,494	$ 833	$ 2,327
Building Solutions EMEA/LA	346	410	756	464	458	922
Building Solutions Asia Pacific	344	244	588	427	264	691
Global Products	1,979	—	1,979	2,511	—	2,511
Total	$ 3,919	$ 1,424	$ 5,343	$ 4,896	$ 1,555	$ 6,451

	Nine Months Ended June 30, 2020			Nine Months Ended June 30, 2019		
	Products & Systems	Services	Total	Products & Systems	Services	Total
Building Solutions North America	$ 3,963	$ 2,399	$ 6,362	$ 4,202	$ 2,428	$ 6,630
Building Solutions EMEA/LA	1,203	1,331	2,534	1,297	1,410	2,707
Building Solutions Asia Pacific	986	756	1,742	1,134	798	1,932
Global Products	5,725	—	5,725	6,425	—	6,425
Total	$ 11,877	$ 4,486	$ 16,363	$ 13,058	$ 4,636	$ 17,694

The following table presents further disaggregation of Global Products segment revenues by product type for the three and nine months ended June 30, 2020 and 2019 (in millions):

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Building management systems	$ 244	$ 342	$ 860	$ 943
HVAC & refrigeration equipment	1,493	1,869	4,085	4,628
Specialty products	242	300	780	854
Total	$ 1,979	$ 2,511	$ 5,725	$ 6,425

Contract Balances

Contract assets relate to the Company’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 liabilities consist of deferred revenue. 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 Company's consolidated statements of financial position (in millions):

	Location of contract balances	June 30, 2020	September 30, 2019
Contract assets - current	Accounts receivable - net	$ 1,409	$ 1,389
Contract assets - noncurrent	Other noncurrent assets	98	90
Contract liabilities - current	Deferred revenue	(1,451)	(1,407)
Contract liabilities - noncurrent	Other noncurrent liabilities	(120)	(117)
Total		$ (64)	$ (45)

For the three months ended June 30, 2020 and June 30, 2019, the Company recognized revenue of $125 million and $130 million, respectively, that was included in the beginning of period contract liability balance. For the nine months ended June 30, 2020 and June 30, 2019, the Company recognized revenue of $1,137 million and $1,056 million, respectively, that was included in the beginning of period contract liability balance.

Performance Obligations

A performance obligation is a distinct good, service, or a 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 June 30, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately $14.4 billion, of which approximately 60% 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 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 Company 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 Company 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.

As of June 30, 2020, the Company recorded the costs to obtain or fulfill a contract of $224 million, of which $121 million is recorded within other current assets and $103 million is recorded within other noncurrent assets in the consolidated statements of financial position. As of September 30, 2019, the Company recorded the costs to obtain or fulfill a contract of $212 million, of which $110 million is recorded within other current assets and $102 million is recorded within other noncurrent assets in the consolidated statements of financial position.

During the three months ended June 30, 2020 and 2019, the Company recognized amortization expense of $47 million and $50 million, respectively, related to costs to obtain or fulfill a contract. During the nine months ended June 30, 2020 and 2019, the Company recognized amortization expense of $116 million and $119 million, respectively, related to costs to obtain or fulfill a contract. There were no impairment losses recognized in the three and nine months ended June 30, 2020 and 2019.

6. Leases

Lessee arrangements

The Company 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 Company 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 Company 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.

Right-of-use assets represent the Company'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. As the majority of the Company's leases do not provide an implicit interest rate, to determine the present value of lease payments, the Company uses its incremental borrowing rate based on information available on the lease commencement date and uses the implicit rate when readily determinable. The Company determines its incremental borrowing rate based on a comparable market yield curve consistent with the Company's credit rating, term of the lease and relative economic environment. The Company has elected to combine lease and non-lease 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 Company is reasonably certain to exercise. Lease expense is recognized on a straight-line basis over the lease term.

The Company has certain real estate leases that contain variable lease payments which are based on changes in the Consumer Price Index (CPI). Additionally, the Company'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.

The following table presents the Company's lease costs for the three and nine months ended June 30, 2020 (in millions):

	Three Months Ended June 30, 2020	Nine Months Ended June 30, 2020
Operating lease cost	$ 97	$ 294
Variable lease cost	36	113
Total lease costs	$ 133	$ 407

The following table presents supplemental consolidated statement of financial position information as of June 30, 2020 (in millions):

	Location of lease balances	June 30, 2020
Operating lease right-of-use assets	Other noncurrent assets	$ 1,127
Operating lease liabilities - current	Other current liabilities	322
Operating lease liabilities - noncurrent	Other noncurrent liabilities	820
Weighted-average remaining lease term		6 years
Weighted-average discount rate		2.3 %

The following table presents supplemental cash flow information related to operating leases for the three and nine months ended June 30, 2020 (in millions):

	Three Months Ended June 30, 2020	Nine Months Ended June 30, 2020
Cash paid for amounts included in the measurement of lease liability:		
Operating cash outflows from operating leases	$ 100	$ 297
Noncash operating lease activity:		
Right-of-use assets obtained in exchange for operating lease liabilities	141	315

The following table presents maturities of operating lease liabilities as of June 30, 2020 (in millions):

	June 30, 2020
2020 (3 months)	$ 83
2021	338
2022	256
2023	160
2024	115
After 2024	278
Total operating lease payments	1,230
Less interest	(88)
Present value of lease payments	$ 1,142

As previously disclosed in the Company's Annual Report on Form 10-K for the year ended September 30, 2019 and accounted for under the previous lease accounting guidance, future minimum operating lease payments for long-term noncancellable operating leases as of September 30, 2019 were as follows (in millions):

	September 30, 2019
2020	$ 352
2021	287
2022	200
2023	111
2024	71
After 2024	172
Total minimum lease payments	$ 1,193

Lessor arrangements

The Company's monitoring services and maintenance agreements within its electronic security business that include subscriber system assets for which the Company retains ownership contain both lease and nonlease components. The Company has elected the practical expedient 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 Company 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.

7. Inventories

Inventories consisted of the following (in millions):

	June 30, 2020	September 30, 2019
Raw materials and supplies	$ 661	$ 588
Work-in-process	157	176
Finished goods	1,178	1,050
Inventories	$ 1,996	$ 1,814

8. Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill in each of the Company's reportable segments for the nine month period ended June 30, 2020 were as follows (in millions):

	September 30, 2019	Business Acquisitions	Impairments	Currency Translation and Other	June 30, 2020
Building Solutions North America	$ 9,588	$ —	$ (424)	$ (20)	$ 9,144
Building Solutions EMEA/LA	1,849	23	—	3	1,875
Building Solutions Asia Pacific	1,194	—	—	10	1,204
Global Products	5,547	19	—	(30)	5,536
Total	$ 18,178	$ 42	$ (424)	$ (37)	$ 17,759

At September 30, 2019, accumulated goodwill impairment charges included $47 million related to the Building Solutions EMEA/LA - Latin America reporting unit.

The Company reviews goodwill for impairment during the fourth fiscal quarter or more frequently if events or changes in circumstances indicate the asset might be impaired. The Company considered the ongoing deterioration in general economic and market conditions due to the COVID-19 pandemic and its impact on each of the Company's reporting units' performance. Due to further declines in cash flow projections of North America Retail reporting unit in the third quarter of fiscal 2020 as a result of the COVID-19 pandemic, the Company concluded a triggering event occurred requiring assessment of impairment for its North America Retail reporting unit during the quarter ended June 30, 2020. As a result, the Company recorded a non-cash impairment charge of $424 million within restructuring and impairment costs in the consolidated statements of income in the third quarter of fiscal 2020, which was determined by comparing the carrying amount of a reporting unit to its fair value in accordance with ASU No. 2017-04, "Intangible - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment," which the Company early adopted. The North America Retail reporting unit has a remaining goodwill balance of $228 million at June 30, 2020. The Company used a discounted cash flow model to estimate the fair value of the reporting unit. Other than management's internal projections of future cash flows, the primary assumptions used in the model were 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 80, "Fair Value Measurement." Although the Company's cash flow forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management is using to operate the underlying business, there is significant judgment in determining the expected future cash flows attributable to the North America Retail reporting unit.

The Company concluded a triggering event did not occur for any other reporting unit in the third quarter of fiscal 2020 based on the Company's assessment of its market capitalization, forecasts and the amount of excess of fair value over the carrying value of the reporting units in the fiscal 2019 annual test. The Company continuously monitors for events and circumstances that could negatively impact the key assumptions in determining fair value, including long-term revenue growth projections, profitability, discount rates, recent market valuations from transactions by comparable companies, volatility in the Company's market capitalization, and general industry, market and macro-economic conditions. It is possible that future changes in such circumstances, including a more prolonged and/or severe COVID-19 pandemic, or future changes in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of the reporting unit, would require the Company to record additional non-cash impairment charges.

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

	June 30, 2020			September 30, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Definite-lived intangible assets						
Technology	$ 1,318	$ (462)	$ 856	$ 1,307	$ (370)	$ 937
Customer relationships	2,732	(906)	1,826	2,722	(759)	1,963
Miscellaneous	636	(255)	381	584	(224)	360
Total definite-lived intangible assets	4,686	(1,623)	3,063	4,613	(1,353)	3,260
Indefinite-lived intangible assets						
Trademarks/trade names	2,221	—	2,221	2,282	—	2,282
Miscellaneous	80	—	80	90	—	90
	2,301	—	2,301	2,372	—	2,372
Total intangible assets	$ 6,987	$ (1,623)	$ 5,364	$ 6,985	$ (1,353)	$ 5,632

The Company 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. Indefinite-lived intangible assets primarily consist of trademarks and tradenames and are tested for impairment using a relief-from-royalty method. During the second and third quarters of fiscal 2020, the Company determined that it had a triggering event at each reporting period end requiring assessment of impairment for certain of its indefinite-lived intangible assets due to declines in revenue directly attributable to the COVID-19 pandemic. As a result, the Company recorded an impairment charge of $62 million related primarily to the Company's retail business indefinite-lived intangible assets within restructuring and impairment costs in the consolidated statements of income in the second quarter of fiscal 2020. No further impairment was required to be recorded in the third quarter of fiscal 2020 as a result of the completed impairment assessment. The Company continuously monitors for events and circumstances that could negatively impact the key assumptions in determining fair value, including long-term revenue growth projections, discount rates and general industry, market and macro-economic conditions. It is possible that future changes in such circumstances, including a more prolonged and/or severe COVID-19 pandemic, or future changes in the variables associated with the judgments, assumptions and estimates used in assessing the fair value of the indefinite-lived intangible assets, would require the Company to record an additional non-cash impairment charge.

Amortization of other intangible assets included within continuing operations for the three month periods ended June 30, 2020 and 2019 was $95 million and $93 million, respectively. Amortization of other intangible assets included within continuing operations for the nine month periods ended June 30, 2020 and 2019 was $288 million and $288 million, respectively. Excluding the impact of any future acquisitions, the Company anticipates amortization for fiscal 2021, 2022, 2023, 2024 and 2025 will be approximately $398 million, $394 million, $387 million, $369 million and $352 million per year, respectively.

9. Significant Restructuring and Impairment Costs

To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company commits to restructuring plans as necessary.

In fiscal 2020, the Company committed to a significant restructuring plan ("2020 Plan") and recorded $297 million of restructuring and impairment costs in the consolidated statements of income, of which $111 million was recorded in the first quarter and $186 million was recorded in the third quarter of fiscal 2020. This is the total amount incurred to date and the total amount expected to be incurred for this restructuring plan. The restructuring actions related primarily to cost reduction initiatives. The costs consist primarily of workforce reductions, plant closures and asset impairments. Of the restructuring and impairment costs recorded, $136 million related to the Global Products segment, $64 million related to the Building Solutions North America segment, $49 million related to the Building Solutions Asia Pacific segment, $43 million related to the Building Solutions EMEA/LA segment and $5 million related to Corporate. The restructuring actions are expected to be substantially complete in fiscal 2021.

The following table summarizes the changes in the Company's 2020 Plan reserve, included within other current liabilities in the consolidated statements of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments	Other	Total
Original reserve	$ 54	$ 54	$ 3	$ 111
Utilized—cash	(8)	—	—	(8)
Utilized—noncash	—	(54)	—	(54)
Balance at December 31, 2019	$ 46	$ —	$ 3	$ 49
Utilized—cash	(24)	—	(1)	(25)
Balance at March 31, 2020	$ 22	$ —	$ 2	$ 24
Additional reserve	142	42	2	186
Utilized—cash	(28)	—	(1)	(29)
Utilized—noncash	—	(42)	—	(42)
Balance at June 30, 2020	$ 136	$ —	$ 3	$ 139

In the third quarter of fiscal 2020, the Company recorded $424 million of restructuring and impairment costs in the consolidated statements of income for goodwill impairment related to the North America Retail reporting unit. Refer to Note 8, "Goodwill and Other Intangible Assets," of the notes to consolidated financial statements for further information regarding goodwill impairments.

In the second quarter of fiscal 2020, the Company recorded $62 million of restructuring and impairment costs in the consolidated statements of income for indefinite-lived intangible asset impairments. Refer to Note 8, "Goodwill and Other Intangible Assets," of the notes to consolidated financial statements for further information regarding the indefinite-lived intangibles impairments.

In fiscal 2018, the Company committed to a significant restructuring plan ("2018 Plan") and recorded $255 million of restructuring and impairment costs for continuing operations in the consolidated statements of income. This was the total amount incurred to date and the total amount expected to be incurred for this restructuring plan. The restructuring actions related to cost reduction initiatives in the Company's Building Technologies & Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. Of the restructuring and impairment costs recorded, $113 million related to the Global Products segment, $56 million related to the Building Solutions EMEA/ LA segment, $50 million related to Corporate, $20 million related to the Building Solutions North America segment and

$16 million related to the Building Solutions Asia Pacific segment. The restructuring actions are expected to be substantially complete in 2020.

Additionally, the Company recorded $8 million of restructuring and impairment costs related to Power Solutions in fiscal 2018. This is reported within discontinued operations.

The following table summarizes the changes in the Company's 2018 Plan reserve, included within other current liabilities in the consolidated statements of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments	Other	Currency Translation	Total
Original reserve	$ 209	$ 42	$ 12	$ —	$ 263
Utilized—cash	(45)	—	(2)	—	(47)
Utilized—noncash	—	(42)	—	—	(42)
Balance at September 30, 2018	$ 164	$ —	$ 10	$ —	$ 174
Utilized—cash	(61)	—	(6)	—	(67)
Utilized—noncash	—	—	—	(1)	(1)
Transfer to liabilities held for sale	(4)	—	—	—	(4)
Balance at September 30, 2019	$ 99	$ —	$ 4	$ (1)	$ 102
Utilized—cash	(30)	—	—	—	(30)
Utilized—noncash	—	—	—	1	1
Adoption of ASC 842[1]	—	—	(4)	—	(4)
Balance at June 30, 2020	$ 69	$ —	$ —	$ —	$ 69

[1]Represents liability for facility closings recorded as an offset to right-of-use asset upon adoption of ASC 842.

