



October 23, 2020

Q3 2020

Financial information

Financial Information

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Key Figures

(\$ in millions, unless otherwise indicated)	Q3 2020	Q3 2019	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	6,109	6,688	-9%	-8%
Order backlog (end September)	13,878	13,357	4%	4%
Revenues	6,582	6,892	-4%	-4%
Income from operations	71	577	-88%	
Operational EBITA ⁽¹⁾	787	806	-2%	-5% ⁽²⁾
as % of operational revenues ⁽¹⁾	12.0%	11.7%	+0.3 pts	
Income (loss) from continuing operations, net of tax	(503)	422	n.a.	
Net income attributable to ABB	4,530	515	780%	
Basic earnings per share (\$)	2.14	0.24	785% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	0.21	0.33	-36% ⁽³⁾	-35% ⁽³⁾
Cash flow from operating activities ⁽⁴⁾	408	670	-39%	

(\$ in millions, unless otherwise indicated)	9M 2020	9M 2019	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	19,509	21,702	-10%	-7%
Revenues	18,952	20,910	-9%	-7%
Income from operations	1,015	1,290	-21%	
Operational EBITA ⁽¹⁾	2,074	2,397	-13%	-14% ⁽²⁾
as % of operational revenues ⁽¹⁾	10.9%	11.5%	-0.6 pts	
Income (loss) from continuing operations, net of tax	218	783	-72%	
Net income attributable to ABB	5,225	1,114	369%	
Basic earnings per share (\$)	2.45	0.52	370% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	0.73	0.97	-25% ⁽³⁾	-24% ⁽³⁾
Cash flow from operating activities ⁽⁴⁾	511	414	23%	

(1) For a reconciliation of non-GAAP measures see “[Supplemental Reconciliations and Definitions](#)” on page 40.

(2) Constant currency (not adjusted for portfolio changes).

(3) EPS growth rates are computed using unrounded amounts. Comparable operational earnings per share is in constant currency (2019 exchange rates not adjusted for changes in the business portfolio).

(4) Cash flow from operating activities includes both continuing and discontinued operations.

(\$ in millions, unless otherwise indicated)		Q3 2020	Q3 2019	CHANGE		
				US\$	Local	Comparable
Orders	ABB Group	6,109	6,688	-9%	-9%	-8%
	Electrification	2,952	3,188	-7%	-8%	-5%
	Industrial Automation	1,164	1,438	-19%	-20%	-20%
	Motion	1,535	1,618	-5%	-5%	-5%
	Robotics & Discrete Automation	720	709	2%	0%	0%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(262)	(265)			
Order backlog (end September)	ABB Group	13,878	13,357	4%	2%	4%
	Electrification	4,471	4,537	-1%	-2%	2%
	Industrial Automation	5,152	4,944	4%	2%	2%
	Motion	3,349	2,947	14%	10%	10%
	Robotics & Discrete Automation	1,442	1,416	2%	-2%	-2%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(536)	(487)			
Revenues	ABB Group	6,582	6,892	-4%	-5%	-4%
	Electrification	3,031	3,161	-4%	-5%	-2%
	Industrial Automation	1,403	1,492	-6%	-7%	-7%
	Motion	1,611	1,630	-1%	-2%	-2%
	Robotics & Discrete Automation	806	831	-3%	-5%	-5%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(269)	(222)			
Income from operations	ABB Group	71	577			
	Electrification	387	378			
	Industrial Automation	75	124			
	Motion	256	264			
	Robotics & Discrete Automation	(236)	83			
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(411)	(272)			
Income from operations %	ABB Group	1.1%	8.4%			
	Electrification	12.8%	12.0%			
	Industrial Automation	5.3%	8.3%			
	Motion	15.9%	16.2%			
	Robotics & Discrete Automation	(29.3)%	10.0%			
Operational EBITA	ABB Group	787	806	-2%	-5%	
	Electrification	493	450	10%	7%	
	Industrial Automation	89	135	-34%	-41%	
	Motion	281	290	-3%	-5%	
	Robotics & Discrete Automation	76	107	-29%	-30%	
	<i>Corporate and Other⁽¹⁾</i> <i>(incl. intersegment eliminations)</i>	(152)	(176)			
Operational EBITA %	ABB Group	12.0%	11.7%			
	Electrification	16.3%	14.2%			
	Industrial Automation	6.4%	9.0%			
	Motion	17.4%	17.8%			
	Robotics & Discrete Automation	9.5%	12.9%			
Cash flow from operating activities⁽²⁾	ABB Group	408	670			
	Electrification	452	446			
	Industrial Automation	159	220			
	Motion	376	336			
	Robotics & Discrete Automation	109	57			
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(698)	(448)			
	<i>Discontinued operations</i>	10	59			

(1) Corporate and Other includes Stranded corporate costs of \$52 million for the three months ended September 30, 2019.

(2) Commencing Q3 2020, taxes and interest previously allocated to each individual operating segment are now fully allocated to Corporate and other and the comparatives restated.

(\$ in millions, unless otherwise indicated)		9M 2020	9M 2019	CHANGE		
				US\$	Local	Comparable
Orders	ABB Group	19,509	21,702	-10%	-8%	-7%
	Electrification	8,810	9,890	-11%	-10%	-7%
	Industrial Automation	4,226	4,726	-11%	-9%	-9%
	Motion	5,022	5,180	-3%	-1%	-1%
	Robotics & Discrete Automation	2,169	2,559	-15%	-14%	-14%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(718)	(653)			
Order backlog (end September)	ABB Group	13,878	13,357	4%	2%	4%
	Electrification	4,471	4,537	-1%	-2%	2%
	Industrial Automation	5,152	4,944	4%	2%	2%
	Motion	3,349	2,947	14%	10%	10%
	Robotics & Discrete Automation	1,442	1,416	2%	-2%	-2%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(536)	(487)			
Revenues	ABB Group	18,952	20,910	-9%	-8%	-7%
	Electrification	8,568	9,490	-10%	-8%	-6%
	Industrial Automation	4,247	4,590	-7%	-6%	-6%
	Motion	4,704	4,876	-4%	-2%	-2%
	Robotics & Discrete Automation	2,106	2,527	-17%	-16%	-16%
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(673)	(573)			
Income from operations	ABB Group	1,015	1,290			
	Electrification	891	571			
	Industrial Automation	316	506			
	Motion	731	764			
	Robotics & Discrete Automation	(186)	236			
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(737)	(787)			
Income from operations %	ABB Group	5.4%	6.2%			
	Electrification	10.4%	6.0%			
	Industrial Automation	7.4%	11.0%			
	Motion	15.5%	15.7%			
	Robotics & Discrete Automation	(8.8)%	9.3%			
Operational EBITA	ABB Group	2,074	2,397	-13%	-14%	
	Electrification	1,159	1,267	-9%	-7%	
	Industrial Automation	348	530	-34%	-35%	
	Motion	790	828	-5%	-4%	
	Robotics & Discrete Automation	178	307	-42%	-41%	
	<i>Corporate and Other⁽¹⁾</i> <i>(incl. intersegment eliminations)</i>	(401)	(535)			
Operational EBITA %	ABB Group	10.9%	11.5%			
	Electrification	13.5%	13.3%			
	Industrial Automation	8.2%	11.5%			
	Motion	16.8%	17.0%			
	Robotics & Discrete Automation	8.5%	12.1%			
Cash flow from operating activities⁽²⁾	ABB Group	511	414			
	Electrification	853	858			
	Industrial Automation	245	337			
	Motion	849	733			
	Robotics & Discrete Automation	240	202			
	<i>Corporate and Other</i> <i>(incl. intersegment eliminations)</i>	(1,537)	(1,685)			
	<i>Discontinued operations</i>	(139)	(31)			

(1) Corporate and Other includes Stranded corporate costs of \$40 million and \$185 million for the nine months ended September 30, 2020 and 2019, respectively.

(2) Commencing Q3 2020, taxes and interest previously allocated to each individual operating segment are now fully allocated to Corporate and other and the comparatives restated.

Operational EBITA

	ABB		Electrification		Industrial Automation		Motion		Robotics & Discrete Automation	
(\$ in millions, unless otherwise indicated)	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19
Revenues	6,582	6,892	3,031	3,161	1,403	1,492	1,611	1,630	806	831
Foreign exchange/commodity timing differences in total revenues	(13)	20	(8)	10	(6)	13	4	3	(5)	(1)
Operational revenues	6,569	6,912	3,023	3,171	1,397	1,505	1,615	1,633	801	830
Income from operations	71	577	387	378	75	124	256	264	(236)	83
Acquisition-related amortization	67	70	29	28	1	1	13	13	20	19
Restructuring, related and implementation costs	83	59	39	8	21	2	9	5	3	5
Changes in obligations related to divested businesses	203	25	15	1	–	–	–	–	–	–
Changes in pre-acquisition estimates	11	–	11	–	–	–	–	–	–	–
Gains and losses from sale of businesses	(1)	(12)	1	2	–	–	–	–	–	–
Fair value adjustment on assets and liabilities held for sale	14	11	14	11	–	–	–	–	–	–
Acquisition- and divestment-related expenses and integration costs	16	18	13	18	1	–	–	–	–	–
Other income/expense relating to the Power Grids joint venture	15	–	–	–	–	–	–	–	–	–
Certain other non-operational items	331	45	2	(1)	–	–	4	3	291	1
Foreign exchange/commodity timing differences in income from operations	(23)	13	(18)	5	(9)	8	(1)	5	(2)	(1)
Operational EBITA	787	806	493	450	89	135	281	290	76	107
Operational EBITA margin (%)	12.0%	11.7%	16.3%	14.2%	6.4%	9.0%	17.4%	17.8%	9.5%	12.9%

	ABB		Electrification		Industrial Automation		Motion		Robotics & Discrete Automation	
(\$ in millions, unless otherwise indicated)	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19
Revenues	18,952	20,910	8,568	9,490	4,247	4,590	4,704	4,876	2,106	2,527
Foreign exchange/commodity timing differences in total revenues	(4)	12	2	1	(7)	8	(3)	4	(3)	2
Operational revenues	18,948	20,922	8,570	9,491	4,240	4,598	4,701	4,880	2,103	2,529
Income (loss) from operations	1,015	1,290	891	571	316	506	731	764	(186)	236
Acquisition-related amortization	197	205	86	87	3	3	39	40	58	58
Restructuring, related and implementation costs	190	201	83	61	37	14	20	10	14	8
Changes in obligations related to divested businesses	204	32	15	1	–	–	–	–	–	–
Changes in pre-acquisition estimates	11	13	11	13	–	–	–	–	–	–
Gains and losses from sale of businesses	4	(8)	6	(1)	–	–	–	–	–	–
Fair value adjustment on assets and liabilities held for sale	33	466	33	466	–	–	–	–	–	–
Acquisition- and divestment-related expenses and integration costs	43	72	40	69	1	–	–	–	–	1
Other income/expense relating to the Power Grids joint venture	15	–	–	–	–	–	–	–	–	–
Certain other non-operational items	378	121	(5)	1	1	2	13	8	293	2
Foreign exchange/commodity timing differences in income from operations	(16)	5	(1)	(1)	(10)	5	(13)	6	(1)	2
Operational EBITA	2,074	2,397	1,159	1,267	348	530	790	828	178	307
Operational EBITA margin (%)	10.9%	11.5%	13.5%	13.3%	8.2%	11.5%	16.8%	17.0%	8.5%	12.1%

Depreciation and Amortization

	ABB		Electrification		Industrial Automation		Motion		Robotics & Discrete Automation	
(\$ in millions)	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19	Q3 20	Q3 19
Depreciation	147	146	60	63	13	12	29	28	12	11
Amortization	84	89	37	34	3	2	14	13	21	20
including total acquisition-related amortization of:	67	70	29	28	1	1	13	13	20	19

	ABB		Electrification		Industrial Automation		Motion		Robotics & Discrete Automation	
(\$ in millions)	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19	9M 20	9M 19
Depreciation	439	450	184	191	39	35	85	84	34	33
Amortization	247	265	105	110	8	6	41	42	60	60
including total acquisition-related amortization of:	197	205	86	87	3	3	39	40	58	58

Orders received and revenues by region

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	Q3 20	Q3 19	US\$	Local	Com-parable	Q3 20	Q3 19	US\$	Local	Com-parable
Europe	2,068	2,266	-9%	-11%	-10%	2,410	2,449	-2%	-5%	-3%
The Americas	1,938	2,247	-14%	-13%	-11%	1,927	2,240	-14%	-12%	-12%
of which United States	1,475	1,694	-13%	-13%	-12%	1,443	1,687	-14%	-15%	-15%
Asia, Middle East and Africa	2,103	2,122	-1%	-2%	-2%	2,245	2,156	4%	3%	5%
of which China	1,089	1,018	7%	5%	8%	1,182	1,030	15%	13%	15%
Intersegment orders/revenues ⁽¹⁾	–	53				–	47			
ABB Group	6,109	6,688	-9%	-9%	-8%	6,582	6,892	-4%	-5%	-4%

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	9M 20	9M 19	US\$	Local	Com-parable	9M 20	9M 19	US\$	Local	Com-parable
Europe	7,062	7,705	-8%	-7%	-6%	6,998	7,431	-6%	-5%	-4%
The Americas	5,936	6,858	-13%	-12%	-11%	5,891	6,759	-13%	-11%	-11%
of which United States	4,512	5,133	-12%	-12%	-11%	4,522	5,118	-12%	-12%	-11%
Asia, Middle East and Africa	6,389	6,984	-9%	-7%	-5%	5,955	6,563	-9%	-8%	-5%
of which China	3,036	3,237	-6%	-5%	-2%	2,860	3,028	-6%	-4%	-2%
Intersegment orders/revenues ⁽¹⁾	122	155				108	157			
ABB Group	19,509	21,702	-10%	-8%	-7%	18,952	20,910	-9%	-8%	-7%

(1) Intersegment orders/revenues until June 30, 2020, include sales to the Power Grids business which is presented as discontinued operations and thus these sales are not eliminated from Total orders/revenues.

Consolidated Financial Information

ABB Ltd Consolidated Income Statements (unaudited)

(\$ in millions, except per share data in \$)	Nine months ended		Three months ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Sales of products	15,391	16,957	5,363	5,565
Sales of services and other	3,561	3,953	1,219	1,327
Total revenues	18,952	20,910	6,582	6,892
Cost of sales of products	(11,047)	(11,851)	(4,008)	(3,905)
Cost of services and other	(2,174)	(2,360)	(740)	(797)
Total cost of sales	(13,221)	(14,211)	(4,748)	(4,702)
Gross profit	5,731	6,699	1,834	2,190
Selling, general and administrative expenses	(3,624)	(4,082)	(1,192)	(1,298)
Non-order related research and development expenses	(791)	(866)	(270)	(283)
Impairment of goodwill	(311)	–	(311)	–
Other income (expense), net	10	(461)	10	(32)
Income from operations	1,015	1,290	71	577
Interest and dividend income	39	57	12	20
Interest and other finance expense	(191)	(179)	(79)	(56)
Non-operational pension (cost) credit	(272)	67	(343)	23
Income (loss) from continuing operations before taxes	591	1,235	(339)	564
Income tax expense	(373)	(452)	(164)	(142)
Income (loss) from continuing operations, net of tax	218	783	(503)	422
Income from discontinued operations, net of tax	5,043	388	5,038	97
Net income	5,261	1,171	4,535	519
Net income attributable to noncontrolling interests	(36)	(57)	(5)	(4)
Net income attributable to ABB	5,225	1,114	4,530	515
Amounts attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	190	752	(513)	427
Income from discontinued operations, net of tax	5,035	362	5,043	88
Net income	5,225	1,114	4,530	515
Basic earnings per share attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	0.09	0.35	(0.24)	0.20
Income from discontinued operations, net of tax	2.36	0.17	2.38	0.04
Net income	2.45	0.52	2.14	0.24
Diluted earnings per share attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	0.09	0.35	(0.24)	0.20
Income from discontinued operations, net of tax	2.36	0.17	2.38	0.04
Net income	2.45	0.52	2.14	0.24
Weighted-average number of shares outstanding (in millions) used to compute:				
Basic earnings per share attributable to ABB shareholders	2,129	2,132	2,119	2,133
Diluted earnings per share attributable to ABB shareholders	2,135	2,134	2,119	2,135

Due to rounding, numbers presented may not add to the totals provided.