In fiscal 2017, the Company committed to a significant restructuring plan ("2017 Plan") and recorded $347 million of restructuring and impairment costs for continuing operations in the consolidated statements of income. This was the total amount incurred to date and the total amount expected to be incurred for this restructuring plan. The restructuring actions related to cost reduction initiatives in the Company's Building Technologies & Solutions businesses and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. Of the restructuring and impairment costs recorded, $166 million related to Corporate, $74 million related to the Building Solutions EMEA/LA segment, $59 million related to the Building Solutions North America segment, $32 million related to the Global Products segment and $16 million related to the Building Solutions Asia Pacific segment. The restructuring actions are expected to be substantially complete in fiscal 2020.

Additionally, the Company recorded $20 million of restructuring and impairment costs related to Power Solutions in fiscal 2017. This is reported within discontinued operations.

The following table summarizes the changes in the Company’s 2017 Plan reserve, included within other current liabilities in the consolidated statements of financial position (in millions):

	Employee Severance and Termination Benefits	Long-Lived Asset Impairments	Other	Currency Translation	Total
Original reserve	$ 276	$ 77	$ 14	$ —	$ 367
Utilized—cash	(75)	—	—	—	(75)
Utilized—noncash	—	(77)	(1)	—	(78)
Adjustment to restructuring reserves	25	—	—	—	25
Balance at September 30, 2017	$ 226	$ —	$ 13	$ —	$ 239
Utilized—cash	(152)	—	(6)	—	(158)
Utilized—noncash	—	—	—	(1)	(1)
Balance at September 30, 2018	$ 74	$ —	$ 7	$ (1)	$ 80
Utilized—cash	(11)	—	(2)	—	(13)
Utilized—noncash	—	—	—	(3)	(3)
Transfer to liabilities held for sale	(3)	—	—	—	(3)
Balance at September 30, 2019	$ 60	$ —	$ 5	$ (4)	$ 61
Utilized—cash	(35)	—	—	—	(35)
Adoption of ASC 842[1]	—	—	(5)	—	(5)
Balance at June 30, 2020	$ 25	$ —	$ —	$ (4)	$ 21

[1]Represents liability for facility closings recorded as an offset to right-of-use asset upon adoption of ASC 842.

The Company's fiscal 2020, 2018 and 2017 restructuring plans included workforce reductions of approximately 16,400 employees (14,100 for the Building Technologies & Solutions business and 2,300 for Corporate). 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 June 30, 2020, approximately 10,300 of the employees have been separated from the Company pursuant to the restructuring plans. In addition, the restructuring plans included nine plant closures in the Building Technologies & Solutions business. As of June 30, 2020, eight of the nine plants have been closed.

Company management closely monitors its overall cost structure and continually analyzes each of its businesses for opportunities to consolidate current operations, improve operating efficiencies and locate facilities in close proximity to customers. This ongoing analysis includes a review of its manufacturing, engineering and purchasing operations, as well as the overall global footprint for all its businesses.

10. Income Taxes

In calculating the provision for income taxes, the Company uses an estimate of the annual effective tax rate based upon the facts and circumstances known at each interim period. On a quarterly basis, the actual effective tax rate is adjusted, as appropriate, based upon changed facts and circumstances, if any, as compared to those forecasted at the beginning of the fiscal year and each interim period thereafter.

The statutory tax rate in Ireland is being used as a comparison since the Company is domiciled in Ireland. For the three months ended June 30, 2020, the Company's effective tax rate for continuing operations was 1% and was lower than the statutory tax rate of 12.5% primarily due to tax audit reserve adjustments, the income tax effects of mark-to-market adjustments and the benefits of continuing global tax planning initiatives, partially offset by the tax impact of an impairment charge and tax rate differentials. For the nine months ended June 30, 2020, the Company's effective tax rate for continuing operations was 20% and was higher than the statutory tax rate of 12.5% primarily due to a discrete tax charge related to the remeasurement of deferred tax assets and liabilities as a result of Swiss tax reform, the tax impact of an impairment charge and tax rate differentials, partially offset by tax audit reserve adjustments, the income tax effects of mark-to-market adjustments and the benefits of continuing global tax planning initiatives. For the three months ended June 30, 2019, the Company's effective tax rate for continuing operations was 52% and was higher than the statutory tax rate of 12.5% primarily due to a discrete tax charge related to newly enacted regulations related to U.S. Tax Reform, non-U.S. tax audit reserve adjustments and tax rate differentials, partially offset by a tax indemnification reserve release, the tax benefits of an asset held for sale impairment charge and continuing global tax planning initiatives. For the nine months ended June 30, 2019, the Company's effective tax rate for continuing operations was 38% and was higher than the statutory tax rate of 12.5% primarily due to valuation allowance adjustments as a result of tax law changes, a discrete tax charge related to newly enacted regulations related to U.S. Tax Reform, non-U.S. tax audit reserve adjustments and tax rate differentials, partially offset by a tax indemnification reserve release, the tax benefits of an asset held for sale impairment charge and continuing global tax planning initiatives.

Valuation Allowance

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

In the first quarter of fiscal 2019, as a result of changes to U.S. tax law, the Company recorded a discrete tax charge of $76 million related to valuation allowances on certain U.S. deferred tax assets.

Uncertain Tax Positions

At September 30, 2019, the Company had gross tax effected unrecognized tax benefits of $2,451 million, of which $2,121 million, if recognized, would impact the effective tax rate. Total net accrued interest at September 30, 2019 was approximately $181 million (net of tax benefit). The interest and penalties accrued during the nine months ended June 30, 2020 were approximately $55 million (net of tax benefit). Interest and penalties accrued during the nine months ended June 30, 2019 were approximately $49 million (net of tax benefit). The Company recognizes interest and penalties related to unrecognized tax benefits as a component of income tax expense.

In the third quarter of fiscal 2020, tax audit resolutions resulted in a $22 million net benefit to income tax expense.

In the second quarter of fiscal 2020, tax audit resolutions resulted in a $22 million net benefit to income tax expense.

In the third quarter of fiscal 2019, the Company recorded a discrete charge of $199 million related to newly enacted regulations related to U.S. Tax Reform which impacted the Company's reserves for uncertain tax positions.

In the third quarter of fiscal 2019, the Company recorded a discrete charge of $27 million related to non-U.S. tax examinations.

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 Company is currently under exam in the following major non-U.S. jurisdictions for continuing operations:

Tax Jurisdiction	Tax Years Covered
Belgium	2015 - 2019
Germany	2007 - 2016
Taiwan	2017 - 2018
United Kingdom	2014 - 2015, 2017

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.

Impacts of Tax Legislation

On March 27, 2020, in response to the COVID-19 pandemic, the “Coronavirus Aid, Relief and Economic Security Act” (“CARES”) was signed into law by the President of the United States. The CARES Act includes, among other things, U.S. corporate income tax provisions related to net operating loss carryback periods, alternative minimum tax credits, modifications to interest deduction limitations and technical corrections on tax depreciation methods for qualified improvement property. A majority of non-U.S. countries have also introduced various COVID-19 related corporate income tax relief provisions. The Company does not expect either the U.S. or non-U.S. corporate income tax provisions to have a material effect on its financial statements.

In the first quarter of fiscal 2020, the Company recorded a noncash discrete tax charge of $30 million due to the remeasurement of deferred tax assets and liabilities related to Switzerland and the canton of Schaffhausen. On September 28, 2018, the Swiss Parliament approved the Federal Act on Tax Reform and AHV Financing (“TRAF”), which was subsequently approved by the Swiss electorate on May 19, 2019. During the fourth quarter of fiscal 2019, the Swiss Federal Council enacted TRAF which became effective for the Company on January 1, 2020. The impacts of the federal enactment did not have a material impact to the Company’s financial statements. TRAF also provides for parameters which enable the Swiss cantons to adjust tax rates and establish new regulations for companies. As of September 30, 2019, the canton of Schaffhausen had not concluded its public referendum; however, the enactment did occur during the first quarter of fiscal 2020.

During the nine months ended June 30, 2020 and 2019, other tax legislation was adopted in various jurisdictions. These law changes did not have a material impact on the Company's consolidated financial statements.

Other Tax Matters

In the third quarter of fiscal 2020, the Company recorded net mark-to-market losses of $132 million. These losses generated a tax benefit of $34 million, which reflects the Company's current tax position in the impacted jurisdictions.

In the third quarter of fiscal 2020, the Company recorded $610 million of restructuring and impairment costs. Refer to Note 8, "Goodwill and Other Intangible Assets," and Note 9, “Significant Restructuring and Impairment Costs,” of the notes to consolidated financial statements for additional information. The restructuring costs generated a $28 million tax benefit, which reflects the Company’s current tax position in the impacted jurisdictions.

In the second quarter of fiscal 2020, the Company recorded $62 million of restructuring and impairment costs. Refer to Note 8, "Goodwill and Other Intangible Assets," and Note 9, “Significant Restructuring and Impairment Costs,” of the notes to consolidated financial statements for additional information. The restructuring costs generated a $4 million tax benefit, which reflects the Company’s current tax position in the impacted jurisdictions.

In the first quarter of fiscal 2020, the Company recorded $111 million of restructuring and impairment costs. Refer to Note 9, “Significant Restructuring and Impairment Costs,” of the notes to consolidated financial statements for additional information. The restructuring costs generated a $16 million tax benefit, which reflects the Company’s current tax position in the impacted jurisdictions.

In the third quarter of fiscal 2019, the Company recorded a $235 million impairment charge related to assets held for sale. Refer to Note 18, "Impairment of Long-Lived Assets," of the notes to consolidated financial statements for further information regarding the impairment charge. The impairment charge generated a $53 million tax benefit.

In the third quarter of fiscal 2019, the Company released a $226 million tax indemnification reserve. Refer to Note 20, "Guarantees," of the notes to consolidated financial statements for further information regarding the reserve release. The reserve release generated no income tax expense.

11. Pension and Postretirement Plans

The components of the Company's net periodic benefit costs from continuing operations associated with its defined benefit pension and postretirement plans, which are primarily recorded in selling, general and administrative expenses in the consolidated statements of income, are shown in the tables below in accordance with ASC 715, "Compensation – Retirement Benefits" (in millions):

	U.S. Pension Plans			
	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Interest cost	$ 18	$ 25	55	75
Expected return on plan assets	(46)	(46)	(136)	(138)
Net actuarial loss	157	—	157	—
Settlement loss	6	—	6	—
Net periodic benefit cost (credit)	$ 135	$ (21)	$ 82	$ (63)

	Non-U.S. Pension Plans			
	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Service cost	$ 6	$ 5	$ 19	$ 16
Interest cost	9	14	27	40
Expected return on plan assets	(27)	(26)	(83)	(78)
Amortization of prior service cost	—	—	1	—
Settlement loss	—	—	—	1
Net periodic benefit credit	$ (12)	$ (7)	$ (36)	$ (21)

	Postretirement Benefits			
	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Service cost	$ 1	$ —	$ 1	$ 1
Interest cost	1	2	3	5
Expected return on plan assets	(3)	(2)	(7)	(7)
Amortization of prior service credit	—	—	(1)	—
Net periodic benefit credit	$ (1)	$ —	$ (4)	$ (1)

During the three months ended June 30, 2020, the amount of cumulative fiscal 2020 lump sum payouts triggered a remeasurement event for certain U.S. pension plans resulting in the recognition of net actuarial losses of $157 million, primarily due to a decrease in discount rates.

12. Debt and Financing Arrangements

Net Financing Charges

The Company's net financing charges line item in the consolidated statements of income for the three and nine months ended June 30, 2020 and 2019 contained the following components (in millions):

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Interest expense, net of capitalized interest costs	$ 58	$ 81	$ 182	$ 269
Banking fees and bond cost amortization	8	7	18	20
Loss on debt extinguishment	—	60	—	60
Interest income	(3)	(28)	(21)	(41)
Net foreign exchange results for financing activities	(5)	(1)	(10)	(6)
Net financing charges	$ 58	$ 119	$ 169	$ 302

In April 2020, the Company entered into various European financing arrangements totaling $675 million which are due in September 2020 and $575 million of bank term loans which are due in April 2021. In July 2020, a $300 million bank term loan was repaid, reducing bank term loans outstanding to $275 million.

In March 2020, the Company retired $500 million in principal amount, plus accrued interest, of its 5.0% fixed rate notes that expired in March 2020.

In December 2019, the Company entered into 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 is scheduled to expire in December 2020. As of June 30, 2020, there were no draws on the facilities.

In December 2019, the Company terminated its syndicated 5-year $2 billion committed revolving credit facility and four 364-day revolving credit facilities with total committed capacity of $750 million.

13. Stock-Based Compensation

On September 2, 2016, the shareholders of the Company approved amendments to the Johnson Controls International plc 2012 Share and Incentive Plan (the "Plan"). The types of awards authorized by the Plan comprise of stock options, stock appreciation rights, performance shares, performance units and other stock-based compensation awards. The Compensation Committee of the Company's Board of Directors determines the types of awards to be granted to individual participants and the terms and conditions of the awards. Awards are typically granted annually in the Company's fiscal first quarter. A summary of the stock-based awards granted during the nine month periods ended June 30, 2020 and 2019 is presented below:

	Nine Months Ended June 30,			
	2020		2019	
	Number Granted	Weighted Average Grant Date Fair Value	Number Granted	Weighted Average Grant Date Fair Value
Stock options	1,347,310	$ 7.29	1,741,510	$ 5.56
Restricted stock/units	1,896,383	41.41	2,334,423	33.50
Performance shares	476,939	42.48	583,989	36.28

Stock Options

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

The fair value of each option is estimated on the date of grant using a Black-Scholes option valuation model that uses the assumptions noted in the following table. The expected life of options represents the period of time that options granted are expected to be outstanding, assessed separately for executives and non-executives. The risk-free interest rate for periods during the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant. The expected volatility is based on the historical volatility of the Company'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 Company's ordinary shares as of the grant date. The Company uses historical data to estimate option exercises and employee terminations within the valuation model.

	Nine Months Ended June 30,	
	2020	2019
Expected life of option (years)	6.5	6.4
Risk-free interest rate	1.67%	2.77%
Expected volatility of the Company's stock	22.4%	21.8%
Expected dividend yield on the Company's stock	2.49%	3.29%

Restricted (Nonvested) Stock / Units

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

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

The fair value of each PSU is estimated on the date of grant with the use of a Monte Carlo simulation that uses the assumptions noted in the following table. The risk-free interest rate for periods during the contractual life of the PSU is based on the U.S. Treasury yield curve in effect at the time of grant. For fiscal 2020, the expected volatility is based on the historical volatility of the Company's stock over the most recent three-year period as of the grant date. For fiscal 2019, the expected volatility is based on the historical volatility of the Company's stock since October 2016 blended with the historical volatility of certain peer companies' stock prior to October 2016 over the most recent three-year period as of the grant date.

	Nine Months Ended June 30,	
	2020	2019
Risk-free interest rate	1.60%	2.76%
Expected volatility of the Company's stock	21.8%	22.9%

14. Earnings Per Share

The Company presents both basic and diluted earnings per share ("EPS") amounts. Basic EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of ordinary shares outstanding during the reporting period. Diluted EPS is calculated by dividing net income attributable to Johnson Controls by the weighted average number of ordinary shares and ordinary equivalent shares outstanding during the reporting period that are calculated using the treasury stock method for stock options, unvested restricted stock and unvested performance share awards. The treasury stock method assumes that the Company uses the proceeds from the exercise of stock option awards to repurchase ordinary shares at the average market price during the period. The assumed proceeds under the treasury stock method include the purchase price that the grantee will pay in the future and compensation cost for future service that the Company has not yet recognized. For unvested restricted stock and unvested performance share awards, assumed proceeds under the treasury stock method would include unamortized compensation cost.

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

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Income (loss) Available to Ordinary Shareholders				
Income (loss) from continuing operations	$ (182)	$ 141	$ 190	$ 488
Income from discontinued operations	—	4,051	—	4,574
Basic and diluted income (loss) available to shareholders	$ (182)	$ 4,192	$ 190	$ 5,062
Weighted Average Shares Outstanding				
Basic weighted average shares outstanding	744.0	870.9	756.3	898.4
Effect of dilutive securities:				
Stock options, unvested restricted stock and unvested performance share awards	—	4.3	2.6	3.8
Diluted weighted average shares outstanding	744.0	875.2	758.9	902.2
Antidilutive Securities				
Options to purchase shares	—	0.7	1.6	1.9

For the three months ended June 30, 2020, the total number of potential dilutive shares due to stock options, unvested restricted stock and unvested performance share awards was 1.5 million. However, these items were not included in the computation of diluted loss per share for the three months ended June 30, 2020 since to do so would decrease the loss per share.

15. Equity and Noncontrolling Interests

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

	Three Months Ended June 30, 2020			Three Months Ended June 30, 2019		
	Equity Attributable to Johnson Controls International plc	Equity Attributable to Noncontrolling Interests	Total Equity	Equity Attributable to Johnson Controls International plc	Equity Attributable to Noncontrolling Interests	Total Equity
Beginning balance, March 31,	$ 18,084	$ 1,004	$ 19,088	$ 20,036	$ 1,265	$ 21,301
Total comprehensive income (loss):						
Net income (loss)	(182)	60	(122)	4,192	84	4,276
Foreign currency translation adjustments	72	4	76	(90)	(4)	(94)
Realized and unrealized gains (losses) on derivatives	6	—	6	(5)	(4)	(9)
Other comprehensive income (loss)	78	4	82	(95)	(8)	(103)
Comprehensive income (loss)	(104)	64	(40)	4,097	76	4,173
Other changes in equity:						
Cash dividends—ordinary shares	(195)	—	(195)	(208)	—	(208)
Repurchases and retirements of ordinary shares	—	—	—	(4,122)	—	(4,122)
Divestiture of Power Solutions	—	—	—	483	(295)	188
Other, including options exercised	20	—	20	77	—	77
Ending balance, June 30,	$ 17,805	$ 1,068	$ 18,873	$ 20,363	$ 1,046	$ 21,409

	Nine Months Ended June 30, 2020			Nine Months Ended June 30, 2019		
	Equity Attributable to Johnson Controls International plc	Equity Attributable to Noncontrolling Interests	Total Equity	Equity Attributable to Johnson Controls International plc	Equity Attributable to Noncontrolling Interests	Total Equity
Beginning balance, September 30,	$ 19,766	$ 1,063	$ 20,829	$ 21,164	$ 1,294	$ 22,458
Total comprehensive income:						
Net income	190	115	305	5,062	171	5,233
Foreign currency translation adjustments	(148)	(9)	(157)	(103)	8	(95)
Realized and unrealized gains on derivatives	1	2	3	10	—	10
Pension and postretirement plans	(1)	—	(1)	—	—	—
Other comprehensive income (loss)	(148)	(7)	(155)	(93)	8	(85)
Comprehensive income	42	108	150	4,969	179	5,148
Other changes in equity:						
Cash dividends—ordinary shares	(590)	—	(590)	(683)	—	(683)
Dividends attributable to noncontrolling interests	—	(103)	(103)	—	(132)	(132)
Repurchases and retirements of ordinary shares	(1,467)	—	(1,467)	(5,122)	—	(5,122)
Divestiture of Power Solutions	—	—	—	483	(295)	188
Adoption of ASC 606	—	—	—	(45)	—	(45)
Adoption of ASU 2016-16	—	—	—	(546)	—	(546)
Adoption of ASC 842	(5)	—	(5)	—	—	—
Other, including options exercised	59	—	59	143	—	143
Ending balance, June 30,	$ 17,805	$ 1,068	$ 18,873	$ 20,363	$ 1,046	$ 21,409

During the quarter ended December 31, 2018, the Company adopted ASC 606, "Revenue from Contracts with Customers." As a result, the Company recorded $45 million to beginning retained earnings, which relates primarily to deferred revenue recorded for the Power Solutions business for certain battery core returns that represent a material right provided to customers.

During the quarter ended December 31, 2018, the Company adopted ASU 2016-16, "Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other Than Inventory." As a result, the Company recognized deferred taxes of $546 million related to the tax effects of all intra-entity sales of assets other than inventory on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of October 1, 2018.

In order to enhance liquidity resources in response to financial market uncertainty related to the COVID-19 pandemic, in March 2020 the Company made the decision to suspend its share repurchase program. As a result, no shares were repurchased during the three months ended June 30, 2020. For the nine months ended June 30, 2020, the Company repurchased and retired $1,467 million of its ordinary shares. As of June 30, 2020, approximately $3.1 billion remains available under the share repurchase program. In June 2020, the Company announced the share repurchase program would resume in the fourth quarter of fiscal 2020.

On May 1, 2019, the Company announced a "modified Dutch auction" tender offer for up to $4.0 billion of its ordinary shares with a price range between $36.00 and $40.00 per share. The tender offer expired on May 31, 2019. Through the tender offer, the Company accepted for payment 102 million shares at a purchase price of $39.25 per share, for a total of approximately $4,035 million, including fees and commissions. The shares purchased through the tender offer were immediately retired. Ordinary shares were reduced by the number of shares retired at $0.01 par value per share. The excess purchase price over par value was recorded in retained earnings in the consolidated statements of financial position.

In addition to the equity tender offer described above, the Company repurchased $87 million and $1,087 million of its ordinary shares, respectively, during the three and nine months ended June 30, 2019. These repurchased shares were retired in the fourth quarter of fiscal 2019.

The following schedules present changes in accumulated other comprehensive income ("AOCI") attributable to Johnson Controls (in millions, net of tax):

	Three Months Ended June 30,	
	2020	2019
Foreign currency translation adjustments ("CTA")		
Balance at beginning of period	$ (1,005)	$ (952)
Divestiture of Power Solutions	—	479
Aggregate adjustment for the period (net of tax effect of $0 and $0)	72	(90)
Balance at end of period	(933)	(563)
Realized and unrealized gains (losses) on derivatives		
Balance at beginning of period	(7)	2
Divestiture of Power Solutions (net of tax effect of $0 and $1)	—	4
Current period changes in fair value (net of tax effect of $1 and $(3))	4	(4)
Reclassification to income (net of tax effect of $0 and $0) *	2	(1)
Balance at end of period	(1)	1
Pension and postretirement plans		
Balance at beginning of period	(9)	(2)
Reclassification to income (net of tax effect of $0 and $0)	—	—
Balance at end of period	(9)	(2)
Accumulated other comprehensive loss, end of period	$ (943)	$ (564)

	Nine Months Ended June 30,	
	2020	2019
CTA		
Balance at beginning of period	$ (785)	$ (939)
Divestiture of Power Solutions	—	479
Aggregate adjustment for the period (net of tax effect of $0 and $0)	(148)	(103)
Balance at end of period	(933)	(563)
Realized and unrealized gains (losses) on derivatives		
Balance at beginning of period	(2)	(13)
Divestiture of Power Solutions (net of tax effect of $0 and $1)	—	4
Current period changes in fair value (net of tax effect of $0 and $1)	1	4
Reclassification to income (net of tax effect of $0 and $3) *	—	6
Balance at end of period	(1)	1
Realized and unrealized gains (losses) on marketable securities		
Balance at beginning of period	—	8
Adoption of ASU 2016-01 **	—	(8)
Balance at end of period	—	—
Pension and postretirement plans		
Balance at beginning of period	(8)	(2)
Reclassification to income (net of tax effect of $0 and $0)	(1)	—
Balance at end of period	(9)	(2)
Accumulated other comprehensive loss, end of period	$ (943)	$ (564)

* Refer to Note 16, "Derivative Instruments and Hedging Activities," of the notes to consolidated financial statements for disclosure of the line items in the consolidated statements of income affected by reclassifications from AOCI into income related to derivatives.

** During the quarter ended December 31, 2018, the Company adopted ASU 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities." As a result, the Company reclassified $8 million of unrealized gains on marketable securities to retained earnings as of October 1, 2018.

16. Derivative Instruments and Hedging Activities

The Company selectively uses derivative instruments to reduce market risk associated with changes in foreign currency, commodities, stock-based compensation liabilities and interest rates. Under Company policy, the use of derivatives is restricted to those intended for hedging purposes; the use of any derivative instrument for speculative purposes is strictly prohibited. A description of each type of derivative utilized by the Company to manage risk is included in the following paragraphs. In addition, refer to Note 17, "Fair Value Measurements," of the notes to consolidated financial statements for information related to the fair value measurements and valuation methods utilized by the Company for each derivative type.

Cash Flow Hedges

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

The Company selectively hedges anticipated transactions that are subject to commodity price risk, primarily using commodity hedge contracts, to minimize overall price risk associated with the Company's purchases of 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 three and nine months ended June 30, 2020 and 2019.

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

	Volume Outstanding as of	
Commodity	June 30, 2020	September 30, 2019
Copper	2,724	3,561
Aluminum	2,622	2,967

Net Investment Hedges

The Company enters into foreign currency denominated debt obligations to selectively hedge portions of its net investment in non-U.S. subsidiaries. The currency effects of the debt obligations are reflected in the AOCI account within shareholders' equity attributable to Johnson Controls ordinary shareholders where they offset currency gains and losses recorded on the Company's net investments globally. At June 30, 2020 and September 30, 2019, the Company had 888 million euro, 750 million euro, 423 million euro and 54 million euro in bonds designated as net investment hedges in the Company's net investment in Europe and 25 billion yen of foreign denominated debt designated as net investment hedge in the Company's net investment in Japan.

Derivatives Not Designated as Hedging Instruments

The Company selectively uses equity swaps to reduce market risk associated with certain of its stock-based compensation plans, such as its deferred compensation plans. These equity compensation liabilities increase as the Company's stock price increases and decrease as the Company's stock price decreases. In contrast, the value of the swap agreement moves in the opposite direction of these liabilities, allowing the Company to fix a portion of the liabilities at a stated amount. As of June 30, 2020 and September 30, 2019, the Company hedged approximately 1.4 million shares of its ordinary shares, which have a cost basis of $60 million.

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

Fair Value of Derivative Instruments

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

	Derivatives and Hedging Activities Designated as Hedging Instruments under ASC 815		Derivatives and Hedging Activities Not Designated as Hedging Instruments under ASC 815	
	June 30, 2020	September 30, 2019	June 30, 2020	September 30, 2019
Other current assets				
Foreign currency exchange derivatives	$ 5	$ 16	$ 15	$ 19
Commodity derivatives	1	—	—	—
Other noncurrent assets				
Equity swap	—	—	49	62
Total assets	$ 6	$ 16	$ 64	$ 81
Other current liabilities				
Foreign currency exchange derivatives	$ 9	$ 23	$ 16	$ —
Commodity derivatives	—	1	—	—
Long-term debt				
Foreign currency denominated debt	2,602	2,544	—	—
Total liabilities	$ 2,611	$ 2,568	$ 16	$ —

Counterparty Credit Risk

The use of derivative financial instruments exposes the Company to counterparty credit risk. The Company has established policies and procedures to limit the potential for counterparty credit risk, including establishing limits for credit exposure and continually assessing the creditworthiness of counterparties. As a matter of practice, the Company deals with major banks worldwide having strong investment grade long-term credit ratings. To further reduce the risk of loss, the Company generally enters into International Swaps and Derivatives Association ("ISDA") master netting agreements with substantially all of its counterparties. The Company enters into ISDA master netting agreements with counterparties that permit the net settlement of amounts owed under the derivative contracts. The master netting agreements generally provide for net settlement of all outstanding contracts with a counterparty in the case of an event of default or a termination event. The Company has not elected to offset the fair value positions of the derivative contracts recorded in the consolidated statements of financial position.

The Company's derivative contracts do not contain any credit risk related contingent features and do not require collateral or other security to be furnished by the Company or the counterparties. The Company's exposure to credit risk associated with its derivative instruments is measured on an individual counterparty basis, as well as by groups of counterparties that share similar attributes. The Company does not anticipate any non-performance by any of its counterparties, and the concentration of risk with financial institutions does not present significant credit risk to the Company.

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

	Fair Value of Assets		Fair Value of Liabilities	
	June 30, 2020	September 30, 2019	June 30, 2020	September 30, 2019
Gross amount recognized	$ 70	$ 97	$ 2,627	$ 2,568
Gross amount eligible for offsetting	(21)	(11)	(21)	(11)
Net amount	$ 49	$ 86	$ 2,606	$ 2,557

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

The following table presents the pre-tax gains (losses) recorded in other comprehensive income (loss) related to cash flow hedges for the three and nine months ended June 30, 2020 and 2019 (in millions):

Derivatives in ASC 815 Cash Flow Hedging Relationships	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019
Foreign currency exchange derivatives	$ —	$ (2)	$ 2	$ 7
Commodity derivatives	5	(5)	2	(2)
Total	$ 5	$ (7)	$ 4	$ 5

The following table presents the location and amount of the pre-tax gains (losses) on cash flow hedges reclassified from AOCI into the Company's consolidated statements of income for the three and nine months ended June 30, 2020 and 2019 (in millions):

Derivatives in ASC 815 Cash Flow Hedging Relationships	Location of Gain (Loss) Reclassified from AOCI into Income	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019
Foreign currency exchange derivatives	Cost of sales	$ (4)	$ 2	$ (1)	$ 4
Commodity derivatives	Cost of sales	2	—	1	(3)
Commodity derivatives	Income from discontinued operations	—	(1)	—	(10)
Total		$ (2)	$ 1	$ —	$ (9)

The following table presents the location and amount of pre-tax gains (losses) on derivatives not designated as hedging instruments recognized in the Company's consolidated statements of income for the three and nine months ended June 30, 2020 and 2019 (in millions):

		Amount of Gain (Loss) Recognized in Income on Derivative			
		Three Months Ended June 30,		Nine Months Ended June 30,	
Derivatives Not Designated as Hedging Instruments under ASC 815	Location of Gain (Loss) Recognized in Income on Derivative	2020	2019	2020	2019
Foreign currency exchange derivatives	Cost of sales	$ (2)	$ (3)	$ 2	$ (9)
Foreign currency exchange derivatives	Net financing charges	19	(18)	68	(42)
Foreign currency exchange derivatives	Income from discontinued operations	—	(2)	—	52
Equity swap	Selling, general and administrative	10	7	(14)	10
Total		$ 27	$ (16)	$ 56	$ 11

The pre-tax losses on net investment hedges recorded in CTA within other comprehensive income (loss) were $46 million and $36 million for the three months ended June 30, 2020 and 2019, respectively. The pre-tax gains (losses) on net investment hedges recorded in CTA within other comprehensive income (loss) were $(58) million and $48 million for the nine months ended June 30, 2020 and 2019, respectively. For the three and nine months ended June 30, 2020 and 2019, no gains or losses were reclassified from CTA into income.