See Notes to the Consolidated Financial Information

ABB Ltd Condensed Consolidated Statements of Comprehensive Income (unaudited)

(\$ in millions)	Nine months ended		Three months ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Total comprehensive income, net of tax	6,244	964	5,760	312
Total comprehensive income attributable to noncontrolling interests, net of tax	(58)	(47)	(31)	7
Total comprehensive income attributable to ABB shareholders, net of tax	6,186	917	5,729	319

Due to rounding, numbers presented may not add to the totals provided.

See Notes to the Consolidated Financial Information

ABB Ltd Consolidated Balance Sheets (unaudited)

(\$ in millions, except share data)	Sep. 30, 2020	Dec. 31, 2019
Cash and equivalents	3,178	3,508
Restricted cash	860	36
Marketable securities and short-term investments	5,270	566
Receivables, net	6,638	6,434
Contract assets	1,100	1,025
Inventories, net	4,642	4,184
Prepaid expenses	233	191
Other current assets	641	674
Current assets held for sale and in discontinued operations	349	9,840
Total current assets	22,911	26,458
Restricted cash, non-current	300	–
Property, plant and equipment, net	3,948	3,972
Operating lease right-of-use assets	973	994
Goodwill	10,675	10,825
Other intangible assets, net	2,070	2,252
Prepaid pension and other employee benefits	294	133
Investments in equity-accounted companies	1,818	33
Deferred taxes	784	910
Other non-current assets	494	531
Total assets	44,267	46,108
Accounts payable, trade	4,323	4,353
Contract liabilities	1,828	1,719
Short-term debt and current maturities of long-term debt	2,354	2,287
Current operating leases	335	305
Provisions for warranties	966	816
Other provisions	1,355	1,375
Other current liabilities	4,252	3,761
Current liabilities held for sale and in discontinued operations	773	5,650
Total current liabilities	16,186	20,266
Long-term debt	6,319	6,772
Non-current operating leases	667	717
Pension and other employee benefits	1,445	1,793
Deferred taxes	685	911
Other non-current liabilities	1,935	1,669
Total liabilities	27,237	32,128
<i>Commitments and contingencies</i>		
Stockholders' equity:		
Common stock, CHF 0.12 par value (2,168,148,264 issued shares at September 30, 2020, and December 31, 2019)	188	188
Additional paid-in capital	79	73
Retained earnings	23,025	19,640
Accumulated other comprehensive loss	(4,629)	(5,590)
Treasury stock, at cost (76,319,119 and 34,647,153 shares at September 30, 2020, and December 31, 2019, respectively)	(1,919)	(785)
Total ABB stockholders' equity	16,744	13,526
Noncontrolling interests	286	454
Total stockholders' equity	17,030	13,980
Total liabilities and stockholders' equity	44,267	46,108

Due to rounding, numbers presented may not add to the totals provided.

See Notes to the Consolidated Financial Information

ABB Ltd Consolidated Statements of Cash Flows (unaudited)

(\$ in millions)	Nine months ended		Three months ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Operating activities:				
Net income	5,261	1,171	4,535	519
Loss (income) from discontinued operations, net of tax	(5,043)	(388)	(5,038)	(97)
Adjustments to reconcile net income to net cash provided by (used in) operating activities:				
Depreciation and amortization	686	715	231	235
Impairment of goodwill	311	–	311	–
Pension and other employee benefits	(27)	(75)	55	(29)
Deferred taxes	(159)	(118)	(158)	(56)
Net loss (gain) from derivatives and foreign exchange	29	10	4	14
Net loss (gain) from sale of property, plant and equipment	(24)	(48)	(20)	(8)
Fair value adjustment on assets and liabilities held for sale	33	466	14	11
Share-based payment arrangements	30	31	9	6
Other	(2)	12	16	22
Changes in operating assets and liabilities:				
Trade receivables, net	(46)	(232)	(104)	(81)
Contract assets and liabilities	41	(54)	128	88
Inventories, net	(48)	(411)	66	(125)
Accounts payable, trade	(204)	(162)	10	33
Accrued liabilities	(123)	(88)	(48)	197
Provisions, net	96	(68)	156	(63)
Income taxes payable and receivable	(78)	(87)	79	(57)
Other assets and liabilities, net	(83)	(229)	152	2
Net cash provided by operating activities – continuing operations	650	445	398	611
Net cash provided by (used in) operating activities – discontinued operations	(139)	(31)	10	59
Net cash provided by operating activities	511	414	408	670
Investing activities:				
Purchases of investments	(5,982)	(716)	(4,368)	(36)
Purchases of property, plant and equipment and intangible assets	(432)	(528)	(129)	(152)
Acquisition of businesses (net of cash acquired) and increases in cost- and equity-accounted companies	(99)	(13)	(19)	(7)
Proceeds from sales of investments	1,288	718	833	178
Proceeds from maturity of investments	1	80	1	–
Proceeds from sales of property, plant and equipment	68	67	41	13
Proceeds from sales of businesses (net of transaction costs and cash disposed) and cost- and equity-accounted companies	(133)	22	9	4
Net cash from settlement of foreign currency derivatives	94	(66)	170	(15)
Other investing activities	11	(2)	25	2
Net cash used in investing activities – continuing operations	(5,184)	(438)	(3,437)	(13)
Net cash provided by (used in) investing activities – discontinued operations	9,091	(120)	9,201	(39)
Net cash provided by (used in) investing activities	3,907	(558)	5,764	(52)
Financing activities:				
Net changes in debt with original maturities of 90 days or less	(525)	895	(4,107)	(21)
Increase in debt	360	2,235	45	5
Repayment of debt	(663)	(2,012)	(95)	(479)
Delivery of shares	383	–	383	–
Purchase of treasury stock	(1,270)	–	(1,270)	–
Dividends paid	(1,736)	(1,675)	–	–
Dividends paid to noncontrolling shareholders	(82)	(75)	(11)	(2)
Other financing activities	(67)	25	37	2
Net cash used in financing activities – continuing operations	(3,600)	(607)	(5,018)	(495)
Net cash provided by (used in) financing activities – discontinued operations	31	(54)	14	(3)
Net cash used in financing activities	(3,569)	(661)	(5,004)	(498)
Effects of exchange rate changes on cash and equivalents and restricted cash	(55)	(61)	43	(53)
Adjustment for the net change in cash and equivalents and restricted cash in discontinued operations	–	–	609	–
Net change in cash and equivalents and restricted cash	794	(866)	1,820	67
Cash and equivalents and restricted cash, beginning of period	3,544	3,445	2,518	2,512
Cash and equivalents and restricted cash, end of period	4,338	2,579	4,338	2,579
Supplementary disclosure of cash flow information:				
Interest paid	111	188	9	30
Income taxes paid	689	769	227	282

Due to rounding, numbers presented may not add to the totals provided.

See Notes to the Consolidated Financial Information

ABB Ltd Consolidated Statements of Changes in Stockholders' Equity (unaudited)

(\$ in millions)	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Treasury stock	Total ABB stockholders' equity	Non-controlling interests	Total stockholders' equity
Balance at January 1, 2019	188	56	19,839	(5,311)	(820)	13,952	582	14,534
Adoption of accounting standard update			36	(36)		–		–
Comprehensive income:								
Net income			1,114			1,114	57	1,171
Foreign currency translation adjustments, net of tax of \$3				(363)		(363)	(10)	(373)
Effect of change in fair value of available-for-sale securities, net of tax of \$2				16		16		16
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$17				145		145		145
Change in derivatives qualifying as cash flow hedges, net of tax of \$(2)				5		5		5
Total comprehensive income						917	47	964
Changes in noncontrolling interests		(12)				(12)	7	(5)
Fair value adjustment to noncontrolling interests recognized in business combination						–	(44)	(44)
Dividends to noncontrolling shareholders						–	(109)	(109)
Dividends paid to shareholders			(1,675)			(1,675)		(1,675)
Share-based payment arrangements		38				38		38
Delivery of shares		(20)			20	–		–
Call options		4				4		4
Balance at September 30, 2019	188	67	19,315	(5,544)	(800)	13,226	483	13,709
Balance at January 1, 2020	188	73	19,640	(5,590)	(785)	13,526	454	13,980
Adoption of accounting standard update			(82)			(82)	(9)	(91)
Comprehensive income:								
Net income			5,225			5,225	36	5,261
Foreign currency translation adjustments, net of tax of \$4				600		600	22	622
Effect of change in fair value of available-for-sale securities, net of tax of \$4				9		9		9
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$114				351		351		351
Change in derivatives qualifying as cash flow hedges, net of tax of \$(2)				1		1		1
Total comprehensive income						6,186	58	6,244
Changes in noncontrolling interests		(16)				(16)	19	3
Changes in noncontrolling interests in connection with divestments						–	(138)	(138)
Dividends to noncontrolling shareholders						–	(98)	(98)
Dividends paid to shareholders			(1,758)			(1,758)		(1,758)
Share-based payment arrangements		40				40		40
Purchase of treasury stock					(1,533)	(1,533)		(1,533)
Delivery of shares		(17)			400	383		383
Call options		(1)				(1)		(1)
Balance at September 30, 2020	188	79	23,025	(4,629)	(1,919)	16,744	286	17,030

Due to rounding, numbers presented may not add to the totals provided.

See Notes to the Consolidated Financial Information

Notes to the Consolidated Financial Information (unaudited)

Note 1

The Company and basis of presentation

ABB Ltd and its subsidiaries (collectively, the Company) together form a leading global technology company, connecting software to its electrification, robotics, automation and motion portfolio to drive performance to new levels.

The Company's Consolidated Financial Information is prepared in accordance with United States of America generally accepted accounting principles (U.S. GAAP) for interim financial reporting. As such, the Consolidated Financial Information does not include all the information and notes required under U.S. GAAP for annual consolidated financial statements. Therefore, such financial information should be read in conjunction with the audited consolidated financial statements in the Company's Annual Report for the year ended December 31, 2019.

The preparation of financial information in conformity with U.S. GAAP requires management to make assumptions and estimates that directly affect the amounts reported in the Consolidated Financial Information. These accounting assumptions and estimates include:

- growth rates, discount rates and other assumptions used to determine impairment of long-lived assets and in testing goodwill for impairment,
- estimates to determine valuation allowances for deferred tax assets and amounts recorded for uncertain tax positions,
- assumptions used in determining inventory obsolescence and net realizable value,
- estimates and judgements used to measure credit losses,
- estimates and assumptions used in determining the initial fair value of retained noncontrolling interest and certain obligations in connection with divestments,
- estimates and assumptions used in determining the fair values of assets and liabilities assumed in business combinations,
- assumptions used in the determination of corporate costs directly attributable to discontinued operations,
- estimates of loss contingencies associated with litigation or threatened litigation and other claims and inquiries, environmental damages, product warranties, self-insurance reserves, regulatory and other proceedings,
- estimates used to record expected costs for employee severance in connection with restructuring programs,
- assumptions used in the calculation of pension and postretirement benefits and the fair value of pension plan assets, and
- assumptions and projections, principally related to future material, labor and project related overhead costs, used in determining the percentage of completion on projects, as well as the amount of variable consideration the Company expects to be entitled to.

The actual results and outcomes may differ from the Company's estimates and assumptions.

A portion of the Company's activities (primarily long-term construction activities) has an operating cycle that exceeds one year. For classification of current assets and liabilities related to such activities, the Company elected to use the duration of the individual contracts as its operating cycle. Accordingly, there are accounts receivable, contract assets, inventories and provisions related to these contracts which will not be realized within one year that have been classified as current.

Basis of presentation

In the opinion of management, the unaudited Consolidated Financial Information contains all necessary adjustments to present fairly the financial position, results of operations and cash flows for the reported periods. Management considers all such adjustments to be of a normal recurring nature. The Consolidated Financial Information is presented in United States dollars (\$) unless otherwise stated. Due to rounding, numbers presented in the Consolidated Financial Information may not add to the totals provided.

Certain amounts reported in the Interim Consolidated Financial Information for prior periods have been reclassified to conform to the current year's presentation. These changes primarily relate to the separate presentation of Restricted cash in the Consolidated Balance Sheets.

Note 2

Recent accounting pronouncements

Applicable for current periods

Measurement of credit losses on financial instruments

In January 2020, the Company adopted a new accounting standard update, along with additional related updates containing targeted improvements and clarifications, that replaces the previous incurred loss impairment methodology for most financial assets with a new “current expected credit loss” model. The new model requires immediate recognition of the estimated credit losses expected to occur over the remaining life of financial assets such as trade and other receivables, held-to-maturity debt securities, loans and other instruments. Measurement of expected credit losses is now based on historical experience, current conditions, and reasonable and supportable forecasts. The update also requires additional disclosures related to estimates and judgments used to measure credit losses. Credit losses relating to available-for-sale debt securities are now measured in a manner similar to the loss impairment methodology, except that the losses are recorded through an allowance for credit losses rather than as a direct write-down of the security.

The Company has adopted these updates on a modified retrospective basis and has therefore recorded a cumulative-effect adjustment of \$91 million to the opening balance of retained earnings on January 1, 2020, relating to an increase in the allowance for credit losses on financial assets carried at amortized cost.

Disclosure Framework — Changes to the disclosure requirements for fair value measurement

In January 2020, the Company adopted a new accounting standard update which modified the disclosure requirements for fair value measurements. The update eliminates the requirements to disclose the amount of and reasons for transfers between Level 1 and 2 of the fair value hierarchy, the timing of transfers between levels and the Level 3 valuation process, while expanding the Level 3 disclosures to include the range and weighted-average used to develop significant unobservable inputs and the changes in unrealized gains and losses on recurring fair value measurements. This update was applied prospectively for the changes and modifications to the Level 3 disclosures, while all other amendments were applied retrospectively. The update does not have a significant impact on the Company's consolidated financial statements.

Applicable for future periods

Simplifying the accounting for income taxes

In December 2019, an accounting standard update was issued which enhances and simplifies various aspects of the income tax accounting guidance related to intraperiod tax allocations, ownership changes in investments, and certain aspects of interim period tax accounting. This update is effective for the Company for annual and interim periods beginning January 1, 2021, with early adoption in any interim period permitted. Depending on the amendment, adoption may be applied on a retrospective, modified retrospective or prospective basis. The Company is currently evaluating the impact of this update on its consolidated financial statements.

Facilitation of the effects of reference rate reform on financial reporting

In March 2020, an accounting standard update was issued which provides temporary optional expedients and exceptions to the current guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. The update can be adopted and applied no later than December 31, 2022, with early adoption permitted. The Company is currently evaluating the impact of adopting this optional guidance on its consolidated financial statements.

Note 3

Discontinued operations

Divestment of the Power Grids business

On July 1, 2020, the Company completed the sale of 80.1 percent of its Powers Grids business to Hitachi Ltd (Hitachi). The transaction was executed through the sale of 80.1 percent of the shares of Hitachi ABB Power Grids Ltd ("Hitachi ABB PG"). Cash consideration received at the closing date was \$9,241 million net of cash disposed. Further, for accounting purposes, the 19.9 percent ownership interest retained by the Company is deemed to have been both divested and reacquired at its fair value on July 1, 2020. The Company also obtained a put option allowing the Company to require Hitachi to purchase the remaining interest for fair value, subject to a minimum floor price equivalent to a 10 percent discount compared to the price paid for the initial 80.1 percent and can be exercised commencing April 2023. The combined fair value of the retained investment and the related put option amounted to \$1,808 million, was recorded at fair value on July 1, 2020, and also was accounted for as part of the proceeds for the sale of the entire Power Grids business (see Note 4). The Company has also recorded a liability in discontinued operations for estimated payments of approximately \$210 million for various contractual items relating to the sale of the business including required future cost reimbursements and the expected finalization of the closing debt and working capital balances.

As a result of the Power Grids sale, the Company recognized a net gain of \$5,320 million, net of transaction costs, for the sale of the entire Power Grids business which is included in Income from discontinued operations, net of tax, in the nine and three months ended September 30, 2020. Included in the net gain was a cumulative translation loss relating to the Power Grids business of \$439 million which was reclassified from accumulated other comprehensive loss (see Note 16). Certain amounts included in the net gain are estimated or otherwise subject to change in value and, as a result, the Company may record additional adjustments to the gain in future periods which are not expected to have a material impact on the consolidated financial statements. In the nine and three months ended September 30, 2020, the Company has also recorded \$262 million in Income tax expense within discontinued operations in connection with the reorganization of the legal entity structure of the Power Grids business required to facilitate its sale.

Certain entities of the Power Grids business for which the legal process or other regulatory delays resulted in the Company not yet having transferred legal titles to Hitachi have been accounted for as being sold since control of the business as well as all risks and rewards of the business have been fully transferred to Hitachi ABB PG. The proceeds for these entities are included in the cash proceeds described above and certain funds have been placed in escrow and are reflected as current restricted cash of \$711 million at September 30, 2020. All entities are expected to be transferred by the first quarter of 2021.