17. Fair Value Measurements

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

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

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

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

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

Recurring Fair Value Measurements

The following tables present the Company's fair value hierarchy for those assets and liabilities measured at fair value as of June 30, 2020 and September 30, 2019 (in millions):

		Fair Value Measurements Using:		
	Total as of June 30, 2020	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	$ 20	$ —	$ 20	$ —
Exchange traded funds (fixed income)[1]	19	19	—	—
Commodity derivatives	1	—	1	—
Other noncurrent assets				
Deferred compensation plan assets	61	61	—	—
Exchange traded funds (fixed income)[1]	142	142	—	—
Exchange traded funds (equity)[1]	120	120	—	—
Equity swap	49	—	49	—
Total assets	$ 412	$ 342	$ 70	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 25	$ —	$ 25	$ —
Total liabilities	$ 25	$ —	$ 25	$ —

		Fair Value Measurements Using:		
	Total as of September 30, 2019	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	$ 35	$ —	$ 35	$ —
Exchange traded funds (fixed income)[1]	19	19	—	—
Other noncurrent assets				
Deferred compensation plan assets	71	71	—	—
Exchange traded funds (fixed income)[1]	138	138	—	—
Exchange traded funds (equity)[1]	116	116	—	—
Equity swap	62	—	62	—
Total assets	$ 441	$ 344	$ 97	$ —
Other current liabilities				
Foreign currency exchange derivatives	$ 23	$ —	$ 23	$ —
Commodity derivatives	1	—	1	—
Total liabilities	$ 24	$ —	$ 24	$ —

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

Valuation Methods

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

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

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

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

The following table presents the portion of unrealized gains (losses) recognized in the consolidated statements of income for the three and nine months ended June 30, 2020 and 2019 that relate to equity securities still held at June 30, 2020 and 2019 (in millions):

	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Deferred compensation plan assets	$ 6	$ —	$ (1)	$ (2)
Investments in exchange traded funds	31	9	9	8

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 June 30, 2020, 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, 2019, the fair value of long-term debt was $7.6 billion, including public debt of $7.4 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.

18. Impairment of Long-Lived Assets

The Company reviews long-lived assets, including right-of-use assets under operating leases, other tangible assets and intangible assets with definitive lives, for impairment whenever events or changes in circumstances indicate that the asset's carrying amount may not be recoverable. The Company conducts its long-lived asset impairment analyses in accordance with ASC 360-10-15, "Impairment or Disposal of Long-Lived Assets," ASC 350-30, "General Intangibles Other than Goodwill" and ASC 985-20, "Costs of software to be sold, leased, or marketed." ASC 360-10-15 requires the Company to group assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities and evaluate the asset group against the sum of the undiscounted future cash flows. If the undiscounted cash flows do not indicate the carrying amount of the asset 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. ASC 350-30 requires intangible assets acquired in a business combination that are used in research and development activities to be 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 shall not be amortized but shall be 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, an entity shall recognize an impairment loss in an amount equal to that excess. ASC 985-20 requires the unamortized capitalized costs of a computer software product be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset shall be written off.

During the third quarter of fiscal 2020, the Company concluded it had a triggering event requiring assessment of impairment for certain of its long-lived assets caused by the economic impacts of the COVID-19 pandemic on the North America Retail reporting unit. The Company performed a quantitative impairment analysis and determined there was no impairment of long-lived assets as of June 30, 2020.

In the third quarter of fiscal 2020, the Company concluded it had a triggering event requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2020. As a result, the Company reviewed the long-lived assets for impairment and recorded $42 million of asset impairment charges within restructuring and impairment costs in the consolidated statements of income. Of the total impairment charges, $24 million related to the Building Solutions Asia Pacific segment, $9 million related to the Global Products segment and $9 million related to the Building Solutions North America segment. Refer to Note 9, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were primarily measured under a market approach utilizing an appraisal to determine fair values of the impaired assets. This method is consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

In the first quarter of fiscal 2020, the Company concluded it had a triggering event requiring assessment of impairment for certain of its long-lived assets in conjunction with its restructuring actions announced in fiscal 2020. As a result, the Company reviewed the long-lived assets for impairment and recorded $39 million of asset impairment charges within restructuring and impairment costs in the consolidated statements of income. Of the total impairment charges, $33 million related to the Global Products segment and $6 million related to the Building Solutions North America segment. Refer to Note 9, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for additional information. The impairments were measured under a market approach utilizing an appraisal to determine fair values of the impaired assets. This method is consistent with the methods the Company employed in prior periods to value other long-lived assets. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

During the third quarter of fiscal 2019, the Company concluded it had a triggering event requiring assessment of impairment for certain of its long-lived assets in conjunction with the plans to dispose of a business within its Global Products segment that met the criteria to be classified as held for sale. Assets and liabilities held for sale are required to be recorded at the lower of carrying value or fair value less any costs to sell. The Company recorded an initial impairment charge of $235 million within restructuring and impairment costs in the consolidated statements of income in the third quarter of fiscal 2019 to write down the carrying value of the assets held for sale to fair value less any costs to sell. In the first quarter of fiscal 2020, the Company recorded an additional impairment charge of $15 million to further write down the carrying value of the assets held for sale to the current fair value less any costs to sell. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

At June 30, 2020 and 2019, the Company concluded it did not have any other triggering events requiring assessment of impairment of its long-lived assets.

Refer to Note 8, "Goodwill and Other Intangible Assets," and Note 9, "Significant Restructuring and Impairment Costs," of the notes to consolidated financial statements for further information regarding the indefinite-lived intangible and goodwill impairment charges recorded in the second and third quarters of fiscal 2020.

19. Segment Information

ASC 280, "Segment Reporting," establishes the standards for reporting information about segments in financial statements. In applying the criteria set forth in ASC 280, the Company has determined that it has four reportable segments for financial reporting purposes.

- Building Solutions North America designs, sells, installs, and services HVAC and controls systems, integrated electronic security systems (including monitoring), and integrated fire detection and suppression systems for commercial, industrial, retail, small business, institutional and governmental customers in North America. Building Solutions North America also provides energy efficiency solutions and technical services, including inspection, scheduled maintenance, and repair and replacement of mechanical and control systems, to non-residential building and industrial applications in the North American marketplace.

- Building Solutions EMEA/LA designs, sells, installs, and services HVAC, controls, refrigeration, integrated electronic security, integrated fire detection and suppression systems, and provides technical services to markets in Europe, the Middle East, Africa and Latin America.

- Building Solutions Asia Pacific designs, sells, installs, and services HVAC, controls, refrigeration, integrated electronic security, integrated fire detection and suppression systems, and provides technical services to the Asia Pacific marketplace.

- Global Products designs and produces heating and air conditioning for residential and commercial applications, and markets products and refrigeration systems to replacement and new construction market customers globally. The

Global Products business also designs, manufactures and sells fire protection and security products, including intrusion security, anti-theft devices, and access control and video management systems, for commercial, industrial, retail, residential, small business, institutional and governmental customers worldwide. Global Products also includes the Johnson Controls-Hitachi joint venture.

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 the net mark-to-market adjustments related to pension and postretirement plans and restricted asbestos investments.

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

	Net Sales			
	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Building Solutions North America	$ 2,020	$ 2,327	$ 6,362	$ 6,630
Building Solutions EMEA/LA	756	922	2,534	2,707
Building Solutions Asia Pacific	588	691	1,742	1,932
Global Products	1,979	2,511	5,725	6,425
Total net sales	$ 5,343	$ 6,451	$ 16,363	$ 17,694

	Segment EBITA			
	Three Months Ended June 30,		Nine Months Ended June 30,	
	2020	2019	2020	2019
Building Solutions North America	$ 307	$ 300	$ 816	$ 807
Building Solutions EMEA/LA	62	101	237	258
Building Solutions Asia Pacific	92	98	229	240
Global Products	378	333	797	774
Total segment EBITA	$ 839	$ 832	$ 2,079	$ 2,079
Corporate expenses	$ (67)	$ 70	$ (303)	$ (233)
Amortization of intangible assets	(95)	(93)	(288)	(288)
Restructuring and impairment costs	(610)	(235)	(783)	(235)
Net mark-to-market adjustments	(132)	9	(154)	8
Net financing charges	(58)	(119)	(169)	(302)
Income (loss) from continuing operations before income taxes	$ (123)	$ 464	$ 382	$ 1,029

20. Guarantees

Certain of the Company's subsidiaries at the business segment level have guaranteed the performance of third-parties and provided financial guarantees for uncompleted work and financial commitments. The terms of these guarantees vary with end dates ranging from the current fiscal year through the completion of such transactions and would typically be triggered in the event of nonperformance. Performance under the guarantees, if required, would not have a material effect on the Company's financial position, results of operations or cash flows.

The Company offers warranties to its customers depending upon the specific product and terms of the customer purchase agreement. A typical warranty program requires that the Company replace defective products within a specified time period from the date of sale. The Company records an estimate for future warranty-related costs based on actual historical return rates and other known factors. Based on analysis of return rates and other factors, the Company's warranty provisions are adjusted as necessary. The Company monitors its warranty activity and adjusts its reserve estimates when it is probable that future warranty costs will be different than those estimates.

The Company's product warranty liability for continuing operations is recorded in the consolidated statements of financial position in deferred revenue or other current liabilities if the warranty is less than one year and in other noncurrent liabilities if the warranty extends longer than one year.

The changes in the carrying amount of the Company's total product warranty liability for continuing operations, including extended warranties for which deferred revenue is recorded, for the nine months ended June 30, 2020 and 2019 were as follows (in millions):

	Nine Months Ended June 30,	
	2020	2019
Balance at beginning of period	$ 285	$ 315
Accruals for warranties issued during the period	70	85
Accruals from acquisition and divestitures	1	2
Accruals related to pre-existing warranties	1	(20)
Settlements made (in cash or in kind) during the period	(61)	(79)
Currency translation	—	1
Balance at end of period	$ 296	$ 304

In the third quarter of fiscal 2019, the majority of the Company's tax indemnification liabilities related to prior divested businesses were resolved, including a $226 million release, as a result of changes to the likelihood of payments due to the expiration of certain statute of limitations.

21. Commitments and Contingencies

Environmental Matters

The Company accrues for potential environmental liabilities when it is probable a liability has been incurred and the amount of the liability is reasonably estimable. As of June 30, 2020, reserves for environmental liabilities for continuing operations totaled $136 million, of which $45 million was recorded within other current liabilities and $91 million was recorded within other noncurrent liabilities in the consolidated statements of financial position. Reserves for environmental liabilities for continuing operations totaled $159 million at September 30, 2019, of which $52 million was recorded within other current liabilities and $107 million was recorded within other noncurrent liabilities in the consolidated statements of financial position.

Tyco Fire Products L.P. ("Tyco Fire Products"), in coordination with the Wisconsin Department of Natural Resources ("WDNR"), has been conducting an environmental assessment of its Fire Technology Center ("FTC") located in Marinette, Wisconsin and surrounding areas in the City of Marinette and Town of Peshtigo, Wisconsin. In connection with the assessment, perfluorooctane sulfonate ("PFOS") and perfluorooctanoic acid ("PFOA") and/or other per- and poly fluorinated substances ("PFAS") have been detected at the FTC and in groundwater and surface water outside of the boundaries of the FTC. Tyco Fire Products continues to investigate the extent of potential migration of these compounds and is working with WDNR to address these issues insofar as they related to this migration.

During the third quarter of 2019, the Company increased its environmental reserves, which included $140 million related to remediation efforts to be undertaken to address contamination relating to fire-fighting foams containing PFAS compounds at or near the FTC, as well as the continued remediation of arsenic and other contaminants at the Tyco Fire Products Stanton Street manufacturing facility also located in Marinette, Wisconsin (the “Stanton Street Facility”). The Company is not able to estimate a possible loss or range of loss in excess of the established accruals at this time.

A substantial portion of the increased reserves relates to remediation resulting from the use of fire-fighting foams containing PFAS at the FTC. The use of fire-fighting foams at the FTC was primarily for training and testing purposes in order to ensure that such products sold by the Company’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. The reserve was recorded in the quarter ended June 30, 2019 following a comprehensive review by independent environmental consultants related to the presence of PFAS at or near the FTC, as well as remediation discussions with the WDNR.

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. On August 22, 2019, the Governor of Wisconsin issued an executive order that, among other things, directed the WDNR to create a PFAS Coordinating Council and to work with other Wisconsin agencies (including WDHS) to establish final groundwater quality standards based on the WDHS’s prior recommendation.

In July 2019, the Company 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 voluntarily responded to the WDNR’s letter to request 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 letter stated that “if you fail to take the actions required by Wis. Stat. § 292.11 to address this contamination, the DNR will move forward under Wis. Stat. § 292.31 to implement the SI workplan and evaluate further environmental enforcement actions and cost recovery under Wis. Stat. § 292.31(8).” 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. Tyco Fire Products and Johnson Controls, Inc. believe that they have complied with all applicable environmental laws and regulations. The Company cannot predict what regulatory or enforcement actions, if any, might result from the WDNR’s actions, or the consequences of any such actions.

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 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. The increase in the reserve related to the Stanton Street Facility was recorded following a further review of the Consent Order, which resulted in the identification of several structural upgrades needed to preserve the effectiveness of prior remediation efforts. In addition to ongoing remediation activities, the Company is also working with the WDNR to investigate the presence of PFAS at or near the Stanton Street Facility as part of the evaluation of PFAS in the Marinette region.

Potential environmental liabilities accrued by the Company do not take into consideration possible recoveries of future insurance proceeds. They do, however, take into account the likely share other parties will bear at remediation sites. It is difficult to estimate the Company’s ultimate level of liability at many remediation sites due to the large number of other parties that may be involved, the complexity of determining the relative liability among those parties, the uncertainty as to the nature and scope of the investigations and remediation to be conducted, the uncertainty in the application of law and risk assessment, the various choices and costs associated with diverse technologies that may be used in corrective actions at the sites, and the often quite lengthy periods over which eventual remediation may occur. It is possible that technological, regulatory or enforcement developments, the results of additional environmental studies or other factors could change the Company's expectations with respect to future charges and cash outlays, and such changes could be material to the Company's future results of operations, financial condition or cash flows. Nevertheless, the Company does not currently believe that any claims, penalties or costs in addition to the amounts accrued will have a material adverse effect on the Company’s financial position, results of operations or cash flows. In addition, the Company has identified asset retirement obligations for environmental matters that are expected to be addressed at the retirement, disposal, removal or abandonment of existing owned facilities. At June 30, 2020 and September 30, 2019, the Company recorded conditional asset retirement obligations for continuing operations of $29 million and $30 million, respectively.

Asbestos Matters

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

As of June 30, 2020, the Company's estimated asbestos related net liability recorded on a discounted basis within the Company's consolidated statements of financial position was $134 million. The net liability within the consolidated statements of financial position was comprised of a liability for pending and future claims and related defense costs of $497 million, of which $50 million was recorded in other current liabilities and $447 million was recorded in other noncurrent liabilities. The Company also maintained separate cash, investments and receivables related to insurance recoveries within the consolidated statements of financial position of $363 million, of which $43 million was recorded in other current assets, and $320 million was recorded in other noncurrent assets. Assets included $13 million of cash and $281 million of investments, which have all been designated as restricted. In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable; the amount of such recoveries recorded at June 30, 2020 was $69 million. As of September 30, 2019, the Company's estimated asbestos related net liability recorded on a discounted basis within the Company's consolidated statements of financial position was $141 million. The net liability within the consolidated statements of financial position was comprised of a liability for pending and future claims and related defense costs of $507 million, of which $50 million was recorded in other current liabilities and $457 million was recorded in other noncurrent liabilities. The Company also maintained separate cash, investments and receivables related to insurance recoveries within the consolidated statements of financial position of $366 million, of which $46 million was recorded in other current assets, and $320 million was recorded in other noncurrent assets. Assets included $16 million of cash and $273 million of investments, which have all been designated as restricted. In connection with the recognition of liabilities for asbestos-related matters, the Company records asbestos-related insurance recoveries that are probable; the amount of such recoveries recorded at September 30, 2019 was $77 million.

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

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

Insurable Liabilities

The Company records liabilities for its workers' compensation, product, general, and auto liabilities. The determination of these liabilities and related expenses is dependent on claims experience. For most of these liabilities, claims incurred but not yet reported are estimated by utilizing actuarial valuations based upon historical claims experience. At June 30, 2020 and September 30, 2019, the insurable liabilities totaled $365 million and $379 million, respectively, of which $83 million and $99 million was recorded within other current liabilities, $22 million and $22 million was recorded within accrued compensation and benefits, and $260 million and $258 million was recorded within other noncurrent liabilities in the consolidated statements of financial position, respectively. The Company records receivables from third party insurers when recovery has been determined to be probable. The amount of such receivables recorded at June 30, 2020 were $23 million, of which $5 million was recorded within other current assets and $18 million was recorded within other noncurrent assets, respectively. The amount of such receivables recorded at September 30, 2019 were $23 million, of which $5 million was recorded within other current assets and $18 million was recorded within other noncurrent assets, respectively. The Company maintains captive insurance companies to manage its insurable liabilities.

Aqueous Film-Forming Foam ("AFFF") Litigation

Two of the Company's subsidiaries, Chemguard and Tyco Fire Products, have been named, along with other defendant manufacturers, and, in some cases, certain subsidiaries of the Company 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 manufactured by defendants 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. PFOA, PFOS, and other PFAS compounds are being studied by the United States Environmental Protection Agency ("EPA") and other environmental and health agencies and researchers. The EPA has not issued binding regulatory limits, but has 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. While those studies continue, the EPA has issued a health advisory level for PFOA and PFOS in drinking water. 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.

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 30 putative class actions in federal courts originating from Colorado, Delaware, Florida, Massachusetts, New York, Pennsylvania, Washington New Hampshire, South Carolina, the District of Columbia, Guam, West Virginia, Michigan and South Dakota. All but one of these cases has been transferred to the MDL, and it is anticipated that the *Abbot* case will be removed to federal court and transferred following service of the complaint. The following putative class actions were filed since the beginning of fiscal year 2020:

- *Aguon et al. v. The 3M Company et al.*, filed October 3, 2019, in the United States District Court, District of Guam.
- *County of Rockland* [New York] *et al. v. 3M Company et al.*, filed February 4, 2020, in the United States District Court, District of South Carolina.
- *City of Millington et al. v. 3M Company et al.*, filed February 25, 2020, in the United States District Court, District of Columbia.
- *Stengel et al. v. 3M Company et al.*, filed April 29, 2020, in the United States District Court for the Northern District of West Virginia.
- *Abbott et al. v. The 3M Company et al.*, filed May 6, 2020 in the Superior Court for the State of Washington in and for Spokane County.
- *Garcia et al. v. 3M Company et al.*, filed May 15, 2020 in the United States District Court for the District of South Carolina [originating from South Dakota].
- *Gentile et al. v. The 3M Company et al.*, filed May 27, 2020, in the United States District Court for the Eastern District of New York.

AFFF Individual or Mass Actions

There are approximately 632 individual or "mass" actions pending that were filed in state or federal court in California (2 cases), Colorado (41 cases), New York (4 cases), Pennsylvania (15 cases), New Mexico (2 cases) and South Carolina (568 cases direct filed from various U.S. jurisdictions) 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 two plaintiffs in California, approximately 7,000 plaintiffs in Colorado, approximately 126 plaintiffs in New York, 15 plaintiffs in Pennsylvania, two plaintiffs in New Mexico, and more than 500 plaintiffs from various states who direct-filed complaints in South Carolina. All but two of these matters have been transferred to or directly-filed in the MDL, and it is anticipated that the California cases will be transferred following service of the complaints. Many of the additional filed actions were directly filed in South Carolina by plaintiffs who were among the 660 plaintiffs the Company had previously disclosed to have made filings in Pennsylvania state court. The Company anticipates that the remainder of the possible individual product liability claims filed in Pennsylvania state court will either soon be filed in the MDL (and that all such claims in state court will be dismissed accordingly) or will be dismissed in Pennsylvania without a corresponding filing in South Carolina.

AFFF Municipal Cases

Chemguard and Tyco Fire Products are also defendants in 51 cases in federal courts involving municipal or water provider plaintiffs in Alaska, Arizona, California, Colorado, Florida, Massachusetts, New Jersey, New York, Maryland, Ohio, Pennsylvania, Washington, the District of Columbia and several municipalities or water providers from various states who direct-filed complaints in South Carolina. These municipal 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, allegedly requiring remediation of public property. Since the beginning of fiscal year 2020, 21 municipal actions have been filed against the Company.

In May 2018, the Company was also notified by the Widefield Water and Sanitation District in Colorado Springs, Colorado that it may assert claims regarding its remediation costs in connection with PFOS and PFOA contamination allegedly resulting from the use of those products at the Peterson Air Force Base. In May 2020, the Company was also notified by the Lakewood Water District in Pierce County, Washington that it may assert claims regarding remediation in connection with PFOA, PFOS, and other PFAS contamination allegedly resulting from the use of those products at Joint Base Lewis-McChord.

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 Company, 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 Company, 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 Company, 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 Company, 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 Company, 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 Company, 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 Company, 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 Company, 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.

AFFF Matters Related to the Tyco Fire Products Fire Technology Center in Marinette, Wisconsin

Tyco Fire Products and Chemguard are defendants in one lawsuit in Marinette County, Wisconsin alleging damages due to the historical use of AFFF products at Tyco's Fire Technology Center in Marinette, Wisconsin. The putative class action, *Joan & Richard Campbell for themselves and on behalf of other similarly situated v. Tyco Fire Products LP and Chemguard Inc., et al.* (Marinette County Circuit Court, filed Dec. 17, 2018) alleges PFAS (including PFOA/PFOS) contaminated groundwater migrated off Tyco's property and into residential drinking water wells causing both personal injuries and property damage to the plaintiffs; Tyco and Chemguard removed this case to the United States District Court for the Eastern District of Wisconsin and it has been transferred to the MDL. A second lawsuit, *Duane and Janell Goldsmith individually and on behalf of H.G. and K.G v. Tyco Fire Products LP and Chemguard Inc., et al.* (Marinette County Circuit Court, filed Dec. 17, 2018) was also filed by a family alleging personal injuries due to contaminated groundwater; this case has been dismissed without prejudice.

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 Company, 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.

Other PFAS Related Matters

In April 2020, the Weirton Area Water Board in West Virginia filed a lawsuit in the Circuit Court of Brooke County, West Virginia against a number of PFAS chemical manufacturers, including Chemguard, with respect to PFAS contamination. This case has been removed to the United States District Court for the Northern District of West Virginia.

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

Bosch Litigation

On March 15, 2019, a German subsidiary of the Company received a complaint from Robert Bosch GmbH ("Bosch"), filed in a German court. The complaint relates to an automotive starter batteries joint venture in which the Company and Bosch were 80/20 parties to this joint venture. At the time the complaint was filed, JCI's ownership interest in the joint venture was to be transferred to entities controlled by the Purchaser upon consummation of the previously announced sale of the Company's Power Solutions business.

The complaint alleged that certain internal Company reorganization transactions were not in compliance with the arrangements relating to such joint venture. The complaint sought a declaration that such internal reorganization transactions are void or, in the alternative, a declaration of damages that represent an alleged difference between (i) the value ascribed to the joint venture interests in connection with the Power Solutions sale and (ii) the value that was assigned to those interests in connection with such internal reorganization transactions.

On August 8, 2019, Bosch entered into an agreement with Purchaser pursuant to which Purchaser would purchase Bosch's interest in the joint venture. Simultaneously with this agreement, the Company and Bosch executed an agreement to dismiss the proceedings between the parties upon the completion of Purchaser's acquisition of Bosch's interest. In the first quarter of fiscal 2020, following the completion of Purchaser's acquisition of Bosch's interest in the joint venture, the Company and Bosch made filings with the German court terminating the litigation.

Pursuant to the Company's obligations to Purchaser in connection with the divestiture of the Company's Power Solutions business, the Company reimbursed Purchaser a portion of its costs in connection with its acquisition of Bosch's interests in the joint venture, which is reflected as a cash outflow for discontinued operations.

Other Matters

The Company is involved in various lawsuits, claims and proceedings incident to the operation of its businesses, including those pertaining to product liability, environmental, safety and health, intellectual property, employment, commercial and contractual matters, and various other casualty matters. Although the outcome of litigation cannot be predicted with certainty and some lawsuits, claims or proceedings may be disposed of unfavorably to us, it is management's opinion that none of these will have a material adverse effect on the Company's financial position, results of operations or cash flows. Costs related to such matters were not material to the periods presented.

22. Related Party Transactions

In the ordinary course of business, the Company enters into transactions with related parties, such as equity affiliates. Such transactions consist of facility management services, the sale or purchase of goods and other arrangements.

The net sales to and purchases from related parties included in the consolidated statements of income for continuing operations were $52 million and $25 million, respectively, for the three months ended June 30, 2020; and $65 million and $27 million, respectively, for the three months ended June 30, 2019. The net sales to and purchases from related parties included in the consolidated statements of income for continuing operations were $135 million and $47 million, respectively, for the nine months ended June 30, 2020; and $162 million and $57 million, respectively, for the nine months ended June 30, 2019.

The following table sets forth the amount of accounts receivable due from and payable to related parties in the consolidated statements of financial position for continuing operations (in millions):

	June 30, 2020	September 30, 2019
Receivable from related parties	$ 50	$ 34
Payable to related parties	7	6

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Cautionary Statements for Forward-Looking Information

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

The Company has made statements in this document that are forward-looking and therefore are subject to risks and uncertainties. All statements in this document other than statements of historical fact are, or could be, "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. In this document, statements regarding Johnson Controls' future financial position, sales, costs, earnings, cash flows, other measures of results of operations, synergies and integration opportunities, capital expenditures and debt levels are forward-looking statements. Words such as "may," "will," "expect," "intend," "estimate," "anticipate," "believe," "should," "forecast," "project" or "plan" and terms of similar meaning are also generally intended to identify forward-looking statements. However, the absence of these words does not mean that a statement is not forward-looking. Johnson Controls cautions that these statements are subject to numerous important risks, uncertainties, assumptions and other factors, some of which are beyond Johnson Controls' control, that could cause Johnson Controls' actual results to differ materially from those expressed or implied by such forward-looking statements, including, among others, risks related to: Johnson Controls' ability to manage general economic, business and geopolitical conditions, including the impacts of natural disasters, pandemics and outbreaks of contagious diseases and other adverse public health developments, such as the COVID-19 pandemic; any delay or inability of Johnson Controls to realize the expected benefits and synergies of recent portfolio transactions such as the merger with Tyco and the disposition of the Power Solutions business, changes in tax laws (including but not limited to the Tax Cuts and Jobs Act enacted in December 2017), regulations, rates, policies or interpretations, the loss of key senior management, the tax treatment of recent portfolio transactions, significant transaction costs and/or unknown liabilities associated with such transactions, the outcome of actual or potential litigation relating to such transactions, the risk that disruptions from recent transactions will harm Johnson Controls' business, the strength of the U.S. or other economies, changes to laws or policies governing foreign trade, including increased tariffs or trade restrictions, energy and commodity prices, the availability of raw materials and component products, currency exchange rates, maintaining the capacity, reliability and security of our information technology infrastructure, the risk of infringement or expiration of intellectual property rights, work stoppages, union negotiations, labor disputes and other matters associated with the labor force, the outcome of litigation and governmental proceedings and cancellation of or changes to commercial arrangements. A detailed discussion of risks related to Johnson Controls' business is included in the section entitled "Risk Factors" in Johnson Controls' Annual Report on Form 10-K for the year ended September 30, 2019 filed with the United States Securities and Exchange Commission ("SEC") on November 21, 2019, and its Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2020 filed with the SEC on May 1, 2020, which is available at www.sec.gov and www.johnsoncontrols.com under the "Investors" tab. The description of certain of these risks is supplemented in Item 1A of Part II of this Quarterly Report on Form 10-Q. The forward-looking statements included in this document are made only as of the date of this document, unless otherwise specified, and, except as required by law, Johnson Controls assumes no obligation, and disclaims any obligation, to update such statements to reflect events or circumstances occurring after the date of this document.

Overview

Johnson Controls International plc, headquartered in Cork, Ireland, is a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. The Company creates intelligent buildings, efficient energy solutions and integrated infrastructure that work seamlessly together to deliver on the promise of smart cities and communities. The Company 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. The Company was renamed to Johnson Controls, Inc. in 1974. In 2005, the Company acquired York International, a global supplier of heating, ventilating, air-conditioning ("HVAC") and refrigeration equipment and services. In 2014, the Company acquired Air Distribution Technologies, Inc., one of the largest independent providers of air distribution and ventilation products in North America. In 2015, the Company formed a joint venture with Hitachi to expand its building related product offerings. In 2016, Johnson Controls, Inc. and Tyco completed their combination (the "Merger"). Following the Merger, Tyco changed its name to "Johnson Controls International plc."