The Company has recognized liabilities in discontinued operations in connection with the divestment for certain indemnities (see Note 9 for additional information). The Company has also recorded an initial liability of \$258 million representing the fair value of the right granted to ABB Hitachi PG for the use of the ABB brand for up to 8 years.

Upon closing of the sale, the Company entered into various transition services agreements (TSAs). Pursuant to these TSAs, the Company and Hitachi ABB PG provide to each other, on an interim, transitional basis, various services. The services provided by the Company primarily include finance, information technology, human resources and certain other administrative services. Under the current terms, the TSAs will continue for up to 3 years, and can only be extended on an exceptional basis for business-critical services for an additional period which is reasonably necessary to avoid a material adverse impact on the business. In the three months ended September 30, 2020, the Company has recognized within its continuing operations, general and administrative expenses incurred to perform the TSA, offset by \$42 million in TSA-related income for such services that is reported in Other income and expense, net.

Discontinued operations

As a result of the sale of the Power Grids business, substantially all Power Grids-related assets and liabilities have been sold. As this divestment represented a strategic shift that would have a major effect on the Company's operations and financial results, the results of operations for this business have been presented as discontinued operations and the assets and liabilities are presented as held for sale and in discontinued operations for all periods presented. Certain of the business contracts in the Power Grids business continue to be executed by subsidiaries of the Company for the benefit/risk of Hitachi ABB PG. Assets and liabilities relating to, as well as the net financial results of, these contracts will continue to be included in discontinued operations until they have been completed or otherwise transferred to Hitachi ABB PG.

Prior to the divestment, interest expense that was not directly attributable to or related to the Company's continuing business or discontinued business was allocated to discontinued operations based on the ratio of net assets to be sold less debt that was required to be paid as a result of the planned disposal transaction to the sum of total net assets of the Company plus consolidated debt. General corporate overhead was not allocated to discontinued operations.

Operating results of the discontinued operations, are summarized as follows:

(\$ in millions)	Nine months ended		Three months ended	
	Sep. 30, 2020	Sep. 30, 2019	Sep. 30, 2020	Sep. 30, 2019
Total revenues	4,008	6,513	–	2,058
Total cost of sales	(3,058)	(5,009)	–	(1,626)
Gross profit	950	1,504	–	431
Expenses	(804)	(960)	(23)	(303)
Net gain recognized on sale of the Power Grids business	5,320	–	5,320	–
Income from operations	5,466	545	5,297	128
Net interest and other finance expense	(5)	(30)	–	(1)
Non-operational pension (cost) credit	(94)	9	–	3
Income from discontinued operations before taxes	5,367	524	5,297	129
Income tax expense	(324)	(136)	(259)	(32)
Income from discontinued operations, net of tax	5,043	388	5,038	97

Of the total Income from discontinued operations before taxes in the table above, \$5,355 million and \$500 million in the nine months ended September 30, 2020 and 2019, respectively, and \$5,300 million and \$121 million in the three months ended September 30, 2020 and 2019, respectively, are attributable to the Company, while the remainder is attributable to noncontrolling interests.

Until the date of the divestment, Income from discontinued operations before taxes excluded stranded costs which were previously able to be allocated to the former Power Grids operating segment. As a result, for the nine months ended September 30, 2020 and 2019, \$40 million and \$185 million, respectively, and in the three months ended September 30, 2019, \$52 million of allocated overhead and other management costs, which were previously able to be included in the measure of segment profit for the Power Grids operating segment were reported as part of Corporate and Other. In addition, in the table above, Net interest and other finance expense in the nine months ended September 30, 2020 and 2019, included \$20 million and \$36 million, respectively, and in the three months ended September 30, 2019, included \$11 million of interest expense which was recorded on an allocated basis in accordance with the Company's accounting policy election until the divestment date. In addition, as required by U.S. GAAP, the Company did not record depreciation or amortization on the property, plant and equipment, and intangible assets reported as discontinued operations.

Included in the reported Total revenues of the Company for the nine months ended September 30, 2020 and 2019, are revenues from the Company's operating segments' sales to the Power Grids business of \$108 million and \$157 million, respectively, and for the three months ended September 30, 2019, \$47 million, which represent intercompany transactions that, prior to Power Grids being classified as a discontinued operation, were eliminated in the Company's Consolidated Financial Information (see Note 18). Subsequent to the divestment, sales to ABB Hitachi PG are reported as third-party revenues.

In addition, the Company also has retained obligations (primarily for environmental and taxes) related to other businesses disposed or otherwise exited that qualified as discontinued operations. Changes to these retained obligations are also included in Income from discontinued operations, net of tax, above.

The major components of assets and liabilities held for sale and in discontinued operations in the Company's Consolidated Balance Sheets are summarized as follows:

(\$ in millions)	Sep. 30, 2020 ⁽¹⁾	Dec. 31, 2019
Receivables, net	330	2,541
Contract assets	–	1,243
Inventories, net	4	1,667
Property, plant and equipment, net	–	1,754
Goodwill	–	1,631
Other current assets	15	1,004
Assets held for sale and in discontinued operations	349	9,840
Accounts payable, trade	226	1,722
Contract liabilities	–	1,121
Pension and other employee benefits	–	419
Other liabilities	547	1,984
Liabilities held for sale and in discontinued operations	773	5,246

(1) At September 30, 2020, the balances reported as held for sale and in discontinued operations pertain to Power Grids activities and other obligations which will remain with the Company until such time as the obligation is settled or the activities are fully wound down.

Note 4

Acquisitions, divestments and equity-accounted companies

Acquisition of noncontrolling interests

In connection with the divestment of its Power Grids business to Hitachi (see Note 3), the Company retained a 19.9 percent interest in the business, having a fair value at the transaction date of \$1,688 million. The fair value was based on a discounted cash flow model considering the expected results of the future business operations of ABB Hitachi Power Grids and using relevant market inputs including a risk-adjusted weighted-average cost of capital. The Company also obtained a right to require Hitachi to purchase this investment (see Note 3) with a floor price equivalent to a 10 percent discount compared to the price paid for the initial 80.1 percent. This option was valued at \$120 million using a standard option pricing model with inputs considering the nature of the investment and the expected period until option exercise. As this option is not separable from the investment the value has been combined with the value of the underlying investment and is accounted for together.

The Company has concluded that based on its continuing involvement with the Power Grids business, including membership in its governing board of directors, it has significant influence over Hitachi ABB Power Grids. As a result, the investment (including the value of the option) is accounted for using the equity method.

The difference between the initial carrying value of the Company's investment in Hitachi ABB PG at fair value and its proportionate share of the underlying net assets created basis differences of \$8,600 million (\$1,711 million for the Company's 19.9 percent ownership), which are allocated as follows:

(\$ in millions)	Allocated Amount	Weighted-average useful life
Inventory	168	5 months
Order backlog	723	2 years
Property, plant and equipment ⁽¹⁾	1,021	
Intangible assets ⁽²⁾	1,715	9 years
Other contractual rights	392	2 years
Other assets	43	
Deferred tax liabilities	(966)	
Goodwill	5,951	
Less: Amount attributed to noncontrolling interest	(447)	
Basis difference	8,600	

(1) Property, plant and equipment includes assets subject to amortization having an initial fair value difference of \$691 million and a weighted-average-useful-life of 14 years.

(2) Intangibles assets includes brand license agreement, technology and customer relationships.

For assets subject to depreciation or amortization, the Company amortizes these basis differences over the estimated remaining useful lives of the assets that gave rise to this difference, recording the amortization, net of related deferred tax benefit, as a reduction of income from equity accounted companies. Certain other assets are recorded as an expense as the benefits from the assets are realized. As of September 30, 2020, the Company determined that no impairment of its equity method investments existed.

At September 30, 2020, the Company had reached the end of the relevant time period for a public tender to acquire up to 25 percent of the shares of ABB Power Products and Systems India Limited (PG India) for maximum total consideration of 9.2 billion Indian rupees (\$125 million). PG India is accounted for as a majority owned subsidiary of Hitachi ABB PG. The tender process resulted in only an insignificant number of shares being tendered to the Company. At September 30, 2020, \$125 million of current restricted cash relates to an escrow deposit for the tender process and these funds will be returned to the Company during the fourth quarter of 2020.

The carrying value of the Company's investments in equity-accounted companies and respective percentage of ownership is as follows:

(\$ in millions, expect ownership share in %)	Ownership as of	Carrying value at	
	September 30, 2020	September 30, 2020	December 31, 2019
Hitachi ABB Power Grids Ltd	19.9%	1,768	–
Others		50	33
Total		1,818	33

In the nine and three months ended September 30, 2020, the Company recorded losses of \$40 million and \$44 million, respectively, in Other income (expense), net, representing the Company's share of the earnings of investees accounted for under the equity method of accounting, the components of which are as follows:

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Income (loss) from equity accounted companies, net of taxes	12	5	8	1
Basis difference amortization (net of deferred income tax benefit)	(52)	–	(52)	–
Income (loss) from equity accounted companies	(40)	5	(44)	1

Divestment of the solar inverters business

In February 2020, the Company completed the sale of its solar inverters business for no consideration. Under the agreement, which was reached in July 2019, the Company was required to transfer \$143 million of cash to the buyer on the closing date. In addition, payments totaling EUR 132 million (\$145 million) are required to be transferred to the buyer from 2020 through 2025. In the nine months and three months ended September 30, 2019, the Company recorded losses of \$466 million and \$11 million, respectively, representing the excess of the carrying value, which includes a loss of \$99 million arising from the cumulative translation adjustment, over the estimated fair value of this business. During the nine months ended September 30, 2020, \$33 million was in "Other income (expense), net" for changes in fair value of this business of which \$14 million was recorded in the three months ended September 30, 2020. The loss in 2020 includes the \$99 million reclassification from other comprehensive income of the currency translation adjustment related to the business.

The fair value was based on the estimated current market values using Level 3 inputs, considering the agreed-upon sale terms with the buyer. The solar inverters business, which includes the solar inverters business acquired as part of the Power-One acquisition in 2013, was part of the Company's Electrification segment.

As this divestment does not qualify as a discontinued operation, the results of operations for this business prior to its disposal are included in the Company's continuing operations for all periods presented. The assets and liabilities of this business were shown as assets and liabilities held for sale in the Company's Consolidated Balance Sheet at December 31, 2019, and at that date, the carrying amounts of the major classes of these assets and liabilities held for sale were as follows:

(\$ in millions)	Dec. 31, 2019
Assets	
Receivables, net	70
Inventories, net	127
Property, plant and equipment, net	69
Other intangible assets, net	27
Other assets	26
Valuation allowance on assets held for sale	(319)
Current assets held for sale	-
Liabilities	
Accounts payable, trade	86
Contract liabilities	59
Provisions for warranties	108
Other liabilities	49
Fair value adjustment on disposal group	102
Current liabilities held for sale	404

Including the above loss of \$33 million, in the nine months end September 30, 2020, Income from continuing operations before taxes includes net losses of \$33 million, from the solar inverters business prior to its sale. In the nine and three months ended September 30, 2019, and including the \$466 million and \$11 million above, Income from continuing operations before taxes includes net losses of \$515 million and \$18 million, respectively, from this business.

Note 5

Cash and equivalents, marketable securities and short-term investments

Cash and equivalents, marketable securities and short-term investments consisted of the following:

September 30, 2020						
(\$ in millions)	Cost basis	Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents and restricted cash	Marketable securities and short-term investments
Changes in fair value recorded in net income						
Cash	2,810			2,810	2,810	–
Time deposits	1,758			1,758	1,528	230
Equity securities	4,552	8		4,560		4,560
	9,120	8	–	9,128	4,338	4,790
Changes in fair value recorded in other comprehensive income						
Debt securities available-for-sale:						
U.S. government obligations	272	22		294		294
European government obligations	114	1		115		115
Corporate	66	5		71		71
	452	28	–	480	–	480
Total	9,572	36	–	9,608	4,338	5,270
Of which:						
Restricted cash, current					860	
Restricted cash, non-current					300	

December 31, 2019						
(\$ in millions)	Cost basis	Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents and restricted cash	Marketable securities and short-term investments
Changes in fair value recorded in net income						
Cash	2,111			2,111	2,111	–
Time deposits	1,433			1,433	1,433	–
Equity securities	294	10		304		304
	3,838	10	–	3,848	3,544	304
Changes in fair value recorded in other comprehensive income						
Debt securities available-for-sale:						
U.S. government obligations	191	7	(1)	197	–	197
Corporate	61	4		65	–	65
	252	11	(1)	262	–	262
Total	4,090	21	(1)	4,110	3,544	566
Of which:						
Restricted cash, current					36	

Note 6

Derivative financial instruments

The Company is exposed to certain currency, commodity, interest rate and equity risks arising from its global operating, financing and investing activities. The Company uses derivative instruments to reduce and manage the economic impact of these exposures.

Currency risk

Due to the global nature of the Company's operations, many of its subsidiaries are exposed to currency risk in their operating activities from entering into transactions in currencies other than their functional currency. To manage such currency risks, the Company's policies require its subsidiaries to hedge their foreign currency exposures from binding sales and purchase contracts denominated in foreign currencies. For

forecasted foreign currency denominated sales of standard products and the related foreign currency denominated purchases, the Company's policy is to hedge up to a maximum of 100 percent of the forecasted foreign currency denominated exposures, depending on the length of the forecasted exposures. Forecasted exposures greater than 12 months are not hedged. Forward foreign exchange contracts are the main instrument used to protect the Company against the volatility of future cash flows (caused by changes in exchange rates) of contracted and forecasted sales and purchases denominated in foreign currencies. In addition, within its treasury operations, the Company primarily uses foreign exchange swaps and forward foreign exchange contracts to manage the currency and timing mismatches arising in its liquidity management activities.

Commodity risk

Various commodity products are used in the Company's manufacturing activities. Consequently it is exposed to volatility in future cash flows arising from changes in commodity prices. To manage the price risk of commodities, the Company's policies require that its subsidiaries hedge the commodity price risk exposures from binding contracts, as well as at least 50 percent (up to a maximum of 100 percent) of the forecasted commodity exposure over the next 12 months or longer (up to a maximum of 18 months). Primarily swap contracts are used to manage the associated price risks of commodities.

Interest rate risk

The Company has issued bonds at fixed rates. Interest rate swaps are used to manage the interest rate risk associated with certain debt and generally such swaps are designated as fair value hedges. In addition, from time to time, the Company uses instruments such as interest rate swaps, interest rate futures, bond futures or forward rate agreements to manage interest rate risk arising from the Company's balance sheet structure but does not designate such instruments as hedges.

Equity risk

The Company is exposed to fluctuations in the fair value of its warrant appreciation rights (WARs) issued under its management incentive plan. A WAR gives its holder the right to receive cash equal to the market price of an equivalent listed warrant on the date of exercise. To eliminate such risk, the Company has purchased cash-settled call options, indexed to the shares of the Company, which entitle the Company to receive amounts equivalent to its obligations under the outstanding WARs.

Volume of derivative activity

In general, while the Company's primary objective in its use of derivatives is to minimize exposures arising from its business, certain derivatives are designated and qualify for hedge accounting treatment while others either are not designated or do not qualify for hedge accounting.

Foreign exchange and interest rate derivatives

The gross notional amounts of outstanding foreign exchange and interest rate derivatives (whether designated as hedges or not) were as follows:

Type of derivative (\$ in millions)	Total notional amounts at		
	September 30, 2020	December 31, 2019	September 30, 2019
Foreign exchange contracts	14,316	15,015	11,525
Embedded foreign exchange derivatives	1,013	924	717
Interest rate contracts	4,128	5,188	4,230

Derivative commodity contracts

The Company uses derivatives to hedge its direct or indirect exposure to the movement in the prices of commodities which are primarily copper, silver and aluminum. The following table shows the notional amounts of outstanding derivatives (whether designated as hedges or not), on a net basis, to reflect the Company's requirements for these commodities:

Type of derivative	Unit	Total notional amounts at		
		September 30, 2020	December 31, 2019	September 30, 2019
Copper swaps	metric tonnes	37,245	42,494	44,195
Silver swaps	ounces	1,916,958	2,508,770	2,364,343
Aluminum swaps	metric tonnes	8,418	8,388	8,869

Equity derivatives

At September 30, 2020, December 31, 2019, and September 30, 2019, the Company held 27 million, 40 million and 46 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$22 million, \$26 million and \$11 million, respectively.

Cash flow hedges

As noted above, the Company mainly uses forward foreign exchange contracts to manage the foreign exchange risk of its operations, commodity swaps to manage its commodity risks and cash-settled call options to hedge its WAR liabilities. Where such instruments are designated and qualify as cash flow hedges, the effective portion of the changes in their fair value is recorded in "Accumulated other comprehensive loss" and subsequently reclassified into earnings in the same line item and in the same period as the underlying hedged transaction affects earnings.

At September 30, 2020, and December 31, 2019, "Accumulated other comprehensive loss" included net unrealized losses of \$4 million and \$5 million, respectively, net of tax, on derivatives designated as cash flow hedges. Of the amount at September 30, 2020, net losses of \$2 million are expected to be reclassified to earnings in the following 12 months. At September 30, 2020, the longest maturity of a derivative classified as a cash flow hedge was 52 months.

The amount of gains or losses, net of tax, reclassified into earnings due to the discontinuance of cash flow hedge accounting and the amount of ineffectiveness in cash flow hedge relationships directly recognized in earnings were not significant in the nine and three months ended September 30, 2020 and 2019.

The pre-tax effects of derivative instruments, designated and qualifying as cash flow hedges, on "Accumulated other comprehensive loss" (OCI) and the Consolidated Income Statements were not significant.

Fair value hedges

To reduce its interest rate exposure arising primarily from its debt issuance activities, the Company uses interest rate swaps. Where such instruments are designated as fair value hedges, the changes in the fair value of these instruments, as well as the changes in the fair value of the risk component of the underlying debt being hedged, are recorded as offsetting gains and losses in "Interest and other finance expense". Hedge ineffectiveness of instruments designated as fair value hedges for the nine and three months ended September 30, 2020 and 2019, was not significant.

The effect of interest rate contracts, designated and qualifying as fair value hedges, on the Consolidated Income Statements was as follows:

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Gains (losses) recognized in Interest and other finance expense:				
- on derivatives designated as fair value hedges	21	58	(5)	1
- on hedged item	(20)	(58)	7	(1)

Derivatives not designated in hedge relationships

Derivative instruments that are not designated as hedges or do not qualify as either cash flow or fair value hedges are economic hedges used for risk management purposes. Gains and losses from changes in the fair values of such derivatives are recognized in the same line in the income statement as the economically hedged transaction.

Furthermore, under certain circumstances, the Company is required to split and account separately for foreign currency derivatives that are embedded within certain binding sales or purchase contracts denominated in a currency other than the functional currency of the subsidiary and the counterparty.

The gains (losses) recognized in the Consolidated Income Statements on derivatives not designated in hedging relationships were as follows:

Type of derivative not designated as a hedge (\$ in millions)	Location	Gains (losses) recognized in income			
		Nine months ended September 30,		Three months ended September 30,	
		2020	2019	2020	2019
Foreign exchange contracts	Total revenues	(37)	(60)	30	(61)
	Total cost of sales	53	(42)	10	(4)
	SG&A expenses ⁽¹⁾	(2)	6	(6)	7
	Non-order related research and development	(1)	1	–	–
	Interest and other finance expense	107	(60)	139	19
Embedded foreign exchange contracts	Total revenues	(4)	13	(10)	16
	Total cost of sales	(2)	(7)	–	(7)
	SG&A expenses ⁽¹⁾	–	–	–	–
Commodity contracts	Total cost of sales	12	(4)	24	(2)
Other	Interest and other finance expense	1	(1)	–	(1)
Total		127	(154)	187	(33)

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

The fair values of derivatives included in the Consolidated Balance Sheets were as follows:

(\$ in millions)	September 30, 2020			
	Derivative assets		Derivative liabilities	
	Current in	Non-current in	Current in	Non-current in
	"Other current assets"	"Other non-current assets"	"Other current liabilities"	"Other non-current liabilities"
Derivatives designated as hedging instruments:				
Foreign exchange contracts	5	1	3	4
Interest rate contracts	–	93	–	–
Cash-settled call options	12	10	–	–
Total	17	104	3	4
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	138	10	116	13
Commodity contracts	36	–	7	–
Interest rate contracts	1	–	1	–
Embedded foreign exchange derivatives	10	4	17	6
Total	185	14	141	19
Total fair value	202	118	144	23

(\$ in millions)	December 31, 2019			
	Derivative assets		Derivative liabilities	
	Current in “Other current assets”	Non-current in “Other non-current assets”	Current in “Other current liabilities”	Non-current in “Other non-current liabilities”
Derivatives designated as hedging instruments:				
Foreign exchange contracts	–	–	2	6
Interest rate contracts	–	72	–	–
Cash-settled call options	11	14	–	–
Total	11	86	2	6
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	85	14	127	14
Commodity contracts	17	–	2	–
Cash-settled call options	–	1	–	–
Embedded foreign exchange derivatives	7	3	12	3
Total	109	18	141	17
Total fair value	120	104	143	23

Close-out netting agreements provide for the termination, valuation and net settlement of some or all outstanding transactions between two counterparties on the occurrence of one or more pre-defined trigger events.

Although the Company is party to close-out netting agreements with most derivative counterparties, the fair values in the tables above and in the Consolidated Balance Sheets at September 30, 2020, and December 31, 2019, have been presented on a gross basis.

The Company's netting agreements and other similar arrangements allow net settlements under certain conditions. At September 30, 2020, and December 31, 2019, information related to these offsetting arrangements was as follows:

September 30, 2020					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	306	(113)	–	–	193
Total	306	(113)	–	–	193

September 30, 2020					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	144	(113)	–	–	31
Total	144	(113)	–	–	31

December 31, 2019					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	214	(102)	–	–	112
Total	214	(102)	–	–	112

December 31, 2019					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	151	(102)	–	–	49
Total	151	(102)	–	–	49

Note 7

Fair values

The Company uses fair value measurement principles to record certain financial assets and liabilities on a recurring basis and, when necessary, to record certain non-financial assets at fair value on a non-recurring basis, as well as to determine fair value disclosures for certain financial instruments carried at amortized cost in the financial statements. Financial assets and liabilities recorded at fair value on a recurring basis include foreign currency, commodity and interest rate derivatives, as well as cash-settled call options and available-for-sale securities. Non-financial assets recorded at fair value on a non-recurring basis include long-lived assets that are reduced to their estimated fair value due to impairments.

Fair value is the price that would be received when selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Company uses various valuation techniques including the market approach (using observable market data for identical or similar assets and liabilities), the income approach (discounted cash flow models) and the cost approach (using costs a market participant would incur to develop a comparable asset). Inputs used to determine the fair value of assets and liabilities are defined by a three-level hierarchy, depending on the nature of those inputs. The Company has categorized its financial assets and liabilities and non-financial assets measured at fair value within this hierarchy based on whether the inputs to the valuation technique are observable or unobservable. An observable input is based on market data obtained from independent sources, while an unobservable input reflects the Company's assumptions about market data.

The levels of the fair value hierarchy are as follows:

- Level 1:** Valuation inputs consist of quoted prices in an active market for identical assets or liabilities (observable quoted prices). Assets and liabilities valued using Level 1 inputs include certain actively traded debt securities.
- Level 2:** Valuation inputs consist of observable inputs (other than Level 1 inputs) such as actively quoted prices for similar assets, quoted prices in inactive markets and inputs other than quoted prices such as interest rate yield curves, credit spreads, or inputs derived from other observable data by interpolation, correlation, regression or other means. The adjustments applied to quoted prices or the inputs used in valuation models may be both observable and unobservable. In these cases, the fair value measurement is classified as Level 2 unless the unobservable portion of the adjustment or the unobservable input to the valuation model is significant, in which case the fair value measurement would be classified as Level 3. Assets and liabilities valued or disclosed using Level 2 inputs include investments in certain funds, certain debt securities that are not actively traded, interest rate swaps, commodity swaps, cash-settled call options, forward foreign exchange contracts, foreign exchange swaps and forward rate agreements, time deposits, as well as financing receivables and debt.
- Level 3:** Valuation inputs are based on the Company's assumptions of relevant market data (unobservable input).

Whenever quoted prices involve bid-ask spreads, the Company ordinarily determines fair values based on mid-market quotes. However, for the purpose of determining the fair value of cash-settled call options serving as hedges of the Company's management incentive plan, bid prices are used.

When determining fair values based on quoted prices in an active market, the Company considers if the level of transaction activity for the financial instrument has significantly decreased or would not be considered orderly. In such cases, the resulting changes in valuation techniques would be disclosed. If the market is considered disorderly or if quoted prices are not available, the Company is required to use another valuation technique, such as an income approach.

Recurring fair value measures

The fair values of financial assets and liabilities measured at fair value on a recurring basis were as follows:

(\$ in millions)	September 30, 2020			
	Level 1	Level 2	Level 3	Total fair value
Assets				
Equity securities	–	4,560	–	4,560
Debt securities—U.S. government obligations	294	–	–	294
Debt securities—European government obligations	115	–	–	115
Debt securities—Corporate	–	71	–	71
Derivative assets—current in “Other current assets”	–	202	–	202
Derivative assets—non-current in “Other non-current assets”	–	118	–	118
Total	409	4,951	–	5,360
Liabilities				
Derivative liabilities—current in “Other current liabilities”	–	144	–	144
Derivative liabilities—non-current in “Other non-current liabilities”	–	23	–	23
Total	–	167	–	167

(\$ in millions)	December 31, 2019			
	Level 1	Level 2	Level 3	Total fair value
Assets				
Securities in "Marketable securities and short-term investments":				
Equity securities	–	304	–	304
Debt securities—U.S. government obligations	197	–	–	197
Debt securities—Corporate	–	65	–	65
Derivative assets—current in "Other current assets"	–	120	–	120
Derivative assets—non-current in "Other non-current assets"	–	104	–	104
Total	197	593	–	790
Liabilities				
Derivative liabilities—current in "Other current liabilities"	–	143	–	143
Derivative liabilities—non-current in "Other non-current liabilities"	–	23	–	23
Total	–	166	–	166

The Company uses the following methods and assumptions in estimating fair values of financial assets and liabilities measured at fair value on a recurring basis:

- **Securities in "Marketable securities and short-term investments":** If quoted market prices in active markets for identical assets are available, these are considered Level 1 inputs; however, when markets are not active, these inputs are considered Level 2. If such quoted market prices are not available, fair value is determined using market prices for similar assets or present value techniques, applying an appropriate risk-free interest rate adjusted for nonperformance risk. The inputs used in present value techniques are observable and fall into the Level 2 category.
- **Derivatives:** The fair values of derivative instruments are determined using quoted prices of identical instruments from an active market, if available (Level 1 inputs). If quoted prices are not available, price quotes for similar instruments, appropriately adjusted, or present value techniques, based on available market data, or option pricing models are used. Cash-settled call options hedging the Company's WAR liability are valued based on bid prices of the equivalent listed warrant. The fair values obtained using price quotes for similar instruments or valuation techniques represent a Level 2 input unless significant unobservable inputs are used.

Non-recurring fair value measures

The Company elects to record private equity investments without readily determinable fair values at cost, less impairment, adjusted by observable price changes. The Company reassesses at each reporting period whether these investments continue to qualify for this treatment. In the nine months ended September 30, 2020, the Company recognized net increases in fair value of \$72 million related to certain of its private equity investments based on observable market price changes for an identical or similar investment of the same issuer. At September 30, 2020, the fair values of these investments totaled \$97 million and were determined using level 2 inputs.

In the three months ended September 30, 2020, the Company recorded goodwill impairment charges of \$311 million. The fair value measurements used in the analyses were calculated using the income approach (discounted cash flow method). The discounted cash flow models were calculated using unobservable inputs, which classified the fair value measurement as Level 3 (see Note 8 for additional information including further detailed information related to these charges and significant unobservable inputs).

In June 2019, upon meeting the criteria as held for sale, the Company adjusted the carrying value of the solar inverters business which was sold in February 2020 (see Note 4 for details). Apart from the transactions above, there were no additional significant non-recurring fair value measurements during the nine and three months ended September 30, 2020 and 2019.

Disclosure about financial instruments carried on a cost basis

The fair values of financial instruments carried on a cost basis were as follows:

	September 30, 2020				
(\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding securities with original maturities up to 3 months):					
Cash	1,650	1,650			1,650
Time deposits	1,528		1,528		1,528
Restricted cash	860	860			860
Marketable securities and short-term investments (excluding securities):					
Time deposits	230		230		230
Restricted cash non-current	300	300			300
Other non-current assets:					
Loans granted	23		25		25
Liabilities					
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)					
	2,313	1,286	1,028		2,314
Long-term debt (excluding finance lease obligations)	6,177	6,519	101		6,620

(\$ in millions)	December 31, 2019				
	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding securities with original maturities up to 3 months):					
Cash	2,075	2,075	–	–	2,075
Time deposits	1,433	–	1,433	–	1,433
Restricted cash	36	36			36
Other non-current assets:					
Loans granted	30	–	31	–	31
Liabilities					
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)	2,270	1,534	736	–	2,270
Long-term debt (excluding finance lease obligations)	6,618	6,267	692	–	6,959

The Company uses the following methods and assumptions in estimating fair values of financial instruments carried on a cost basis:

- Cash and equivalents (excluding securities with original maturities up to 3 months), Restricted cash, and Marketable securities and short-term investments (excluding securities): The carrying amounts approximate the fair values as the items are short-term in nature or, for cash held in banks, are equal to the deposit amount.
- Other non-current assets: Includes (i) loans granted whose fair values are based on the carrying amount adjusted using a present value technique to reflect a premium or discount based on current market interest rates (Level 2 inputs), and (ii) restricted time deposits whose fair values approximate the carrying amounts (Level 1 inputs).
- Short-term debt and current maturities of long-term debt (excluding finance lease obligations): Short-term debt includes commercial paper, bank borrowings and overdrafts. The carrying amounts of short-term debt and current maturities of long-term debt, excluding finance lease obligations, approximate their fair values.
- Long-term debt (excluding finance lease obligations): Fair values of bonds are determined using quoted market prices (Level 1 inputs), if available. For bonds without available quoted market prices and other long-term debt, the fair values are determined using a discounted cash flow methodology based upon borrowing rates of similar debt instruments and reflecting appropriate adjustments for non-performance risk (Level 2 inputs).

Note 8

Goodwill

Goodwill is reviewed for impairment annually as of October 1, or more frequently if events or circumstances indicate that the carrying value may not be recoverable.

Goodwill is evaluated for impairment at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment. The adoption of the Company's new operating model on July 1, 2020, the ABB Way, resulted in a change to the composition of reporting units. Previously, the reporting units were the same as the operating segments for Electrification, Motion and Robotics & Discrete Automation, while for the Industrial Automation operating segment the reporting units were determined to be at the Division level, which is one level below the operating segment. The ABB Way provides the Divisions full ownership and accountability for their respective strategies, performance and resources and as a result the Company concluded that its reporting units would then be the 18 Divisions. This change did not have an impact on the Company's operating segments and as a result, no goodwill was transferred between operating segments but was only allocated within the operating segments to the Divisions.

When evaluating goodwill for impairment, the Company uses either a qualitative or quantitative assessment method for each reporting unit. The qualitative assessment involves determining, based on an evaluation of qualitative factors, if it is more likely than not that the fair value of a reporting unit is less than its carrying value. If, based on this qualitative assessment, it is determined to be more likely than not that the reporting unit's fair value is less than its carrying value, a quantitative impairment test (described below) is performed, otherwise no further analysis is required. If the Company elects not to perform the qualitative assessment for a reporting unit, then a quantitative impairment test is performed.

The quantitative impairment test calculates the fair value of a reporting unit using an income approach based on the present value of future cash flows, applying a discount rate that represents the reporting unit's weighted-average cost of capital, and compares it to the reporting unit's carrying value. If the carrying value of the net assets of a reporting unit exceeds the fair value of the reporting unit then the Company records an impairment charge equal to the difference, provided that the loss recognized does not exceed the total amount of goodwill allocated to that reporting unit.

The changes in “Goodwill” were as follows:

(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
Cost at January 1, 2019	4,276	1,616	2,441	2,410	39	10,782
Accumulated impairment charges	–	–	–	–	(18)	(18)
Balance at January 1, 2019	4,276	1,616	2,441	2,410	21	10,764
Goodwill acquired during the year	92	–	–	–	–	92
Goodwill allocated to disposals	(18)	–	–	–	–	(18)
Exchange rate differences and other	22	(1)	(5)	(29)	–	(13)
Balance at December 31, 2019	4,372	1,615	2,436	2,381	21	10,825
Goodwill acquired during the period	69	–	–	–	–	69
Impairment of Goodwill	–	–	–	(290)	(21)	(311)
Exchange rate differences and other	2	13	16	61	–	92
Balance at September 30, 2020	4,443	1,628	2,452	2,152	–	10,675

As a result of the new composition of the reporting units and reallocation of goodwill, an interim quantitative impairment test was conducted before and after the change as of July 1, 2020. In the “before” test, it was concluded that the fair value of the Company’s reporting units exceeded the carrying value under the historical reporting unit structure.