On November 13, 2018, the Company entered into a Stock and Asset Purchase Agreement (“Purchase Agreement”) with BCP Acquisitions LLC (“Purchaser”). The Purchaser was a newly-formed entity controlled by investment funds managed by Brookfield Capital Partners LLC. Pursuant to the Purchase Agreement, on the terms and subject to the conditions therein, the Company agreed to sell, and Purchaser agreed to acquire, the Company’s Power Solutions business for a purchase price of $13.2 billion. The transaction closed on April 30, 2019 with net cash proceeds of $11.6 billion after tax and transaction-related expenses.

During the first quarter of fiscal 2019, the Company determined that its Power Solutions business met the criteria to be classified as a discontinued operation and, as a result, Power Solutions' historical financial results are reflected in the Company's consolidated financial statements as a discontinued operation, and its assets and liabilities were retrospectively reclassified as assets and liabilities held for sale.

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

The following information should be read in conjunction with the September 30, 2019 consolidated financial statements and notes thereto, along with management’s discussion and analysis of financial condition and results of operations included in our Annual Report on Form 10-K for the year ended September 30, 2019 filed with the SEC on November 21, 2019. References in the following discussion and analysis to "Three Months" (or similar language) refer to the three months ended June 30, 2020 compared to the three months ended June 30, 2019, while "Year-to-Date" refers to the nine months ended June 30, 2020 compared to the nine months ended June 30, 2019.

Impact of COVID-19 pandemic

The global outbreak of COVID-19 has severely restricted the level of economic activity around the world. In response to this outbreak, the governments of many countries, states, cities and other geographic regions have taken preventative or protective actions, such as imposing restrictions on travel and business operations. The Company’s affiliates, employees, suppliers, customers and others have been and may continue to be restricted or prevented from conducting normal business activities, including as a result of shutdowns, travel restrictions and other actions that may be requested or mandated by governmental authorities. Such actions have and may in the future prevent the Company from accessing the facilities of its customers to deliver and install products, provide services and complete maintenance. In addition, some of the Company’s customers have chosen to delay or abandon projects on which the Company provides products and/or services as a result of such actions. Although some governments have begun to lift shutdown orders and similar restrictions, a resurgence in the spread of COVID-19 could cause the reinstitution of such preventive or protective measures. While a substantial portion of the Company businesses have been classified as an essential business in jurisdictions in which facility closures have been mandated, some of its facilities have nevertheless been ordered to close in certain jurisdictions.

In response to the challenges presented by COVID-19, the Company has focused its efforts on preserving the health and safety of its employees and customers, as well as maintaining the continuity of its operations. The Company has modified its business practices in response to the COVID-19 outbreak, including restricting non-essential employee travel, implementation of remote work protocols, and cancellation of physical participation in meetings, events and conferences. The Company has also instituted preventive measures at its facilities, including enhanced health and safety protocols, temperature screening, requiring face coverings for all employees and encouraging employees to follow similar protocols when away from work. The Company has adopted a multifaceted framework to guide its decision making when evaluating the readiness of its facilities to safely reopen and operate, and will continue to monitor and audit its facilities to ensure that they are in compliance with the Company’s COVID-19 safety requirements.

In the second quarter of fiscal 2020, the Company experienced a temporary reduction of its manufacturing and operating capacity in China as a result of government-mandated actions to control the spread of COVID-19. In the third quarter of fiscal 2020, the Company experienced similar reductions as a result of government-mandated actions in India and Mexico. Further, the Company has experienced, and may continue to experience, disruptions or delays in its supply chain as a result of such actions, which has resulted in higher supply chain costs to the Company in order to maintain the supply of materials and components for its products. In order to mitigate disruptions to its supply chain and manufacturing capacity, the Company has taken actions including redistributing its manufacturing capacity to facilities and regions unaffected by shutdown orders, accelerating the purchase and shipment of components from suppliers in identified hot spots, diversifying the Company's supplier base, conducting government outreach to support the Company's and its suppliers' designations as essential businesses, and expanding its existing supplier financing programs to support supplier viability and business continuity.

The Company has also experienced a decline in demand and volumes in its global businesses as a result of the impact of efforts to contain the spread of COVID-19. Specifically, the Company experienced lower demand due to restricted access to customer sites to perform service and installation work as well as reduced discretionary capital spending by the Company's customers. In response, the Company quickly moved to execute cost mitigation actions to offset a portion of the impact of COVID-19 on the demand for its products and services, such as deferring or reducing capital expenditures, implementing cost structure changes, short-term furloughing of salaried employees and limiting discretionary spending including corporate expense. These measures are in addition to the Company's previously disclosed fiscal 2020 restructuring plan. The duration of these cost mitigation actions, as well as the implementation of new cost mitigation actions, will depend on the continued impact of COVID-19, which is highly uncertain.

Although COVID-19 has negatively impacted demand for the Company's products and services overall, the global pandemic has also provided the Company with the opportunity to help its customers prepare to re-open by delivering solutions and support that enhance the safety and increase the efficiency of their operations. The Company has seen an increase in demand for its products and solutions that promote building health and optimize customers' infrastructure, including thermal cameras, indoor air quality, location-based services for contact tracing and touchless access control.

During the second quarter of fiscal 2020, the Company determined that it had a triggering event requiring assessment of impairment for certain of its indefinite-lived intangible assets due to declines in revenue directly attributable to the COVID-19 pandemic. As a result, the Company recorded an impairment charge of $62 million related primarily to the Company's retail business indefinite-lived intangible assets within restructuring and impairment costs in the consolidated statements of income in the second quarter of fiscal 2020. During the third quarter of fiscal 2020, the Company determined that it had a triggering event requiring assessment of impairment for certain of its indefinite-lived intangible assets, long-lived assets and goodwill due to declines in revenue and further declines in forecasted cash flows in its North America Retail reporting unit directly attributable to the COVID-19 pandemic. As a result, the Company recorded an impairment charge of $424 million related to the Company's North America Retail reporting unit's goodwill within restructuring and impairment costs in the consolidated statements of income in the third quarter of fiscal 2020. It is possible that future changes in such circumstances, including a more prolonged and/or severe COVID-19 pandemic, would require the Company to record additional non-cash impairment charges.

The Company continues to actively monitor its liquidity position and working capital needs. Given the increasingly uncertain economic environment, the Company took proactive measures in the third quarter of fiscal 2020 to increase near-term financial flexibility, electing to opportunistically raise $675 million via European financing arrangements and $575 million in bank term loans. In addition, the Company took precautionary actions to preserve its liquidity resources in an uncertain environment by suspending its share repurchase program in March 2020.

The Company believes that, following its implementation of its liquidity and cost mitigation actions, it remains in a solid overall capital resources and liquidity position that is adequate to meet its projected needs. As a result, in June 2020, following a review of its liquidity position, the Company announced that it would resume its share repurchase program beginning in the fourth quarter of fiscal 2020. In addition, in July 2020, the Company repaid a $300 million bank term loan.

The Company's expected cash flow in the fourth quarter and current leverage also provide the Company with the ability to access the debt markets. In order to maintain its solid liquidity position, the Company intends to be opportunistic in exploring opportunities to refinance a portion of its upcoming short term debt maturities.

The extent to which the COVID-19 outbreak continues to impact the Company's results of operations and financial condition will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity and longevity of COVID-19, the resurgence of COVID-19 in regions that have begun to recover from the initial impact of the pandemic, the impact of COVID-19 on economic activity, and the actions to contain its impact on public health and the global economy. See Part II, Item 1A, Risk Factors, for an additional discussion of risks related to COVD-19.

Net Sales

(in millions)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Change	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019	Change
Net sales	$ 5,343	$ 6,451	-17%	$ 16,363	$ 17,694	-8%

The decrease in consolidated net sales for the three months ended June 30, 2020 was due to lower organic sales ($1,037 million) and the unfavorable impact of foreign currency translation ($87 million), partially offset by acquisitions ($16 million). Excluding the impact of foreign currency translation and business acquisitions and divestitures, consolidated net sales decreased 16% as compared to the prior year primarily due to the unfavorable impact of the COVID-19 pandemic on demand and volumes. Refer to the "Segment Analysis" below within this Item 2 for a discussion of net sales by segment.

The decrease in consolidated net sales for the nine months ended June 30, 2020 was due to lower organic sales ($1,180 million), the unfavorable impact of foreign currency translation ($177 million) and lower sales due to business divestitures ($12 million), partially offset by acquisitions ($38 million). Excluding the impact of foreign currency translation and business acquisitions and divestitures, consolidated net sales decreased 7% as compared to the prior year due to the unfavorable impact of the COVID-19 pandemic. Refer to the "Segment Analysis" below within this Item 2 for a discussion of net sales by segment.

Cost of Sales / Gross Profit

(in millions)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Change	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019	Change
Cost of sales	$ 3,511	$ 4,307	-18%	$ 10,927	$ 11,981	-9%
Gross profit	1,832	2,144	-15%	5,436	5,713	-5%
% of sales	34.3 %	33.2 %		33.2 %	32.3 %	

Cost of sales and gross profit decreased for the three month period ended June 30, 2020, and gross profit as a percentage of sales increased by 110 basis points. Gross profit decreased due to organic sales declines from the unfavorable impact of the COVID-19 pandemic. Foreign currency translation had a favorable impact on cost of sales of approximately $60 million. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment earnings before interest, taxes and amortization ("EBITA") by segment.

Cost of sales decreased and gross profit decreased for the nine month period ended June 30, 2020, and gross profit as a percentage of sales increased by 90 basis points. Foreign currency translation had a favorable impact on cost of sales of approximately $120 million. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment EBITA by segment.

Selling, General and Administrative Expenses

(in millions)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Change	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019	Change
Selling, general and administrative expenses	$ 1,334	$ 1,388	-4%	$ 4,212	$ 4,284	-2%
% of sales	25.0 %	21.5 %		25.7 %	24.2 %	

Selling, general and administrative expenses ("SG&A") for the three month period ended June 30, 2020 decreased $54 million, and SG&A as a percentage of sales increased by 350 basis points. The decrease in SG&A was primarily due to a favorable impact of cost mitigation actions and reduction in discretionary spend in the current quarter, a prior year environmental charge and a favorable impact of foreign currency translation, partially offset by a current year mark-to-market loss on pension plans and a prior year tax indemnification reserve release. Foreign currency translation had a favorable impact on SG&A of $16 million. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment EBITA by segment.

SG&A for the nine month period ended June 30, 2020 decreased $72 million, and SG&A as a percentage of sales increased by 150 basis points. The decrease in SG&A was primarily due to a favorable impact of cost mitigation actions and reduction in discretionary spend in the current year, a prior year environmental charge and a favorable impact of foreign currency translation, partially offset by a current year mark-to-market loss on pension plans and a prior year tax indemnification reserve release. Foreign currency translation had a favorable impact on SG&A of $35 million. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment EBITA by segment.

Restructuring and Impairment Costs

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Restructuring and impairment costs	$ 610	$ 235	*	$ 783	$ 235	*

* Measure not meaningful

Refer to Note 9, "Significant Restructuring and Impairment Costs," Note 8, "Goodwill and Other Intangible Assets," and Note 18, "Impairment of Long-Lived Assets," of the notes to consolidated financial statements for further disclosure related to the Company's restructuring plans and impairment costs.

Net Financing Charges

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Net financing charges	$ 58	$ 119	-51%	$ 169	$ 302	-44%

Refer to Note 12, "Debt and Financing Arrangements," of the notes to consolidated financial statements for further disclosure related to the Company's net financing charges.

Equity Income

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Equity income	$ 47	$ 62	-24%	$ 110	$ 137	-20%

The decrease in equity income for the three months ended June 30, 2020 was primarily due to lower income at certain partially-owned affiliates of the Johnson Controls - Hitachi joint venture primarily due to the unfavorable impact of the COVID-19 pandemic. Foreign currency translation had an unfavorable impact on equity income of $2 million for the three months ended June 30, 2020. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment EBITA by segment.

The decrease in equity income for the nine months ended June 30, 2020 was primarily due to lower income at certain partially-owned affiliates of the Johnson Controls - Hitachi joint venture primarily due to the unfavorable impact of the COVID-19 pandemic. Foreign currency translation had an unfavorable impact on equity income of $4 million for the nine months ended June 30, 2020. Refer to the "Segment Analysis" below within this Item 2 for a discussion of segment EBITA by segment.

Income Tax Provision (Benefit)

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Income tax provision (benefit)	$ (1)	$ 239	*	$ 77	$ 394	-80%
Effective tax rate	1%	52%		20%	38%	

* Measure not meaningful

In calculating the provision for income taxes, the Company uses an estimate of the annual effective tax rate based upon the facts and circumstances known at each interim period. On a quarterly basis, the actual effective tax rate is adjusted, as appropriate, based upon changed facts and circumstances, if any, as compared to those forecasted at the beginning of the fiscal year and each interim period thereafter.

The statutory tax rate in Ireland is being used as a comparison since the Company is domiciled in Ireland. For the three months ended June 30, 2020, the Company's effective tax rate for continuing operations was 1% and was lower than the statutory tax rate of 12.5% primarily due to tax audit reserve adjustments, the income tax effects of mark-to-market adjustments and the benefits of continuing global tax planning initiatives, partially offset by the tax impact of an impairment charge and tax rate differentials. For the nine months ended June 30, 2020, the Company's effective tax rate for continuing operations was 20% and was higher than the statutory tax rate of 12.5% primarily due to a discrete tax charge related to the remeasurement of deferred tax assets and liabilities as a result of Swiss tax reform, the tax impact of an impairment charge and tax rate differentials, partially offset by tax audit reserve adjustments, the income tax effects of mark-to-market adjustments and the benefits of continuing global tax planning initiatives. For the three months ended June 30, 2019, the Company's effective tax rate for continuing operations was 52% and was higher than the statutory tax rate of 12.5% primarily due to a discrete tax charge related to newly enacted regulations related to U.S. Tax Reform, non-U.S. tax audit reserve adjustments and tax rate differentials, partially offset by a tax indemnification reserve release, the tax benefits of an asset held for sale impairment charge and continuing global tax planning initiatives. For the nine months ended June 30, 2019, the Company's effective tax rate for continuing operations was 38% and was higher than the statutory tax rate of 12.5% primarily due to valuation allowance adjustments as a result of tax law changes, a discrete tax charge related to newly enacted regulations related to U.S. Tax Reform, non-U.S. tax audit reserve adjustments, and tax rate differentials, partially offset by a tax indemnification reserve release, the tax benefits of an asset held for sale impairment charge and continuing global tax planning initiatives. The effective tax rate for the nine months ended June 30, 2020 decreased as compared to the nine months ended June 30, 2019 primarily due to the discrete tax items. Refer to Note 10, "Income Taxes," of the notes to consolidated financial statements for further detail.