The Company then performed the impairment test immediately after the change in reporting units and the fair value of each was determined using a discounted cash flow fair value estimate based on objective information at the measurement date. The significant assumptions used to develop the estimates of fair value for each reporting unit included management’s best estimates of the expected future results and discount rates specific to the reporting unit. The fair value estimates were based on assumptions that the Company believed to be reasonable, but which were inherently uncertain and thus, actual results may differ from those estimates. The fair values for each of the individual reporting units and their associated goodwill are determined using Level 3 measurements.

The interim quantitative impairment test indicated that the estimated fair values for 17 of the 18 reporting units were substantially in excess of their carrying value, with the exception of the Machine Automation reporting unit within the Robotics & Discrete Automation operating segment. As a result of the reallocation of goodwill to the Division level the reporting unit was no longer able to benefit from the previously shared cash flows generated within the operating segment as a single reporting unit under the previous structure prior to July 1, 2020. In addition, the contraction of the global economy in 2020, particularly in end-customer industries related to this reporting unit and considerable uncertainty around the continued pace of macroeconomic recovery led to the carrying value of the Machine Automation reporting unit to exceed its fair value. A goodwill impairment charge of \$290 million was recorded in the three months ended September 30, 2020, to reduce the carrying value of this reporting unit to its implied fair value.

Note 9

Commitments and contingencies

Contingencies—Regulatory, Compliance and Legal

Regulatory

As a result of an internal investigation, the Company self-reported to the Securities and Exchange Commission (SEC) and the Department of Justice (DoJ) in the United States as well as to the Serious Fraud Office (SFO) in the United Kingdom concerning certain of its past dealings with Unaoil and its subsidiaries, including alleged improper payments made by these entities to third parties. In May 2020, the SFO closed its investigation, which it originally announced in February 2017, as the case did not meet the relevant test for prosecution. The Company continues to cooperate with the U.S. authorities as requested. At this time, it is not possible for the Company to make an informed judgment about the outcome of this matter.

Based on findings during an internal investigation, the Company self-reported to the SEC and the DoJ, in the United States, to the Special Investigating Unit (SIU) and the National Prosecuting Authority (NPA) in South Africa as well as to various authorities in other countries potential suspect payments and other compliance concerns in connection with some of the Company’s dealings with Eskom and related persons. Many of those parties have expressed an interest in, or commenced an investigation into, these matters and the Company is cooperating fully with them. Although the Company believes that there may be an unfavorable outcome in one or more of these compliance-related matters, at this time it is not possible for the Company to make an informed judgment about the possible financial impact.

General

The Company is aware of proceedings, or the threat of proceedings, against it and others in respect of private claims by customers and other third parties with regard to certain actual or alleged anticompetitive practices. Also, the Company is subject to other claims and legal proceedings, as well as investigations carried out by various law enforcement authorities. With respect to the above-mentioned claims, regulatory matters, and any related proceedings, the Company will bear the related costs, including costs necessary to resolve them.

Liabilities recognized

At September 30, 2020, and December 31, 2019, the Company had aggregate liabilities of \$115 million and \$157 million, respectively, included in “Other provisions” and “Other non-current liabilities”, for the above regulatory, compliance and legal contingencies, and none of the individual liabilities recognized was significant. In addition, the Company, with the oversight of the SIU, is working towards a full and final settlement with Eskom, subject to court approval. As it is not possible to make an informed judgment on, or reasonably predict, the outcome of certain matters and as it is not possible, based on information currently available to management, to estimate the maximum potential liability on other matters, there could be adverse outcomes beyond the amounts accrued.

Guarantees

General

The following table provides quantitative data regarding the Company's third-party guarantees. The maximum potential payments represent a "worst-case scenario", and do not reflect management's expected outcomes.

Maximum potential payments (\$ in millions)	September 30, 2020	December 31, 2019
Performance guarantees	7,984	1,860
Financial guarantees	652	10
Indemnification guarantees ⁽¹⁾	167	64
Total⁽²⁾	8,803	1,934

(1) Certain indemnifications provided to Hitachi in connection with the divestment of Power Grids are without limit.

(2) Maximum potential payments include amounts in both continuing and discontinued operations.

The carrying amount of liabilities recorded in the Consolidated Balance Sheets reflects the Company's best estimate of future payments, which it may incur as part of fulfilling its guarantee obligations. In respect of the above guarantees, the carrying amounts of liabilities at September 30, 2020, amounted to \$129 million, which is included in discontinued operations, while at December 31, 2019, balances were not significant.

The Company is party to various guarantees providing financial or performance assurances to certain third parties. These guarantees, which have various maturities up to 2050, mainly consist of performance guarantees whereby (i) the Company guarantees the performance of a third party's product or service according to the terms of a contract and (ii) as member of a consortium/joint-venture that includes third parties, the Company guarantees not only its own performance but also the work of third parties. Such guarantees may include guarantees that a project will be completed within a specified time. If the third party does not fulfill the obligation, the Company will compensate the guaranteed party in cash or in kind. The original maturity dates for the majority of these performance guarantees range from one to ten years.

In conjunction with the divestment of the high-voltage cable and cables accessories businesses, the Company has entered into various performance guarantees with other parties with respect to certain liabilities of the divested business. At September 30, 2020, and December 31, 2019, the maximum potential payable under these guarantees amounts to \$936 million and \$898 million, respectively, and these guarantees have various maturities ranging from one to ten years.

The Company retained obligations for financial, performance and indemnification guarantees related to the Power Grids business sold on July 1, 2020 (see Note 3 for details), certain of which have been indemnified by Hitachi. These guarantees, which have various maturities up to 2050, primarily consist of bank guarantees, standby letters of credit, business performance guarantees and other trade-related guarantees, the majority of which have original maturity dates ranging from one to ten years. The maximum amount payable under the guarantees is approximately \$7.1 billion and the carrying amounts of liabilities at September 30, 2020 amounted to \$129 million.

Commercial commitments

In addition, in the normal course of bidding for and executing certain projects, the Company has entered into standby letters of credit, bid/performance bonds and surety bonds (collectively "performance bonds") with various financial institutions. Customers can draw on such performance bonds in the event that the Company does not fulfill its contractual obligations. The Company would then have an obligation to reimburse the financial institution for amounts paid under the performance bonds. At September 30, 2020, and December 31, 2019, the total outstanding performance bonds aggregated to \$3.7 billion and \$6.8 billion, respectively, of which \$0.5 billion and \$3.7 billion, respectively, relates to discontinued operations. There have been no significant amounts reimbursed to financial institutions under these types of arrangements in the nine and three months ended September 30, 2020 and 2019.

Product and order-related contingencies

The Company calculates its provision for product warranties based on historical claims experience and specific review of certain contracts. The reconciliation of the "Provisions for warranties", including guarantees of product performance, was as follows:

(\$ in millions)	2020	2019
Balance at January 1,	816	948
Net change in warranties due to acquisitions, divestments and liabilities held for sale ⁽¹⁾	8	(87)
Claims paid in cash or in kind	(153)	(223)
Net increase in provision for changes in estimates, warranties issued and warranties expired	284	207
Exchange rate differences	11	(29)
Balance at September 30,	966	816

(1) Includes adjustments to the initial purchase price allocation recorded during the measurement period.

During 2020, the Company recorded changes in the estimated amount for a product warranty relating to a divested business. This warranty liability was increased by a total of \$143 million during the nine and three ended September 30, 2020. The corresponding increase was included in Cost of sales of products and resulted in a decrease in earnings per share (basic and diluted) of \$0.07 for both the nine and three months ended September 30, 2020. As these costs relate to a divested business, they have been excluded from the Company's primary measure of segment performance, Operational EBITA (see Note 18). The warranty liability has been recorded based on the information currently available and is subject to change in the future.

Note 10

Contract assets and liabilities

The following table provides information about Contract assets and Contract liabilities:

(\$ in millions)	September 30, 2020	December 31, 2019	September 30, 2019
Contract assets	1,100	1,025	1,088
Contract liabilities	1,828	1,719	1,616

Contract assets primarily relate to the Company's right to receive consideration for work completed but for which no invoice has been issued at the reporting date. Contract assets are transferred to receivables when rights to receive payment become unconditional.

Contract liabilities primarily relate to up-front advances received on orders from customers as well as amounts invoiced to customers in excess of revenues recognized, primarily for long-term projects. Contract liabilities are reduced as work is performed and as revenues are recognized.

The significant changes in the Contract assets and Contract liabilities balances were as follows:

(\$ in millions)	Nine months ended September 30,			
	2020		2019	
	Contract assets	Contract liabilities	Contract assets	Contract liabilities
Revenue recognized, which was included in the Contract liabilities balance at Jan 1, 2020/2019		(746)		(649)
Additions to Contract liabilities - excluding amounts recognized as revenue during the period		867		648
Receivables recognized that were included in the Contract asset balance at Jan 1, 2020/2019	(448)		(457)	

At September 30, 2020, the Company had unsatisfied performance obligations totaling \$13,878 million and, of this amount, the Company expects to fulfill approximately 35 percent of the obligations in 2020, approximately 45 percent of the obligations in 2021 and the balance thereafter.

Note 11

Debt

The Company's total debt at September 30, 2020, and December 31, 2019, amounted to \$8,673 million and \$9,059 million, respectively.

Short-term debt and current maturities of long-term debt

The Company's "Short-term debt and current maturities of long-term debt" consisted of the following:

(\$ in millions)	September 30, 2020	December 31, 2019
Short-term debt	423	838
Current maturities of long-term debt	1,931	1,449
Total	2,354	2,287

Short-term debt primarily represented issued commercial paper and short-term bank borrowings from various banks. At September 30, 2020, and December 31, 2019, \$70 million and \$706 million, respectively, was outstanding under the \$2 billion commercial paper program in the United States. No amount was outstanding under the \$2 billion Euro-commercial paper program at September 30, 2020, or December 31, 2019.

On March 25, 2020, the Company entered into a bank-funded short-term EUR 2 billion Revolving Credit Agreement (the "Agreement"). Outstanding amounts were subject to interest at the rate of EURIBOR plus a margin of 0.25 percent. The Company requested the full amount to be borrowed and the proceeds were received on March 31, 2020, amounting to \$2,183 million, net of issuance costs. The Agreement required that all outstanding amounts be repaid within 15 days after the completion of the sale of the Power Grids business and the remaining EUR 1.2 billion outstanding (equivalent to \$1,354 million on the date of payment) was repaid on July 8, 2020. The Agreement was terminated after the final repayment.

At September 30, 2020, the Company continues to have access to the full amount under its existing \$2 billion revolving credit facility.

On April 3, 2020, the Company repaid at maturity its USD 300 million 2.8% Notes.

Long-term debt

The Company's long-term debt at September 30, 2020, and December 31, 2019, amounted to \$6,319 million and \$6,772 million, respectively.

Outstanding bonds (including maturities within the next 12 months) were as follows:

	September 30, 2020				December 31, 2019			
(in millions)	Nominal outstanding		Carrying value ⁽¹⁾		Nominal outstanding		Carrying value ⁽¹⁾	
Bonds:								
2.8% USD Notes, due 2020					USD	300	\$	300
Floating EUR Notes, due 2020	EUR	1,000	\$	1,171	EUR	1,000	\$	1,122
4.0% USD Notes, due 2021	USD	650	\$	649	USD	650	\$	648
2.25% CHF Bonds, due 2021	CHF	350	\$	387	CHF	350	\$	373
5.625% USD Notes, due 2021	USD	250	\$	256	USD	250	\$	260
2.875% USD Notes, due 2022	USD	1,250	\$	1,285	USD	1,250	\$	1,267
3.375% USD Notes, due 2023	USD	450	\$	449	USD	450	\$	448
0.625% EUR Instruments, due 2023	EUR	700	\$	836	EUR	700	\$	799
0.75% EUR Instruments, due 2024	EUR	750	\$	904	EUR	750	\$	859
0.3% CHF Notes, due 2024	CHF	280	\$	303	CHF	280	\$	288
3.8% USD Notes, due 2028	USD	750	\$	747	USD	750	\$	746
1.0% CHF Notes, due 2029	CHF	170	\$	184	CHF	170	\$	175
4.375% USD Notes, due 2042	USD	750	\$	725	USD	750	\$	724
Total			\$	7,896			\$	8,009

(1) USD carrying values include unamortized debt issuance costs, bond discounts or premiums, as well as adjustments for fair value hedge accounting, where appropriate.

Subsequent events

On October 12, 2020, the Company repaid at maturity its EUR 1,000 million Floating Notes, equivalent to \$1,180 million on date of repayment.

Note 12

Income taxes

In calculating income tax expense, 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 year and each interim period thereafter.

The effective tax rate of 63.1 percent in the nine months ended September 30, 2020, was higher than the effective tax rate of 36.6 percent in the nine months ended September 30, 2019, due to significant impacts to both 2019 and 2020. In 2019, the effective rate reflects the impact of the non-tax-deductible loss relating to the divestment of the solar inverters business (see Note 4). In 2020, the effective rate reflects the non-deductible goodwill impairment (see Note 8), the non-deductibility of the non-operational pension costs due to certain settlements (see Note 13) as well as the impact of no tax benefit being recorded for the charge recorded in connection with changes in estimated warranty provisions relating to a divested business (see Note 9). In addition, the rate in 2020 was also impacted by a favorable resolution of an uncertain tax position during the first quarter as well as increases to the valuation allowance in certain countries.

Note 13

Employee benefits

The Company operates defined benefit pension plans, defined contribution pension plans, and termination indemnity plans, in accordance with local regulations and practices. These plans cover a large portion of the Company's employees and provide benefits to employees in the event of death, disability, retirement, or termination of employment. Certain of these plans are multi-employer plans. The Company also operates other postretirement benefit plans including postretirement health care benefits, and other employee-related benefits for active employees including long-service award plans. The measurement date used for the Company's employee benefit plans is December 31. The funding policies of the Company's plans are consistent with the local government and tax requirements.

The following tables include amounts relating to defined benefit pension plans and other postretirement benefits for both continuing and discontinued operations.

During the nine and three months ended September 30, 2020, the Company took steps to transfer certain defined benefit pension risks in three international countries to external financial institutions and thus settle these obligations for accounting purposes. In connection with these transactions the Company made net payments of \$273 million in the three months ended September 30, 2020, and incurred non-operational pension costs of \$379 million which are included in curtailments, settlements and special termination benefits in the table below. The Company also recorded \$101 million in the nine months ended September 30, 2020, for a similar settlement of pension obligations in discontinued operations.

Net periodic benefit cost of the Company's defined benefit pension and other postretirement benefit plans consisted of the following:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2020	2019	2020	2019	2020	2019
Nine months ended September 30,						
Operational pension cost:						
Service cost	60	56	66	82	–	1
Operational pension cost	60	56	66	82	–	1
Non-operational pension cost (credit):						
Interest cost	3	11	91	130	2	3
Expected return on plan assets	(93)	(84)	(196)	(198)	–	–
Amortization of prior service cost (credit)	(10)	(11)	1	2	(2)	(4)
Amortization of net actuarial loss	6	–	79	80	(2)	(2)
Curtailments, settlements and special termination benefits	–	–	487	7	–	(10)
Non-operational pension cost (credit)	(94)	(84)	462	21	(2)	(13)
Net periodic benefit cost (credit)	(34)	(28)	528	103	(2)	(12)

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2020	2019	2020	2019	2020	2019
Three months ended September 30,						
Operational pension cost:						
Service cost	15	18	16	26	–	1
Operational pension cost	15	18	16	26	–	1
Non-operational pension cost (credit):						
Interest cost	2	3	31	42	1	1
Expected return on plan assets	(28)	(28)	(63)	(60)	–	–
Amortization of prior service cost (credit)	(3)	(4)	–	1	(1)	(2)
Amortization of net actuarial loss	1	–	24	26	–	(1)
Curtailments, settlements and special termination benefits	–	–	379	6	–	(10)
Non-operational pension cost (credit)	(28)	(29)	371	15	–	(12)
Net periodic benefit cost (credit)	(13)	(11)	387	41	–	(11)

The components of net periodic benefit cost other than the service cost component are included in the line “Non-operational pension (cost) credit” in the income statement. Net periodic benefit cost includes \$121 million and \$29 million, for the nine months ended September 30, 2020 and 2019, respectively and \$9 million for the three months ended September 30, 2019, related to discontinued operations.