Income From Discontinued Operations, Net of Tax

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Income from discontinued operations, net of tax	$ —	$ 4,051	*	$ —	$ 4,598	*

* Measure not meaningful

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

Income Attributable to Noncontrolling Interests

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Income from continuing operations attributable to noncontrolling interests	$ 60	$ 84	-29%	$ 115	$ 147	-22%
Income from discontinued operations attributable to noncontrolling interests	—	—	*	—	24	*

* Measure not meaningful

The decrease in income from continuing operations attributable to noncontrolling interests for the three and nine months ended June 30, 2020 was primarily due to lower net income as a result of the COVID-19 pandemic at certain partially-owned affiliates within the Global Products segment.

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

Net Income (Loss) Attributable to Johnson Controls

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Net income (loss) attributable to Johnson Controls	$ (182)	$ 4,192	*	$ 190	$ 5,062	-96%

* Measure not meaningful

The increase in net loss attributable to Johnson Controls for the three months ended June 30, 2020 was primarily due to the prior year income from discontinued operations, current year restructuring and impairment charges and the unfavorable impact of the COVID-19 pandemic, partially offset by lower income tax provision and net financing charges. The decrease in net income attributable to Johnson Controls for the nine months ended June 30, 2020 was primarily due to the prior year income from discontinued operations, current year restructuring and impairment charges and the unfavorable impact of the COVID-19 pandemic, partially offset by lower income tax provision and net financing charges.

Diluted earnings (loss) per share attributable to Johnson Controls for the three months ended June 30, 2020 was $(0.24) compared to $4.79 for the three months ended June 30, 2019. Diluted earnings per share attributable to Johnson Controls for the nine months ended June 30, 2020 was $0.25 compared to $5.61 for the nine months ended June 30, 2019.

Comprehensive Income (Loss) Attributable to Johnson Controls

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Comprehensive income (loss) attributable to Johnson Controls	$ (104)	$ 4,097	*	$ 42	$ 4,969	-99%

* Measure not meaningful

The increase in comprehensive loss attributable to Johnson Controls for the three months ended June 30, 2020 was due to lower net income attributable to Johnson Controls ($4,374 million), partially offset by an increase in other comprehensive income attributable to Johnson Controls ($173 million) resulting primarily from favorable currency translation adjustments. The year-over-year favorable foreign currency translation adjustments were primarily driven by the strengthening of the euro, Canadian dollar and Mexican peso against the U.S. dollar in the current quarter.

The decrease in comprehensive income attributable to Johnson Controls for the nine months ended June 30, 2020 was due to lower net income attributable to Johnson Controls ($4,872 million) and an increase in other comprehensive loss attributable to Johnson Controls ($55 million) resulting primarily from unfavorable currency translation adjustments. The year-over-year unfavorable foreign currency translation adjustments were primarily driven by the weakening of the Canadian dollar, Mexican peso and Brazilian real currencies, partially offset by the strengthening of the euro against the U.S. dollar in the current 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.

Net Sales

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Building Solutions North America	$ 2,020	$ 2,327	-13%	$ 6,362	$ 6,630	-4%
Building Solutions EMEA/LA	756	922	-18%	2,534	2,707	-6%
Building Solutions Asia Pacific	588	691	-15%	1,742	1,932	-10%
Global Products	1,979	2,511	-21%	5,725	6,425	-11%
	$ 5,343	$ 6,451	-17%	$ 16,363	$ 17,694	-8%

Three Months:

- The decrease in Building Solutions North America was due to lower volumes ($299 million) and the unfavorable impact of foreign currency translation ($8 million). The decrease in volumes was primarily attributable to the unfavorable impact of the COVID-19 pandemic.

- The decrease in Building Solutions EMEA/LA was primarily attributable to lower volumes ($134 million) and the unfavorable impact of foreign currency translation ($44 million), partially offset by incremental sales related to business acquisitions ($12 million). The decrease in volumes was primarily attributable to the unfavorable impact of the COVID-19 pandemic.

- The decrease in Building Solutions Asia Pacific was due to lower volumes ($86 million) and the unfavorable impact of foreign currency translation ($19 million), partially offset by incremental sales related to business acquisitions ($2 million). The decrease in volumes was primarily attributable to the unfavorable impact of the COVID-19 pandemic.

- The decrease in Global Products was due to lower volumes ($518 million) and the unfavorable impact of foreign currency translation ($16 million), partially offset by incremental sales related to business acquisitions ($2 million). The decrease in volumes was primarily attributable to the unfavorable impact of the COVID-19 pandemic.

Year-to-Date:

- The decrease in Building Solutions North America was due to lower volumes ($258 million) and the unfavorable impact of foreign currency translation ($10 million). The decrease in volumes was primarily attributable to an increase in installation / services being more than offset by the unfavorable impact of the COVID-19 pandemic.

- The decrease in Building Solutions EMEA/LA was primarily attributable to the unfavorable impact of foreign currency translation ($102 million), lower volumes ($91 million) and lower volumes due to business divestitures ($7 million), partially offset by incremental sales related to business acquisitions ($27 million). The decrease in volumes was primarily attributable to an increase in installation / services sales being more than offset by the unfavorable impact of the COVID-19 pandemic.

- The decrease in Building Solutions Asia Pacific was due to lower volumes ($157 million) and the unfavorable impact of foreign currency translation ($39 million), partially offset by incremental sales related to business acquisitions ($6 million). The decrease in volumes was primarily attributable to an increase in installation / services sales being more than offset by the unfavorable impact of the COVID-19 pandemic.

- The decrease in Global Products was due to lower volumes ($674 million), the unfavorable impact of foreign currency translation ($26 million) and lower volumes due to business divestitures ($5 million), partially offset by incremental sales related to business acquisitions ($5 million). The decrease in volumes was primarily attributable to an increase in building management and specialty product sales being more than offset by the unfavorable impact of the COVID-19 pandemic.

Segment EBITA

	Three Months Ended June 30,			Nine Months Ended June 30,		
(in millions)	2020	2019	Change	2020	2019	Change
Building Solutions North America	$ 307	$ 300	2%	$ 816	$ 807	1%
Building Solutions EMEA/LA	62	101	-39%	237	258	-8%
Building Solutions Asia Pacific	92	98	-6%	229	240	-5%
Global Products	378	333	14%	797	774	3%
	$ 839	$ 832	1%	$ 2,079	$ 2,079	—%

Three Months:

- The increase in Building Solutions North America was due to prior year integration costs ($10 million), and productivity savings and cost mitigation actions, net of unfavorable volumes ($2 million), partially offset by current year integration costs ($4 million) and the unfavorable impact of foreign currency translation ($1 million).

- The decrease in Building Solutions EMEA/LA was due to unfavorable volumes, net of productivity savings and cost mitigation actions ($34 million), the unfavorable impact of foreign currency translation ($7 million) and lower equity income ($2 million), partially offset by higher income due to business acquisitions ($2 million) and prior year integration costs ($2 million).

- The decrease in Building Solutions Asia Pacific was due to unfavorable volumes, net of productivity savings and cost mitigation actions ($5 million) and the unfavorable impact of foreign currency translation ($1 million).

- The increase in Global Products was due to prior year environmental charge ($140 million) and prior year integration costs ($8 million), partially offset by unfavorable volumes, net of favorable price / cost, productivity savings and cost mitigation actions ($79 million), lower equity income driven primarily by the unfavorable impact of COVID-19 ($12 million), current year integration costs ($7 million), the unfavorable impact of foreign currency translation ($4 million) and lower income due to business acquisitions ($1 million).

Year-to-Date:

- The increase in Building Solutions North America was due to prior year integration costs ($15 million), and productivity savings and cost mitigation actions, net of unfavorable volumes ($2 million), partially offset by current year integration costs ($7 million) and the unfavorable impact of foreign currency translation ($1 million).

- The decrease in Building Solutions EMEA/LA was due to the unfavorable impact of foreign currency translation ($16 million), unfavorable volumes, net of productivity savings and cost mitigation actions ($12 million), and lower income due to business divestitures ($1 million), partially offset by higher income due to business acquisitions ($5 million) and prior year integration costs ($3 million).

- The decrease in Building Solutions Asia Pacific was due to unfavorable volumes, net of productivity savings and cost mitigation actions ($10 million) and the unfavorable impact of foreign currency translation ($2 million), partially offset by higher income due to business acquisitions ($1 million).

- The increase in Global Products was due to prior year environmental charge ($140 million) and prior year integration costs ($16 million), partially offset by unfavorable volumes, net of favorable price / cost, productivity savings and cost mitigation actions ($91 million), lower equity income driven primarily by the unfavorable impact of COVID-19 ($24 million), current year integration costs ($8 million), the unfavorable impact of foreign currency translation ($7 million), lower income due to business acquisitions ($2 million) and lower income due to business divestitures ($1 million).

Backlog

The Company’s backlog relating to the Building Technologies & Solutions business is applicable to its sales of systems and services. At June 30, 2020, the backlog was $9.4 billion, of which $9.1 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.

In the first quarter of fiscal 2019, the Company adopted ASC 606, “Revenue from Contracts with Customers,” and as a result is required to disclose remaining performance obligations. At June 30, 2020, remaining performance obligations were $14.4 billion, which is $5.0 billion higher than the Company's backlog of $9.4 billion. Differences between the Company’s remaining performance obligations and backlog are primarily due to:

- 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 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;
- The Company has elected to exclude from remaining performance obligations certain contracts with customers with a term of one year or less or contracts that are cancelable without substantial penalty while these contracts are included within backlog; 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 Company will continue to report backlog as it believes it is a useful measure of evaluating the Company's operational performance and relationship to total orders.

Liquidity and Capital Resources

Working Capital

(in millions)	June 30, 2020	September 30, 2019	Change
Current assets	$ 11,140	$ 12,393	
Current liabilities	(10,304)	(9,070)	
	836	3,323	-75%
Less: Cash	(2,342)	(2,805)	
Add: Short-term debt	1,321	10	
Add: Current portion of long-term debt	1,102	501	
Less: Assets held for sale	(89)	(98)	
Add: Liabilities held for sale	38	44	
Working capital (as defined)	$ 866	$ 975	-11%
Accounts receivable - net	$ 5,344	$ 5,770	-7%
Inventories	1,996	1,814	10%
Accounts payable	3,057	3,582	-15%

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

- The decrease in working capital at June 30, 2020 as compared to September 30, 2019, was primarily due to lower income tax assets, a decrease in accounts receivable, and the establishment of an operating lease liability on the balance sheet in the first quarter of fiscal 2020 as a result of the adoption of ASC 842, partially offset by a decrease in accounts payable due to lower spending, a decrease in accrued compensation and benefits liabilities and an increase in inventory.

- The Company's days sales in accounts receivable at June 30, 2020 and September 30, 2019 were 70 days and 67 days, respectively. There has been no significant adverse changes in the level of overdue receivables or significant changes in revenue recognition methods.

- The Company's inventory turns for the three months ended June 30, 2020 were lower than the comparable period ended September 30, 2019, primarily due to changes in inventory production levels.

- Days in accounts payable at June 30, 2020 were 73 days, higher than 72 days at the comparable period ended September 30, 2019.

Cash Flows From Continuing Operations

(in millions)	Nine Months Ended June 30, 2020	Nine Months Ended June 30, 2019
Cash provided by operating activities	$ 1,499	$ 711
Cash used by investing activities	(309)	(363)
Cash used by financing activities	(1,316)	(9,500)

- The increase in cash provided by operating activities was primarily due to the timing of income tax payments / refunds and favorable changes in accounts receivable, partially offset by unfavorable changes in accounts payable and accrued liabilities.

- The decrease in cash used by investing activities was primarily due to lower capital expenditures and higher net cash payments made for acquisitions, partially offset by higher proceeds from the sale of property, plant & equipment.

- The decrease in cash used by financing activities was primarily due to lower stock repurchases, higher short-term debt borrowings and lower repayments of long-term debt.

Capitalization

(in millions)	June 30, 2020	September 30, 2019	Change
Short-term debt	$ 1,321	$ 10	
Current portion of long-term debt	1,102	501	
Long-term debt	5,671	6,708	
Total debt	8,094	7,219	12%
Less: cash and cash equivalents	2,342	2,805	
Total net debt	5,752	4,414	30%
Shareholders' equity attributable to Johnson Controls ordinary shareholders	17,805	19,766	-10%
Total capitalization	$ 23,557	$ 24,180	-3%
Total net debt as a % of total capitalization	24.4%	18.3%	

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

- The Company believes its capital resources and liquidity position at June 30, 2020 are adequate to meet projected needs. The Company believes requirements for working capital, capital expenditures, dividends, minimum pension contributions, debt maturities and any potential acquisitions or stock repurchases in the remainder of fiscal 2020 will continue to be funded from operations, supplemented by short- and long-term borrowings, if required. The Company currently manages its short-term debt position in the U.S. and euro commercial paper markets and bank loan markets. In the event the Company is unable to issue commercial paper, it would have the ability to draw on its $2.5 billion and $0.5 billion revolving credit facilities. The facilities mature in December 2024 and December 2020, respectively. There were no draws on the revolving credit facilities as of June 30, 2020 and September 30, 2019. In addition, the Company held cash and cash equivalents of $1.0 billion as of June 30, 2020. Given the increasingly uncertain economic environment caused by the COVID-19 pandemic, the Company took proactive measures in April 2020 to increase near-term financial flexibility, electing to opportunistically raise $675 million via European financing arrangements and $575 million in bank term loans.

This new debt partially replaces a recently matured $500 million bond, which was repaid in March 2020. As such, the Company believes it has sufficient financial resources to fund operations and meet its obligations for the foreseeable future.

- The Company’s debt financial covenant in its revolving credit facility requires a minimum consolidated shareholders’ equity attributable to Johnson Controls of at least $3.5 billion at all times. The revolving credit facility also limits the amount of debt secured by liens that may be incurred to a maximum aggregated amount of 10% of consolidated shareholders’ equity attributable to Johnson Controls for liens and pledges. For purposes of calculating these covenants, consolidated shareholders’ equity attributable to Johnson Controls is calculated without giving effect to (i) the application of Accounting Standards Codification ("ASC") 715-60, "Defined Benefit Plans - Other Postretirement," or (ii) the cumulative foreign currency translation adjustment. As of June 30, 2020, the Company was in compliance with all covenants and other requirements set forth in its credit agreements and the indentures, governing its notes, and expect to remain in compliance for the foreseeable future. None of the Company’s debt agreements limit access to stated borrowing levels or require accelerated repayment in the event of a decrease in the Company's credit rating.