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2020	2019	2020	2019	2020	2019
Nine months ended September 30,						
Total contributions to defined benefit pension and other postretirement benefit plans	216	70	478	74	9	4
Of which, discretionary contributions to defined benefit pension plans	152	2	416	–	–	–

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2020	2019	2020	2019	2020	2019
Three months ended September 30,						
Total contributions to defined benefit pension and other postretirement benefit plans	168	22	288	30	6	–
Of which, discretionary contributions to defined benefit pension plans	152	–	273	–	–	–

During the nine and three months ended September 30, 2020, total contributions included non-cash contributions of marketable debt securities having a fair value at the contribution date of \$152 million, contributed to one of the Company's pension plans in Switzerland.

The Company expects to make contributions totaling approximately \$839 million and \$9 million to its defined pension plans and other postretirement benefit plans, respectively, for the full year 2020.

Note 14

Stockholder's equity

At the Annual General Meeting of Shareholders on March 26, 2020, shareholders approved the proposal of the Board of Directors to distribute 0.80 Swiss francs per share to shareholders. The declared dividend amounted to \$1,758 million and was paid in April 2020.

In July 2020, the Company announced it initially intends to buy 10 percent of its share capital (which at the time of the announcement represented a maximum of 180 million shares, in addition to those already held in treasury) through the share buyback program that started on July 23, 2020. The share buyback program is executed on a second trading line on the SIX Swiss Exchange and is planned to run until the Company's Annual General Meeting (AGM) on March 25, 2021. At the AGM, the Company intends to request shareholder approval to cancel the shares purchased through this program. In the third quarter of 2020, under this program, the Company purchased 59 million shares for cancellation, resulting in an increase in Treasury stock of \$1,533 million.

In the nine months ended September 30, 2020, the Company delivered, out of treasury stock, 16 million shares for options exercised in connection with its Management Incentive Plan.

Note 15

Earnings per share

Basic earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the period. Diluted earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the period, assuming that all potentially dilutive securities were exercised, if dilutive. Potentially dilutive securities comprise outstanding written call options, and outstanding options and shares granted subject to certain conditions under the Company's share-based payment arrangements.

Basic earnings per share

	Nine months ended September 30,		Three months ended September 30,	
(\$ in millions, except per share data in \$)	2020	2019	2020	2019
Amounts attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	190	752	(513)	427
Income from discontinued operations, net of tax	5,035	362	5,043	88
Net income	5,225	1,114	4,530	515
Weighted-average number of shares outstanding (in millions)	2,129	2,132	2,119	2,133
Basic earnings per share attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	0.09	0.35	(0.24)	0.20
Income from discontinued operations, net of tax	2.36	0.17	2.38	0.04
Net income	2.45	0.52	2.14	0.24

Diluted earnings per share

	Nine months ended September 30,		Three months ended September 30,	
(\$ in millions, except per share data in \$)	2020	2019	2020	2019
Amounts attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	190	752	(513)	427
Income from discontinued operations, net of tax	5,035	362	5,043	88
Net income	5,225	1,114	4,530	515
Weighted-average number of shares outstanding (in millions)	2,129	2,132	2,119	2,133
Effect of dilutive securities:				
Call options and shares	6	2	–	2
Adjusted weighted-average number of shares outstanding (in millions)	2,135	2,134	2,119	2,135
Diluted earnings per share attributable to ABB shareholders:				
Income (loss) from continuing operations, net of tax	0.09	0.35	(0.24)	0.20
Income from discontinued operations, net of tax	2.36	0.17	2.38	0.04
Net income	2.45	0.52	2.14	0.24

Note 16

Reclassifications out of accumulated other comprehensive loss

The following table shows changes in "Accumulated other comprehensive loss" (OCI) attributable to ABB, by component, net of tax:

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total OCI
Balance at January 1, 2019	(3,324)	(4)	(1,967)	(16)	(5,311)
Adoption of accounting standard update ⁽¹⁾	–	–	(36)	–	(36)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	(373)	15	100	6	(252)
Amounts reclassified from OCI	–	1	45	(1)	45
Total other comprehensive (loss) income	(373)	16	145	5	(207)
Less:					
Amounts attributable to noncontrolling interests	(10)	–	–	–	(10)
Balance at September 30, 2019⁽²⁾	(3,687)	12	(1,858)	(11)	(5,544)

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total OCI
Balance at January 1, 2020	(3,450)	10	(2,145)	(5)	(5,590)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	84	21	(136)	1	(30)
Amounts reclassified from OCI	538	(12)	487	–	1,013
Total other comprehensive (loss) income	622	9	351	1	983
Less:					
Amounts attributable to noncontrolling interests	22	–	–	–	22
Balance at September 30, 2020	(2,850)	19	(1,794)	(4)	(4,629)

(1) Amount relates to the adoption of an accounting standard update in 2019 regarding the Tax Cuts and Jobs Act of 2017.

The following table reflects amounts reclassified out of OCI in respect of Foreign currency translation adjustments and Pension and other postretirement plan adjustments:

(\$ in millions)	Location of (gains) losses reclassified from OCI	Nine months ended		Three months ended	
		September 30,		September 30,	
Details about OCI components		2020	2019	2020	2019
Foreign currency translation adjustments:					
Currency translation loss:	Income from discontinued				
- Divestment of Power Grids business (see Note 3)	operations, net of tax	439	-	439	-
Currency translation loss:					
- Divestment of solar inverters business (see Note 4)	Other income (expense), net	99	-	-	-
Amounts reclassified from OCI		538	-	439	-
Pension and other postretirement plan adjustments:					
Amortization of prior service cost (credit)	Non-operational pension (cost) credit ⁽¹⁾	(7)	(13)	-	(5)
Amortization of net actuarial loss	Non-operational pension (cost) credit ⁽¹⁾	83	78	25	25
Net loss from pension settlements and curtailments	Non-operational pension (cost) credit ⁽¹⁾	487	(5)	379	(5)
Reclassification of OCI relating to pensions on divestment of the Power Grids business	Income from discontinued operations, net of tax	86	-	86	-
Total before tax		649	60	490	15
Tax	Income tax expense	(127)	(15)	(91)	(2)
Reclassification of OCI relating to tax on pensions on divestment of the Power Grids business	Income from discontinued operations, net of tax	(35)	-	(35)	-
Amounts reclassified from OCI		487	45	364	13

(1) Amounts include a total of \$94 million and \$9 million for the nine months ended September 30, 2020 and 2019, respectively, and \$3 million for the three months ended September 30, 2019, reclassified from OCI to Income from discontinued operations.

The amounts in respect of Unrealized gains (losses) on available-for-sale securities and Unrealized gains (losses) of cash flow hedge derivatives were not significant for the nine and three months ended September 30, 2020 and 2019.

Note 17

Restructuring and related expenses

OS program

In December 2018, the Company announced a two-year restructuring program with the objective of simplifying its business model and structure through the implementation of a new organizational structure driven by its businesses. The program includes the elimination of the country and regional structures within the current matrix organization, including the elimination of the three regional Executive Committee roles. The operating businesses will each be responsible for both their customer-facing activities and business support functions, while the remaining Group-level corporate activities will primarily focus on Group strategy, portfolio and performance management, capital allocation, core technologies and the ABB Ability™ platform.

During the three months ended September 30, 2020, the total expected program costs, originally estimated to be \$350 million, were reduced by \$65 million to \$285 million, mainly due to reductions in both estimated costs and number of projects planned. The OS program is expected to be substantially completed by December 31, 2020.

The following table outlines the costs incurred in the nine and three months ended September 30, 2020 and 2019, respectively, the cumulative costs incurred up to September 30, 2020, and the total amount of costs expected to be incurred under the program per operating segment:

(\$ in millions)	Cost incurred				Cumulative net cost incurred up to September 30, 2020	Total expected costs
	Nine months ended September 30, 2020	Nine months ended September 30, 2019	Three months ended September 30, 2020	Three months ended September 30, 2019		
Electrification	33	(2)	15	2	83	86
Industrial Automation	7	1	1	(1)	31	36
Motion	10	1	5	–	17	31
Robotics & Discrete Automation	9	7	2	4	17	19
Corporate and Other	27	44	6	20	92	113
Total	86	51	29	25	240	285

Of the total expected costs of \$285 million the majority is related to employee severance costs. The Company recorded the following expenses, net of changes in estimates, under this program:

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,		Cumulative costs incurred up to September 30, 2020
	2020	2019	2020	2019	
Employee severance costs	54	45	18	19	200
Estimated contract settlement, loss order and other costs	13	–	9	–	14
Inventory and long-lived asset impairments	19	6	2	6	26
Total	86	51	29	25	240

Expenses, net of changes in estimates, associated with this program are recorded in the following line items in the Consolidated Income Statements:

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Total cost of sales	23	7	12	7
Selling, general and administrative expenses	10	24	3	5
Non-order related research and development expenses	–	1	–	1
Other income (expense), net	53	19	14	12
Total	86	51	29	25

Liabilities associated with the OS program are primarily included in “Other provisions”. The following table shows the activity from the beginning of the program to September 30, 2020, by expense type:

(\$ in millions)	Employee severance costs	Contract settlement, loss order and other costs	Total
Liability at January 1, 2018	–	–	–
Expenses	65	–	65
Liability at December 31, 2018	65	–	65
Expenses	111	1	112
Cash payments	(44)	(1)	(45)
Change in estimates	(30)	–	(30)
Exchange rate differences	(3)	–	(3)
Liability at December 31, 2019	99	–	99
Expenses	59	13	72
Cash payments	(63)	(11)	(74)
Change in estimates	(5)	–	(5)
Exchange rate differences	2	1	3
Liability at September 30, 2020	92	3	95

Other restructuring-related activities

In the nine months ended September 30, 2020 and 2019, the Company executed various other restructuring-related activities and incurred expenses. These expenses, which in the nine months ended September 30, 2019, mainly relate to employee severance costs, are recorded in:

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Total cost of sales	13	44	11	12
Selling, general and administrative expenses	16	(1)	8	(17)
Non-order related research and development expenses	1	(1)	1	–
Other income (expenses), net	27	37	17	11
Total	57	79	37	6

At September 30, 2020, and December 31, 2019, \$142 million and \$189 million, respectively, was recorded for other restructuring-related liabilities and is primarily included in “Other provisions”.

Note 18

Operating segment data

The Chief Operating Decision Maker (CODM) is the Chief Executive Officer. The CODM allocates resources to and assesses the performance of each operating segment using the information outlined below. The Company is organized into operating segments based on products and services and these operating segments consist of Electrification, Industrial Automation, Motion, and Robotics & Discrete Automation. The remaining operations of the Company are included in Corporate and Other.

A description of the types of products and services provided by each reportable segment is as follows:

- **Electrification:** manufactures and sells electrical products and solutions which are designed to provide safe, smart and sustainable electrical flow from the substation to the socket. The portfolio of increasingly digital and connected solutions includes electric vehicle charging infrastructure, renewable power solutions, modular substation packages, distribution automation products, switchboard and panelboards, switchgear, UPS solutions, circuit breakers, measuring and sensing devices, control products, wiring accessories, enclosures and cabling systems and intelligent home and building solutions, designed to integrate and automate lighting, heating, ventilation, security and data communication networks. The products and services are delivered through five operating Divisions: Distribution Solutions, Smart Power, Smart Buildings, Installation Products and Power Conversion.
- **Industrial Automation:** develops and sells a broad range of industry-specific, integrated automation and electrification systems and solutions, as well as digital solutions, lifecycle services and artificial intelligence applications for the process and hybrid industries. Products and solutions include process and discrete control technologies, advanced process control software and manufacturing execution systems, sensing, measurement and analytical instrumentation, electric ship propulsion systems and large turbochargers. In addition, the business offers a comprehensive range of services ranging from repair to advanced services such as remote monitoring, preventive maintenance, asset performance management and cybersecurity services. The products and services are delivered through five operating Divisions: Energy Industries, Process Industries, Marine & Ports, Turbocharging, and Measurement & Analytics.
- **Motion:** manufactures and sells motors, generators, drives, wind converters, mechanical power transmissions, complete electrical powertrain systems and related services and digital solutions for a wide range of applications in industry, transportation, infrastructure, and utilities. These products and services are delivered through six operating Divisions: Motors and Generators, Drive Products, System Drives, Service, Traction and Mechanical Power Transmission.
- **Robotics & Discrete Automation:** The products, solutions and services of Robotics & Discrete Automation are delivered through two divisions: Robotics and Machine Automation. Robotics includes: industrial robots, software, robotic solutions and systems, field services, spare parts, and digital services. Machine Automation specializes in solutions based on its programmable logic controllers (PLC), industrial PCs (IPC), servo motion, transport systems and machine vision. Both Divisions offer engineering and simulation software as well as a comprehensive range of digital solutions.
- **Corporate and Other:** includes headquarters, central research and development, the Company's real estate activities, Corporate Treasury Operations and other non-core operating activities.

The primary measure of profitability on which the operating segments are evaluated is Operational EBITA, which represents income from operations excluding:

- acquisition-related amortization,
- restructuring, related and implementation costs,
- changes in the amount recorded for obligations related to divested businesses occurring after the divestment date (changes in obligations related to divested businesses),
- changes in estimates relating to opening balance sheets of acquired businesses (changes in pre-acquisition estimates),
- gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale),
- acquisition- and divestment-related expenses and integration costs,
- other income/expense relating to the Power Grids joint venture,
- certain other non-operational items, as well as
- foreign exchange/commodity timing differences in income from operations consisting of: (a) unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives), (b) realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized, and (c) unrealized foreign exchange movements on receivables/payables (and related assets/liabilities).

Certain other non-operational items generally includes certain regulatory, compliance and legal costs, certain asset write downs/impairments (including impairment of goodwill) and other fair value changes, as well as other items which are determined by management on a case-by-case basis.

The CODM primarily reviews the results of each segment on a basis that is before the elimination of profits made on inventory sales between segments. Segment results below are presented before these eliminations, with a total deduction for intersegment profits to arrive at the Company's consolidated Operational EBITA. Intersegment sales and transfers are accounted for as if the sales and transfers were to third parties, at current market prices.

The following tables present disaggregated segment revenues from contracts with customers, Operational EBITA, and the reconciliations of consolidated Operational EBITA to Income from continuing operations before taxes for the nine and three months ended September 30, 2020 and 2019, as well as total assets at September 30, 2020, and December 31, 2019.

Nine months ended September 30, 2020						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	2,852	1,705	1,396	1,031	14	6,998
The Americas	2,966	987	1,646	289	3	5,891
of which: United States	2,296	616	1,404	203	3	4,522
Asia, Middle East and Africa	2,452	1,460	1,285	733	25	5,955
of which: China	1,270	433	658	498	1	2,860
	8,270	4,152	4,327	2,053	42	18,844
Product type						
Products	7,075	864	3,702	1,200	49	12,890
Systems	583	1,266	–	551	(7)	2,393
Services and other	612	2,022	625	302	–	3,561
	8,270	4,152	4,327	2,053	42	18,844
Third-party revenues	8,270	4,152	4,327	2,053	42	18,844
Intersegment revenues ⁽¹⁾	298	95	377	53	(715)	108
Total Revenues⁽²⁾	8,568	4,247	4,704	2,106	(673)	18,952

Nine months ended September 30, 2019						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	2,975	1,776	1,379	1,250	51	7,431
The Americas	3,482	1,160	1,770	345	2	6,759
of which: United States	2,690	700	1,508	219	1	5,118
Asia, Middle East and Africa	2,700	1,559	1,354	884	66	6,563
of which: China	1,283	446	653	646	–	3,028
	9,157	4,495	4,503	2,479	119	20,753
Product type						
Products	7,998	1,107	3,869	1,376	87	14,437
Systems	424	1,171	–	736	32	2,363
Services and other	735	2,217	634	367	–	3,953
	9,157	4,495	4,503	2,479	119	20,753
Third-party revenues	9,157	4,495	4,503	2,479	119	20,753
Intersegment revenues ⁽¹⁾	333	95	373	48	(692)	157
Total Revenues⁽²⁾	9,490	4,590	4,876	2,527	(573)	20,910

Three months ended September 30, 2020						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	1,010	579	459	379	(17)	2,410
The Americas	995	298	531	102	1	1,927
of which: United States	746	171	449	75	2	1,443
Asia, Middle East and Africa	939	501	488	305	12	2,245
of which: China	509	165	288	219	–	1,182
	2,944	1,378	1,478	786	(4)	6,582
Product type						
Products	2,439	230	1,258	446	8	4,381
Systems	294	466	–	234	(12)	982
Services and other	211	682	220	106	–	1,219
	2,944	1,378	1,478	786	(4)	6,582
Third-party revenues	2,944	1,378	1,478	786	(4)	6,582
Intersegment revenues	87	25	133	20	(265)	–
Total Revenues⁽²⁾	3,031	1,403	1,611	806	(269)	6,582

Three months ended September 30, 2019						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	980	582	450	420	17	2,449
The Americas	1,157	383	588	113	(1)	2,240
of which: United States	882	231	504	70	1	1,687
Asia, Middle East and Africa	916	490	473	281	(4)	2,156
of which: China	443	144	237	206	–	1,030
	3,053	1,455	1,511	814	12	6,845
Product type						
Products	2,698	333	1,296	439	27	4,793
Systems	116	375	–	249	(15)	725
Services and other	239	747	215	126	–	1,327
	3,053	1,455	1,511	814	12	6,845
Third-party revenues	3,053	1,455	1,511	814	12	6,845
Intersegment revenues ⁽¹⁾	108	37	119	17	(234)	47
Total Revenues⁽²⁾	3,161	1,492	1,630	831	(222)	6,892

(1) Intersegment revenues until June 30, 2020, include sales to the Power Grids business which is presented as discontinued operations and thus these sales are not eliminated from total revenues.

(2) Due to rounding, numbers presented may not add to the totals provided.

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Operational EBITA:				
Electrification	1,159	1,267	493	450
Industrial Automation	348	530	89	135
Motion	790	828	281	290
Robotics & Discrete Automation	178	307	76	107
Corporate and Other				
– Non-core and divested businesses	(107)	(66)	(88)	(23)
– Stranded corporate costs	(40)	(185)	–	(52)
– Corporate costs and Other Intersegment elimination	(254)	(284)	(64)	(101)
Total	2,074	2,397	787	806
Acquisition-related amortization	(197)	(205)	(67)	(70)
Restructuring, related and implementation costs ⁽¹⁾	(190)	(201)	(83)	(59)
Changes in obligations related to divested businesses	(204)	(32)	(203)	(25)
Changes in pre-acquisition estimates	(11)	(13)	(11)	–
Gains and losses from sale of businesses	(4)	8	1	12
Fair value adjustment on assets and liabilities held for sale	(33)	(466)	(14)	(11)
Acquisition- and divestment-related expenses and integration costs	(43)	(72)	(16)	(18)
Other income/expense relating to the Power Grids joint venture	(15)	–	(15)	–
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	22	(21)	15	(34)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	10	6	13	9
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(16)	10	(5)	12
Certain other non-operational items:				
Costs for divestment of Power Grids	(110)	(102)	(11)	(44)
Regulatory, compliance and legal costs	(6)	(9)	(6)	(1)
Business transformation costs	(19)	(13)	(7)	(7)
Executive Committee transition costs	1	(12)	(1)	2
Favorable resolution of an uncertain purchase price adjustment	8	–	–	–
Gain on sale of investments	–	15	–	–
Asset write downs/impairments and other fair value changes ⁽²⁾	(240)	–	(298)	–
Other non-operational items	(12)	–	(8)	5
Income from operations	1,015	1,290	71	577
Interest and dividend income	39	57	12	20
Interest and other finance expense	(191)	(179)	(79)	(56)
Non-operational pension (cost) credit	(272)	67	(343)	23
Income (loss) from continuing operations before taxes	591	1,235	(339)	564

(1) Amounts include implementation costs in relation to the OS program of \$47 million and \$71 million for the nine months ended September 30, 2020 and 2019, respectively, and \$17 million and \$28 million for the three months ended September 30, 2020 and 2019, respectively.

(2) Amounts include goodwill impairment charges of \$311 million for the nine and three months ended September 30, 2020.

(\$ in millions)	Total assets ^{(1), (2)}	
	September 30, 2020	December 31, 2019
Electrification	12,051	11,671
Industrial Automation	4,591	4,559
Motion	6,267	6,149
Robotics & Discrete Automation	4,496	4,661
Corporate and Other	16,862	19,068
Consolidated	44,267	46,108

(1) Total assets are after intersegment eliminations and therefore reflect third-party assets only.

(2) At September 30, 2020, and December 31, 2019, respectively, Corporate and Other includes \$349 million and \$9,840 million of assets in the Power Grids business which is reported as discontinued operations (see Note 3).

Supplemental Reconciliations and Definitions

The following reconciliations and definitions include measures which ABB uses to supplement its Consolidated Financial Information (unaudited) which is prepared in accordance with United States generally accepted accounting principles (U.S. GAAP). Certain of these financial measures are, or may be, considered non-GAAP financial measures as defined in the rules of the U.S. Securities and Exchange Commission (SEC).

While ABB's management believes that the non-GAAP financial measures herein are useful in evaluating ABB's operating results, this information should be considered as supplemental in nature and not as a substitute for the related financial information prepared in accordance with U.S. GAAP. Therefore these measures should not be viewed in isolation but considered together with the Consolidated Financial Information (unaudited) prepared in accordance with U.S. GAAP as of and for the nine and three months ended September 30, 2020.

On January 1, 2019, the Company adopted a new accounting standard for lease accounting and on January 1, 2020, the Company adopted a new accounting update for the measurement of credit losses on financial instruments (see Note 2 to the Consolidated Financial Information). Consistent with the method of adoption elected, comparable information has not been restated to reflect the adoption of this new standard and accounting update and continues to be measured and reported under the accounting standard in effect for those periods presented.

Comparable growth rates

Growth rates for certain key figures may be presented and discussed on a "comparable" basis. The comparable growth rate measures growth on a constant currency basis. Since we are a global company, the comparability of our operating results reported in U.S. dollars is affected by foreign currency exchange rate fluctuations. We calculate the impacts from foreign currency fluctuations by translating the current-year periods' reported key figures into U.S. dollar amounts using the exchange rates in effect for the comparable periods in the previous year.

Comparable growth rates are also adjusted for changes in our business portfolio. Adjustments to our business portfolio occur due to acquisitions, divestments, or by exiting specific business activities or customer markets. The adjustment for portfolio changes is calculated as follows: where the results of any business acquired or divested have not been consolidated and reported for the entire duration of both the current and comparable periods, the reported key figures of such business are adjusted to exclude the relevant key figures of any corresponding quarters which are not comparable when computing the comparable growth rate. Certain portfolio changes which do not qualify as divestments under U.S. GAAP have been treated in a similar manner to divestments. Changes in our portfolio where we have exited certain business activities or customer markets are adjusted as if the relevant business was divested in the period when the decision to cease business activities was taken. We do not adjust for portfolio changes where the relevant business has annualized revenues of less than \$50 million.

The following tables provide reconciliations of reported growth rates of certain key figures to their respective comparable growth rate.

Comparable growth rate reconciliation by business

Q3 2020 compared to Q3 2019								
Business	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	-7%	-1%	3%	-5%	-4%	-1%	3%	-2%
Industrial Automation	-19%	-1%	0%	-20%	-6%	-1%	0%	-7%
Motion	-5%	0%	0%	-5%	-1%	-1%	0%	-2%
Robotics & Discrete Automation	2%	-2%	0%	0%	-3%	-2%	0%	-5%
ABB Group	-9%	0%	1%	-8%	-4%	-1%	1%	-4%

9M 2020 compared to 9M 2019								
Business	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	-11%	1%	3%	-7%	-10%	2%	2%	-6%
Industrial Automation	-11%	2%	0%	-9%	-7%	1%	0%	-6%
Motion	-3%	2%	0%	-1%	-4%	2%	0%	-2%
Robotics & Discrete Automation	-15%	1%	0%	-14%	-17%	1%	0%	-16%
ABB Group	-10%	2%	1%	-7%	-9%	1%	1%	-7%

Regional comparable growth rate reconciliation

Region	Q3 2020 compared to Q3 2019							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	-9%	-2%	1%	-10%	-2%	-3%	2%	-3%
The Americas	-14%	1%	2%	-11%	-14%	2%	0%	-12%
Asia, Middle East and Africa	-1%	-1%	0%	-2%	4%	-1%	2%	5%
ABB Group	-9%	0%	1%	-8%	-4%	-1%	1%	-4%

Region	9M 2020 compared to 9M 2019							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	-8%	1%	1%	-6%	-6%	1%	1%	-4%
The Americas	-13%	1%	1%	-11%	-13%	2%	0%	-11%
Asia, Middle East and Africa	-9%	2%	2%	-5%	-9%	1%	3%	-5%
ABB Group	-10%	2%	1%	-7%	-9%	1%	1%	-7%

Order backlog growth rate reconciliation

Business	September 30, 2020 compared to September 30,			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	-1%	-2%	5%	2%
Industrial Automation	4%	-2%	0%	2%
Motion	14%	-4%	0%	10%
Robotics & Discrete Automation	2%	-4%	0%	-2%
ABB Group	4%	-2%	2%	4%

Other growth rate reconciliations

	Q3 2020 compared to Q3 2019				9M 2020 compared to 9M 2019			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Service orders	-15%	0%	0%	-15%	-15%	2%	0%	-13%
Service revenues	-8%	-1%	0%	-9%	-10%	2%	0%	-8%

Operational EBITA as % of operational revenues (Operational EBITA margin)

Definition

Operational EBITA margin

Operational EBITA margin is Operational EBITA as a percentage of Operational revenues.

Operational EBITA

Operational earnings before interest, taxes and acquisition-related amortization (Operational EBITA) represents Income from operations excluding:

- acquisition-related amortization (as defined below),
- restructuring, related and implementation costs,
- changes in the amount recorded for obligations related to divested businesses occurring after the divestment date (changes in obligations related to divested businesses),
- changes in estimates relating to opening balance sheets of acquired businesses (changes in pre-acquisition estimates),
- gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale),
- acquisition- and divestment-related expenses and integration costs,
- other income/expense relating to the Power Grids joint venture,
- certain other non-operational items, as well as
- foreign exchange/commodity timing differences in income from operations consisting of: (a) unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives), (b) realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized, and (c) unrealized foreign exchange movements on receivables/payables (and related assets/liabilities).

Certain other non-operational items generally includes certain regulatory, compliance and legal costs, certain asset write downs/impairments (including impairment of goodwill) and other fair value changes, as well as other items which are determined by management on a case-by-case basis.

Operational EBITA is our measure of segment profit but is also used by management to evaluate the profitability of the Company as a whole.

Acquisition-related amortization

Amortization expense on intangibles arising upon acquisitions.

Restructuring, related and implementation costs

Restructuring, related and implementation costs consists of restructuring and other related expenses, as well as internal and external costs relating to the implementation of group-wide restructuring programs.

Other income/expense relating to the Power Grids joint venture

Other income/expense relating to the Power Grids joint venture consists of amounts recorded in Income from continuing operations before taxes relating to the divested Power Grids business including the income/loss under the equity method for the investment in ABB Hitachi Power Grids Ltd. (ABB Hitachi PG), amortization of deferred brand income as well as changes in value of other obligations relating to the divestment.

Operational revenues

The Company presents Operational revenues solely for the purpose of allowing the computation of Operational EBITA margin. Operational revenues are total revenues adjusted for foreign exchange/commodity timing differences in total revenues of: (i) unrealized gains and losses on derivatives, (ii) realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized, and (iii) unrealized foreign exchange movements on receivables (and related assets). Operational revenues are not intended to be an alternative measure to Total Revenues, which represent our revenues measured in accordance with U.S. GAAP.

Reconciliation

The following tables provide reconciliations of consolidated Operational EBITA to Net Income and Operational EBITA Margin by business.

Reconciliation of consolidated Operational EBITA to Net Income

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Operational EBITA	2,074	2,397	787	806
Acquisition-related amortization	(197)	(205)	(67)	(70)
Restructuring, related and implementation costs ⁽¹⁾	(190)	(201)	(83)	(59)
Changes in obligations related to divested businesses	(204)	(32)	(203)	(25)
Changes in pre-acquisition estimates	(11)	(13)	(11)	–
Gains and losses from sale of businesses	(4)	8	1	12
Fair value adjustment on assets and liabilities held for sale	(33)	(466)	(14)	(11)
Acquisition- and divestment-related expenses and integration costs	(43)	(72)	(16)	(18)
Other income/expense relating to the Power Grids joint venture	(15)	–	(15)	–
Certain other non-operational items ⁽²⁾	(378)	(121)	(331)	(45)
Foreign exchange/commodity timing differences in income from operations	16	(5)	23	(13)
Income from operations	1,015	1,290	71	577
Interest and dividend income	39	57	12	20
Interest and other finance expense	(191)	(179)	(79)	(56)
Non-operational pension (cost) credit	(272)	67	(343)	23
Income (loss) from continuing operations before taxes	591	1,235	(339)	564
Provision for taxes	(373)	(452)	(164)	(142)
Income from continuing operations, net of tax	218	783	(503)	422
Income from discontinued operations, net of tax	5,043	388	5,038	97
Net income	5,261	1,171	4,535	519

(1) Amounts include implementation costs in relation to the OS program of \$47 million and \$71 million for the nine months ended September 30, 2020 and 2019, respectively, and \$17 million and \$28 million for the three months ended September 30, 2020 and 2019, respectively.

(2) Amounts include goodwill impairment charges of \$311 million for the nine and three months ended September 30, 2020.

Reconciliation of Operational EBITA margin by business

Three months ended September 30, 2020						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other and Intersegment	Consolidated
					elimination	
Total revenues	3,031	1,403	1,611	806	(269)	6,582
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(1)	7	6	(4)	2	10
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(1)	(12)	–	1	(4)	(16)
Unrealized foreign exchange movements on receivables (and related assets)	(6)	(1)	(2)	(2)	4	(7)
Operational revenues	3,023	1,397	1,615	801	(267)	6,569
Income (loss) from operations	387	75	256	(236)	(411)	71
Acquisition-related amortization	29	1	13	20	4	67
Restructuring, related and implementation costs	39	21	9	3	11	83
Changes in obligations related to divested businesses	15	–	–	–	188	203
Changes in pre-acquisition estimates	11	–	–	–	–	11
Gains and losses from sale of businesses	1	–	–	–	(2)	(1)
Fair value adjustment on assets and liabilities held for sale	14	–	–	–	–	14
Acquisition- and divestment-related expenses and integration costs	13	1	–	–	2	16
Other income/expense relating to the Power Grids joint venture	–	–	–	–	15	15
Certain other non-operational items	2	–	4	291	34	331
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(21)	3	(1)	(2)	6	(15)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	1	(11)	–	1	(4)	(13)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	2	(1)	–	(1)	5	5
Operational EBITA	493	89	281	76	(152)	787
Operational EBITA margin (%)	16.3%	6.4%	17.4%	9.5%	n.a.	12.0%

In the three months ended September 30, 2020, Certain other non-operational items in the table above includes the following:

Three months ended September 30, 2020						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Consolidated
Certain other non-operational items:						
Costs for planned divestment of Power Grids	–	–	–	–	11	11
Regulatory, compliance and legal costs	–	–	–	–	6	6
Asset write downs/impairments and other fair value changes	–	–	–	290	8	298
Business transformation costs	2	–	3	1	1	7
Executive Committee transition costs	–	–	–	–	1	1
Other non-operational items	–	–	1	–	7	8
Total	2	–	4	291	34	331

Three months ended September 30, 2019						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete	Corporate and Other and	Consolidated
				Automation	Intersegment elimination	
Total revenues	3,161	1,492	1,630	831	(222)	6,892
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	17	16	5	–	2	40
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(1)	–	1	(9)	(9)
Unrealized foreign exchange movements on receivables (and related assets)	(7)	(2)	(2)	(2)	2	(11)
Operational revenues	3,171	1,505	1,633	830	(227)	6,912
Income (loss) from operations	378	124	264	83	(272)	577
Acquisition-related amortization	28	1	13	19	9	70
Restructuring, related and implementation costs	8	2	5	5	39	59
Changes in obligations related to divested businesses	1	–	–	–	24	25
Gains and losses from sale of businesses	2	–	–	–	(14)	(12)
Fair value adjustment on assets and liabilities held for sale	11	–	–	–	–	11
Acquisition- and divestment-related expenses and integration costs	18	–	–	–	–	18
Other income/expense relating to the Power Grids joint venture	–	–	–	–	–	–
Certain other non-operational items	(1)	–	3	1	42	45
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	9	15	8	(1)	3	34
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	2	(2)	–	1	(10)	(9)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(6)	(5)	(3)	(1)	3	(12)
Operational EBITA	450	135	290	107	(176)	806
Operational EBITA margin (%)	14.2%	9.0%	17.8%	12.9%	n.a.	11.7%