- The key financial assumptions used in calculating the Company’s pension liability are determined annually, or whenever plan assets and liabilities are re-measured as required under accounting principles generally accepted in the U.S., including the expected rate of return on its plan assets. In fiscal 2020, the Company believes the long-term rate of return will approximate 6.90%, 5.20% and 5.70% for U.S. pension, non-U.S. pension and postretirement plans, respectively. During the first nine months of fiscal 2020, the Company made approximately $43 million in total pension and postretirement contributions. In total, the Company expects to contribute approximately $50 million in cash to its defined benefit pension plans in fiscal 2020. The Company expects to contribute $4 million in cash to its postretirement plans in fiscal 2020.

- The Company 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 2019, the Company provided income tax expense related to a change in the Company's assertion over the outside basis differences of the Company’s investment in certain subsidiaries as a result of the planned divestiture of the Power Solutions business. The Company currently does not intend nor foresee a need to repatriate undistributed earnings included in the outside basis differences other than in tax efficient manners. Except as noted, the Company's intent is to reduce basis differences only when it would be tax efficient. The Company expects existing U.S. cash and liquidity to continue to be sufficient to fund the Company’s U.S. operating activities and cash commitments for investing and financing activities for at least the next twelve months and thereafter for the foreseeable future. In the U.S., should the Company require more capital than is generated by its operations, the Company could elect to raise capital in the U.S. through debt or equity issuances. The Company has borrowed funds in the U.S. and continues to have the ability to borrow funds in the U.S. at reasonable interest rates. In addition, the Company expects existing non-U.S. cash, cash equivalents, short-term investments and cash flows from operations to continue to be sufficient to fund the Company’s non-U.S. operating activities and cash commitments for investing activities, such as material capital expenditures, for at least the next twelve months and thereafter for the foreseeable future. Should the Company require more capital at the Luxembourg and Ireland holding and financing entities, other than amounts that can be provided in tax efficient methods, the Company could also elect to raise capital through debt or equity issuances. These alternatives could result in increased interest expense or other dilution of the Company’s earnings.

- To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company committed to a significant restructuring plan in fiscal 2020 and recorded a cumulative $297 million of restructuring and impairment costs in the consolidated statements of income. The restructuring action related to cost reduction initiatives in the Company’s Building Technologies & Solutions business and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. The Company currently estimates that upon completion of the restructuring action, the cumulative fiscal 2020 restructuring plan will reduce annual operating costs for continuing operations by approximately $430 million, which is primarily the result of lower cost of sales and SG&A due to reduced employee-related costs, depreciation and amortization expense. The Company expects the annual benefit of these actions will be substantially realized in 2021. For fiscal 2020, the savings, net of execution costs, are expected to be approximately 30% of the expected annual operating cost reduction. The restructuring action is expected to be substantially complete in fiscal 2021. The restructuring plan reserve balance of $139 million at June 30, 2020 is expected to be paid in cash.

- To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company committed to a significant restructuring plan in fiscal 2018 and recorded $255 million of restructuring and impairment costs in the consolidated statements of income. The restructuring action related to cost reduction initiatives in the Company’s Building Technologies & Solutions business and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. The Company currently estimates that upon completion of the restructuring action, the fiscal 2018 restructuring plan will reduce annual operating costs for continuing operations by approximately $300 million, which is primarily the result of lower cost of sales and SG&A due to reduced employee-related costs, depreciation and amortization expense. The Company expects the annual benefit of these actions will be substantially realized in 2020. The restructuring action is expected to be substantially complete in 2020. The restructuring plan reserve balance of $69 million at June 30, 2020 is expected to be paid in cash.

- To better align its resources with its growth strategies and reduce the cost structure of its global operations in certain underlying markets, the Company committed to a significant restructuring plan in fiscal 2017 and recorded $347 million of restructuring and impairment costs in the consolidated statements of income. The restructuring action related to cost reduction initiatives in the Company’s Building Technologies & Solutions business and at Corporate. The costs consist primarily of workforce reductions, plant closures and asset impairments. The Company currently estimates that upon completion of the restructuring action, the fiscal 2017 restructuring plan will reduce annual operating costs for continuing operations by approximately $260 million, which is primarily the result of lower cost of sales and SG&A due to reduced employee-related costs, depreciation and amortization expense. The Company substantially realized the annual benefit of these actions in fiscal 2019. The restructuring actions are expected to be substantially complete in fiscal 2020. The restructuring plan reserve balance of $21 million at June 30, 2020 is expected to be paid in cash.

- Refer to Note 12, "Debt and Financing Arrangements," of the notes to consolidated financial statements for additional information on items impacting capitalization.

New Accounting Standards

Refer to Note 2, "New Accounting Standards," of the notes to consolidated financial statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As of June 30, 2020, the Company had not experienced any adverse changes in market risk exposures that materially affected the quantitative and qualitative disclosures presented in the Company's Annual Report on Form 10-K for the year ended September 30, 2019.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended ("Exchange Act"). Based upon their evaluation of these disclosure controls and procedures, the principal executive officer and principal financial officer concluded that the disclosure controls and procedures were effective as of June 30, 2020 to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time period specified in the SEC’s rules and forms, and to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is accumulated and communicated to the Company’s management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding disclosure.

Changes in Internal Control Over Financial Reporting

There have been no significant changes in the Company’s internal control over financial reporting during the three months ended June 30, 2020 that have materially affected, or are reasonably likely to materially affect, the Company’s internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Gumm v. Molinaroli, et al.

On August 16, 2016, a putative class action lawsuit, *Gumm v. Molinaroli, et al.*, Case No. 16-cv-1093, was filed in the United States District Court for the Eastern District of Wisconsin, naming Johnson Controls, Inc., the individual members of its board of directors at the time of the merger with the Company's merger subsidiary and certain of its officers, the Company and the Company's merger subsidiary as defendants. The complaint asserted various causes of action under the federal securities laws, state law and the Taxpayer Bill of Rights, including that the individual defendants allegedly breached their fiduciary duties and unjustly enriched themselves by structuring the merger among the Company, Tyco and the merger subsidiary in a manner that would result in a United States federal income tax realization event for the putative class of certain Johnson Controls, Inc. shareholders and allegedly result in certain benefits to the defendants, as well as related claims regarding alleged misstatements in the proxy statement/prospectus distributed to the Johnson Controls, Inc. shareholders, conversion and breach of contract. The complaint also asserted that Johnson Controls, Inc., the Company and the Company's merger subsidiary aided and abetted the individual defendants in their breach of fiduciary duties and unjust enrichment. The complaint seeks, among other things, disgorgement of profits and damages. On September 30, 2016, approximately one month after the closing of the merger, plaintiffs filed a preliminary injunction motion seeking, among other items, to compel Johnson Controls, Inc. to make certain intercompany payments that plaintiffs contend will impact the United States federal income tax consequences of the merger to the putative class of certain Johnson Controls, Inc. shareholders and to enjoin Johnson Controls, Inc. from reporting to the Internal Revenue Service the capital gains taxes payable by this putative class as a result of the closing of the merger. The court held a hearing on the preliminary injunction motion on January 4, 2017, and on January 25, 2017, the judge denied the plaintiffs' motion. Plaintiffs filed an amended complaint on February 15, 2017, and the Company filed a motion to dismiss on April 3, 2017. On October 17, 2019, the court heard oral arguments on the motion to dismiss and took the matter under advisement. Although the Company believes it has substantial defenses to plaintiffs' claims, it is not able to predict the outcome of this action.

Refer to Note 21, "Commitments and Contingencies," of the notes to consolidated financial statements for discussion of environmental, asbestos, insurable liabilities and other litigation matters, which is incorporated by reference herein and is considered an integral part of Part II, Item 1, "Legal Proceedings."

ITEM 1A. RISK FACTORS

The description of certain risk factors described under "Risk Factors" in Part I, Item 1A, of the Company's Annual Report on Form 10-K for the year ended September 30, 2019 was supplemented in Item 1A of Part II of Form 10-Q for the quarterly period ending March 31, 2020 filed with the SEC on May 1, 2020. Other than as described in this Item 1A, there have been no other material changes to our risk factors from the risk factors previously disclosed in the 2019 Annual Report and the Quarterly Report on Form 10-Q for the three month period ended March 31, 2020.

The recent *COVID*-19 pandemic could have an adverse effect on our business, financial condition, results of operations and cash flows

The global outbreak of COVID-19 has severely restricted the level of economic activity around the world and has caused a significant contraction in the global economy. In response to this outbreak, the governments of many countries, states, cities and other geographic regions have taken preventative or protective actions, such as imposing restrictions on travel and business operations. Temporary closures of businesses have been ordered and numerous other businesses have temporarily closed voluntarily. These measures, while intended to protect human life, have and are expected to continue to have significant adverse impacts on domestic and foreign economies of uncertain severity and duration. Currently, the effectiveness of economic stabilization efforts and other measures being taken to mitigate the effects of these actions and the spread of COVID-19 is uncertain.

As a result of the COVID-19 pandemic, we and our affiliates, employees, suppliers, customers and others have been and may continue to be restricted or prevented from conducting normal business activities, including as a result of shutdowns, travel restrictions and other actions that may be requested or mandated by governmental authorities. Such actions have prevented, and may in the future prevent us from accessing the facilities of our customers to deliver and install products, provide services and complete maintenance. Although some governments have begun to lift shutdown orders and similar restrictions, a resurgence in the spread of COVID-19 could cause the reinstitution of such preventive or protective measures. While a substantial portion of our businesses have been classified as an essential business in jurisdictions in which facility closures have been mandated, some of our facilities have nevertheless been ordered to close in certain jurisdictions and we can give no assurance that there will not be additional closures in the future or that our businesses will be classified as essential in each of the jurisdictions in which we operate.

The COVID-19 outbreak has impacted, and may continue to impact, our office locations, manufacturing and servicing facilities and distribution centers, as well as those of our third party vendors, including the effects of facility closures, reductions in operating hours and other social distancing efforts. For example, we have experienced temporary reductions of our manufacturing and operating capacity in India, China and Mexico as a result of government-mandated actions to control the spread of COVID-19. In addition, we have modified our business practices (including employee travel, employee work locations, and cancellation of physical participation in meetings, events and conferences), 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 modifications to our business practices, including any future actions we take, may cause us to experience increases in costs, reductions in productivity and disruptions to our business routines. Further, we have experienced, and may continue to experience, disruptions or delays in our supply chain as a result of such actions, which has resulted in higher supply chain costs to us in order to maintain the supply of materials and components for our products.

Our management of the impact of COVID-19 has and will continue to require significant investment of time from our management and employees, as well as resources across our global enterprise. The focus on managing and mitigating the impacts of COVID-19 on our business may cause us to divert or delay the application of our resources toward new initiatives or investments, which may adversely impact our future results of operations. In addition, issues relating to the COVID-19 pandemic may result in legal claims or litigation against us.

We may also experience impacts from market downturns and changes in consumer behavior related to pandemic fears as a result of COVID-19. For example, we have experienced a recent decline in demand in our global businesses as a result of the impact of efforts to contain the spread of COVID-19. In addition, our customers may choose to delay or abandon projects on which we provide products and/or services. We may also experience adverse impacts on demand and sales volumes from industries that are sensitive to economic downturns and volatility in commodity prices, including the industries described in our risk factor titled “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” in our Annual Report on Form 10-K for the year ended September 30, 2019. If these adverse impacts continue, our stock price and the operating performances of our businesses could be adversely affected, which could require us to incur material impairment, restructuring or other charges. For example, we were required to record an impairment charge of indefinite-lived intangible assets primarily related to our retail business and an impairment of the North America Retail reporting unit's goodwill in the nine months ended June 30, 2020.

The impact of COVID-19 has caused significant uncertainty and volatility in the credit markets. We rely on the credit markets to provide us with liquidity to operate and grow our businesses beyond the liquidity that operating cash flows provide. If our access to capital were to become significantly constrained or if costs of capital increased significantly due the impact of COVID-19, including volatility in the capital markets, a reduction in our credit ratings or other factors, then our financial condition, results of operations and cash flows could be adversely affected.

If the COVID-19 pandemic becomes more pronounced in our global markets, experiences a resurgence in markets recovering from the spread of COVID-19, or if another significant natural disaster or pandemic were to occur in the future, our operations in areas impacted by such events could experience further adverse financial impacts due to market changes and other resulting events and circumstances. The extent to which the COVID-19 outbreak impacts our financial condition will depend on future developments that are highly uncertain and cannot be predicted, including new information that may emerge concerning the severity of COVID-19, the longevity of COVID-19, the impact of COVID-19 on economic activity, the actions to contain its impacts on public health and the global economy and the speed at which economic activity resumes following the lifting of measures designed to mitigate the spread of COVID-19. The impact of COVID-19 may also exacerbate other risks discussed in Item 1A of our Annual Report on Form 10-K for the year ended September 30, 2019, any of which could have a material effect on our financial condition, results of operations and cash flows.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

In March 2019, the Company's Board of Directors approved an $8.5 billion increase to its existing share repurchase authorization, subject to the completion of the previously announced sale of the Company's Power Solutions business, which closed on April 30, 2019. 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. In order to enhance liquidity resources in response to financial market uncertainty related to the COVID-19 pandemic, in March 2020 the Company made the decision to suspend its share repurchase program. As a result, no shares were repurchased during the three months ended June 30, 2020. During the nine month ended June 30, 2020, the Company repurchased $1.5 billion of its shares. As of June 30, 2020, approximately $3.1 billion remains available under the share repurchase program. In June 2020, the Company announced the share repurchase program would resume in the fourth quarter of fiscal 2020.

During the three months ended June 30, 2020, acquisitions of shares by the Company from certain employees in order to satisfy employee tax withholding requirements in connection with the vesting of restricted shares were not material.

ITEM 6. EXHIBITS

INDEX TO EXHIBITS

Exhibit No.	Description
31.1	Certification by the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Periodic Financial Report by the Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from Johnson Controls International plc's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in iXBRL (Inline Extensible Business Reporting Language): (i) the Consolidated Statements of Financial Position, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statements of Cash Flows, (v) the Consolidated Statements of Shareholders' Equity Attributable to Johnson Controls Ordinary Shareholders and (vi) Notes to Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted in iXBRL and contained in Exhibit 101)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

JOHNSON CONTROLS INTERNATIONAL PLC

Date: July 31, 2020

By: */s/ Brian J. Stief*

Brian J. Stief

Vice Chairman and
Chief Financial Officer

Exhibit 31.1

CERTIFICATIONS

I, George R. Oliver, of Johnson Controls International plc, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Johnson Controls International plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2020

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Brian J. Stief, of Johnson Controls International plc, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Johnson Controls International plc;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 31, 2020

/s/ Brian J. Stief

Brian J. Stief
Vice Chairman and
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF PERIODIC FINANCIAL REPORTS

We, George R. Oliver and Brian J. Stief, of Johnson Controls International plc, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. the Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 (Periodic Report) to which this statement is an exhibit fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and

2. information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of Johnson Controls International plc.

Date: July 31, 2020

/s/ George R. Oliver

George R. Oliver
Chairman and Chief Executive Officer

/s/ Brian J. Stief

Brian J. Stief
Vice Chairman and
Chief Financial Officer