In the three months ended September 30, 2019, Certain other non-operational items in the table above includes the following:

Three months ended September 30, 2019						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete	Corporate and and Other	Consolidated
				Automation		
Certain other non-operational items:						
Costs for planned divestment of Power Grids	–	–	–	–	44	44
Regulatory, compliance and legal costs	–	–	–	–	1	1
Business transformation costs	3	–	3	1	–	7
Executive Committee transition costs	–	–	–	–	(2)	(2)
Other non-operational items	(4)	–	–	–	(1)	(5)
Total	(1)	–	3	1	42	45

Nine months ended September 30, 2020						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other and Intersegment	Consolidated
					elimination	
Total revenues	8,568	4,247	4,704	2,106	(673)	18,952
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	14	6	3	(1)	4	26
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(5)	–	2	(6)	(9)
Unrealized foreign exchange movements on receivables (and related assets)	(12)	(8)	(6)	(4)	9	(21)
Operational revenues	8,570	4,240	4,701	2,103	(666)	18,948
Income (loss) from operations	891	316	731	(186)	(737)	1,015
Acquisition-related amortization	86	3	39	58	11	197
Restructuring, related and implementation costs	83	37	20	14	36	190
Changes in obligations related to divested businesses	15	–	–	–	189	204
Changes in pre-acquisition estimates	11	–	–	–	–	11
Gains and losses from sale of businesses	6	–	–	–	(2)	4
Fair value adjustment on assets and liabilities held for sale	33	–	–	–	–	33
Acquisition- and divestment-related expenses and integration costs	40	1	–	–	2	43
Other income/expense relating to the Power Grids joint venture	–	–	–	–	15	15
Certain other non-operational items	(5)	1	13	293	76	378
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(9)	(2)	(12)	(2)	3	(22)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(5)	–	2	(7)	(10)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	8	(3)	(1)	(1)	13	16
Operational EBITA	1,159	348	790	178	(401)	2,074
Operational EBITA margin (%)	13.5%	8.2%	16.8%	8.5%	n.a.	10.9%

In the nine months ended September 30, 2020, Certain other non-operational items in the table above includes the following:

Nine months ended September 30, 2020						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Consolidated
Certain other non-operational items:						
Costs for planned divestment of Power Grids	–	–	–	–	110	110
Regulatory, compliance and legal costs	–	–	–	–	6	6
Asset write downs/impairments and other fair value changes	–	–	–	290	(50)	240
Business transformation costs	3	–	12	3	1	19
Executive Committee transition costs	–	–	–	–	(1)	(1)
Favorable resolution of an uncertain purchase price adjustment	(8)	–	–	–	–	(8)
Other non-operational items	–	1	1	–	10	12
Total	(5)	1	13	293	76	378

Nine months ended September 30, 2019						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other and Intersegment	Consolidated
					elimination	
Total revenues	9,490	4,590	4,876	2,527	(573)	20,910
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	7	7	5	4	–	23
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	–	–	–	(8)	(8)
Unrealized foreign exchange movements on receivables (and related assets)	(6)	1	(1)	(2)	5	(3)
Operational revenues	9,491	4,598	4,880	2,529	(576)	20,922
Income (loss) from operations	571	506	764	236	(787)	1,290
Acquisition-related amortization	87	3	40	58	17	205
Restructuring, related and implementation costs	61	14	10	8	108	201
Changes in obligations related to divested businesses	1	–	–	–	31	32
Changes in pre-acquisition estimates	13	–	–	–	–	13
Gains and losses from sale of businesses	(1)	–	–	–	(7)	(8)
Fair value adjustment on assets and liabilities held for sale	466	–	–	–	–	466
Acquisition- and divestment-related expenses and integration costs	69	–	–	1	2	72
Other income/expense relating to the Power Grids joint venture	–	–	–	–	–	–
Certain other non-operational items	1	2	8	2	108	121
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	4	9	8	2	(2)	21
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	–	–	–	(9)	(6)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(8)	(4)	(2)	–	4	(10)
Operational EBITA	1,267	530	828	307	(535)	2,397
Operational EBITA margin (%)	13.3%	11.5%	17.0%	12.1%	n.a.	11.5%

In the nine months ended September 30, 2019, Certain other non-operational items in the table above includes the following:

Nine months ended September 30, 2019						
(\$ in millions, unless otherwise indicated)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Consolidated
					and Other	
Certain other non-operational items:						
Costs for planned divestment of Power Grids	–	–	–	–	102	102
Regulatory, compliance and legal costs	–	–	–	–	9	9
Business transformation costs	3	–	8	2	–	13
Executive Committee transition costs	–	–	–	–	12	12
Gain on sale of investments	–	–	–	–	(15)	(15)
Other non-operational items	(2)	2	–	–	–	–
Total	1	2	8	2	108	121

Operational EPS

Definition

Operational EPS

Operational EPS is calculated as Operational net income divided by the weighted-average number of shares outstanding used in determining basic earnings per share.

Operational net income

Operational net income is calculated as Net income attributable to ABB adjusted for the following:

- (i) acquisition-related amortization,
- (ii) restructuring, related and implementation costs
- (iii) non-operational pension cost (credit),
- (iv) changes in obligations related to divested businesses,
- (v) changes in pre-acquisition estimates,
- (vi) gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale),
- (vii) acquisition- and divestment-related expenses and integration costs,
- (viii) other income/expense relating to the Power Grids joint venture
- (ix) certain other non-operational items,
- (x) foreign exchange/commodity timing differences in income from operations consisting of: (a) unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives), (b) realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized, and (c) unrealized foreign exchange movements on receivables/payables (and related assets/liabilities),
- (xi) The amount of income tax on operational adjustments either estimated using the Adjusted Group effective tax rate or in certain specific cases, computed using the actual income tax effects of the relevant item in (i) to (ix) above, and
- (xii) Certain other non-operational amounts recorded within Income tax expense.

Adjustment for certain non-operational amounts recorded within Income tax expense

Adjustments are made for certain amounts recorded within Income tax expense for taxes primarily when the amount recorded has no corresponding underlying transaction recorded within income from continuing or discontinued operations before taxes. This would include the amounts recorded in connection with internal reorganizations of the corporate structure of the Company.

Adjusted Group effective tax rate

The Adjusted Group effective tax rate is computed by dividing a combined adjusted income tax expense (for both continuing and discontinued operations) by a combined adjusted pre-tax income (from both continuing and discontinued operations). Certain amounts recorded in income before taxes and the related income tax expense (primarily gains and losses from sale of businesses) are excluded to arrive at the computation. Amounts recorded in income tax expense for certain non-operational items and quantified in the table below are also excluded from the computation of the Adjusted Group effective tax rate.

Constant currency Operational EPS adjustment and Operational EPS growth rate (constant currency)

We compute the constant currency operational net income using the relevant monthly exchange rates which were in effect during 2019 and any difference in computed Operational net income is divided by the relevant weighted-average number of shares outstanding to identify the constant currency Operational EPS adjustment.

Reconciliation

(\$ in millions, except per share data in \$)	Nine months ended September 30,		
	2020	2019	Growth ⁽³⁾
Net income (attributable to ABB)	5,225	1,114	369%
Non-operational adjustments:			
Acquisition-related amortization	197	205	
Restructuring, related and implementation costs ⁽¹⁾	190	201	
Non-operational pension cost (credit)	272	(67)	
Changes in obligations related to divested businesses	204	32	
Changes in pre-acquisition estimates	11	13	
Gains and losses from sale of businesses	4	(8)	
Fair value adjustment on assets and liabilities held for sale	33	466	
Acquisition- and divestment-related expenses and integration costs	43	72	
Other income/expense relating to the Power Grids joint venture	15	–	
Certain other non-operational items	378	121	
FX/commodity timing differences in income from operations	(16)	5	
Non-operational adjustments in discontinued operations	(5,119)	101	
Tax on non-operational adjustments ⁽²⁾	140	(186)	
Adjustment for non-operational amounts in Provision for taxes	(28)	–	
Operational net income	1,549	2,069	-25%
Weighted-average number of shares outstanding (in millions)	2,129	2,132	
Operational EPS	0.73	0.97	-25%
Constant currency Operational EPS adjustment	0.01	–	
Operational EPS (constant currency basis)	0.74	0.97	-24%

(\$ in millions, except per share data in \$)	Three months ended September 30,		
	2020	2019	Growth ⁽³⁾
Net income (attributable to ABB)	4,530	515	780%
Non-operational adjustments:			
Acquisition-related amortization	67	70	
Restructuring, related and implementation costs ⁽¹⁾	83	59	
Non-operational pension cost (credit)	343	(23)	
Changes in obligations related to divested businesses	203	25	
Changes in pre-acquisition estimates	11	–	
Gains and losses from sale of businesses	(1)	(12)	
Fair value adjustment on assets and liabilities held for sale	14	11	
Acquisition- and divestment-related expenses and integration costs	16	18	
Other income/expense relating to the Power Grids joint venture	15	–	
Certain other non-operational items	331	45	
Foreign exchange/commodity timing differences in income from operations	(23)	13	
Non-operational adjustments in discontinued operations	(5,315)	44	
Tax on non-operational adjustments ⁽²⁾	202	(61)	
Adjustment for non-operational amounts in Provision for taxes	(28)	–	
Operational net income	448	704	-36%
Weighted-average number of shares outstanding (in millions)	2,119	2,133	
Operational EPS	0.21	0.33	-36%
Constant currency Operational EPS adjustment	0.01	–	
Operational EPS (constant currency basis)	0.22	0.33	-35%

(1) Amounts include implementation costs in relation to the OS program of \$47 million and \$71 million for the nine months ended September 30, 2020 and 2019, respectively, and \$17 million and \$28 million for the three months ended September 30, 2020 and 2019, respectively.

(2) Tax amount is computed by applying the Adjusted Group effective tax rate to the non-operational adjustments, except for certain costs for the divestment of the Power Grids business, gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale), certain changes in obligations related to divested businesses and certain non-operational pension costs, for which the actual provision for taxes resulting from the gain or loss has been computed

(3) Growth is computed using unrounded EPS amounts.

Net debt

Definition

Net debt

Net debt is defined as Total debt less Cash and marketable securities.

Total debt

Total debt is the sum of Short-term debt and current maturities of long-term debt, and Long-term debt.

Cash and marketable securities

Cash and marketable securities is the sum of Cash and equivalents, Restricted cash (current and non-current) and Marketable securities and short-term investments.

Reconciliation

(\$ in millions)	September 30, 2020	December 31, 2019
Short-term debt and current maturities of long-term debt	2,354	2,287
Long-term debt	6,319	6,772
Total debt (gross debt)	8,673	9,059
Cash and equivalents	3,178	3,508
Restricted cash - current	860	36
Marketable securities and short-term investments	5,270	566
Restricted cash - non-current	300	–
Cash and marketable securities	9,608	4,110
Net debt / (Net cash)	(935)	4,949

Net debt/EBITDA Ratio

Definition

Net debt/EBITDA

Net debt/EBITDA is defined as Net debt divided by EBITDA.

EBITDA

EBITDA is defined as Income from operations for the trailing twelve months preceding the balance sheet date before depreciation and amortization for the same trailing twelve-month period.

Reconciliation

(\$ in millions, unless otherwise indicated)	September 30, 2020
Income from operations for the three months ended	
September 30, 2020	71
June 30, 2020	571
March 31, 2020	373
December 31, 2019	648
Depreciation and Amortization for the three months ended	
September 30, 2020	231
June 30, 2020	228
March 31, 2020	227
December 31, 2019	246
EBITDA	2,595
Net debt / (Net cash) (as defined above)	(935)
Net debt / (Net cash) / EBITDA	-0.4

Net working capital as a percentage of revenues

Definition

Net working capital as a percentage of revenues

Net working capital as a percentage of revenues is calculated as Net working capital divided by Adjusted revenues for the trailing twelve months.

Net working capital

Net working capital is the sum of (i) receivables, net, (ii) contract assets, (iii) inventories, net, and (iv) prepaid expenses; less (v) accounts payable, trade, (vi) contract liabilities, and (vii) other current liabilities (excluding primarily: (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits), (d) payables under the share buyback program and (e) liabilities related to the divestment of the Power Grids business; and including the amounts related to these accounts which have been presented as either assets or liabilities held for sale but excluding any amounts included in discontinued operations.

Adjusted revenues for the trailing twelve months

Adjusted revenues for the trailing twelve months includes total revenues recorded by ABB in the twelve months preceding the relevant balance sheet date adjusted to eliminate revenues of divested businesses and the estimated impact of annualizing revenues of certain acquisitions which were completed in the same trailing twelve-month period.

Reconciliation

(\$ in millions, unless otherwise indicated)	September 30, 2020	September 30, 2019
Net working capital:		
Receivables, net	6,638	6,448
Contract assets	1,100	1,088
Inventories, net	4,642	4,364
Prepaid expenses	233	258
Accounts payable, trade	(4,323)	(4,023)
Contract liabilities	(1,828)	(1,616)
Other current liabilities ⁽¹⁾	(3,226)	(2,981)
Net working capital in assets and liabilities held for sale	–	83
Net working capital	3,236	3,621
Total revenues for the three months ended:		
September 30, 2020 / 2019	6,582	6,892
June 30, 2020 / 2019	6,154	7,171
March 31, 2020 / 2019	6,216	6,847
December 31, 2019 / 2018	7,068	7,395
Adjustment to annualize/eliminate revenues of certain acquisitions/divestments	(169)	(115)
Adjusted revenues for the trailing twelve months	25,851	28,190
Net working capital as a percentage of revenues (%)	12.5%	12.8%

(1) Amounts exclude \$1,026 million and \$595 million at September 30, 2020 and 2019, respectively, related primarily to (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits (d) payables under the share buyback program and (e) liabilities related to the divestment of the Power Grids business.

Free cash flow conversion to net income

Definition

Free cash flow conversion to net income

Free cash flow conversion to net income is calculated as free cash flow divided by Net income attributable to ABB. Net income attributable to ABB is adjusted to exclude goodwill impairments and the gain on sale of the Power Grids business included in discontinued operations.

Free cash flow

Free cash flow is calculated as net cash provided by operating activities adjusted for: (i) purchases of property, plant and equipment and intangible assets, and (ii) proceeds from sales of property, plant and equipment.

Free cash flow for the trailing twelve months

Free cash flow for the trailing twelve months includes free cash flow recorded by ABB in the twelve months preceding the relevant balance sheet date.

Net income for the trailing twelve months

Net income for the trailing twelve months includes net income recorded by ABB (as adjusted) in the twelve months preceding the relevant balance sheet date.

Free cash flow conversion to net income

(\$ in millions, unless otherwise indicated)	Twelve months to	
	September 30, 2020	December 31, 2019
Net cash provided by operating activities	2,422	2,325
Adjusted for the effects of:		
Continuing operations:		
Purchases of property, plant and equipment and intangible assets	(668)	(762)
Proceeds from sale of property, plant and equipment	83	82
Discontinued operations:		
Purchases of property, plant and equipment and intangible assets	(139)	(167)
Proceeds from sale of property, plant and equipment	–	8
Free cash flow	1,698	1,486
Net income attributable to ABB	541	1,439
Free cash flow conversion to net income	314%	103%

Reconciliation of the trailing twelve months to September 30, 2020

(\$ in millions)	Net cash provided by operating activities	Continuing operations		Discontinued operations		Net income attributable to ABB ⁽¹⁾
		Purchases of property, plant and equipment and intangible assets	Proceeds from sale of property, plant and equipment	Purchases of property, plant and equipment and intangible assets	Proceeds from sale of property, plant and equipment	
Q4 2019	1,911	(234)	15	(48)	–	325
Q1 2020	(577)	(163)	23	(33)	–	376
Q2 2020	680	(140)	4	(60)	–	319
Q3 2020	408	(131)	41	2	–	(479)
Total for the trailing twelve months to September 30, 2020	2,422	(668)	83	(139)	–	541

(1) Net income attributable to ABB for Q3 2020 is adjusted to exclude goodwill impairment charges of \$311 million and the gain on the sale of the Power Grids business included in discontinued operations of \$5,320 million.

Net finance expenses

Definition

Net finance expenses is calculated as Interest and dividend income less Interest and other finance expense.

Reconciliation

(\$ in millions)	Nine months ended September 30,		Three months ended September 30,	
	2020	2019	2020	2019
Interest and dividend income	39	57	12	20
Interest and other finance expense	(191)	(179)	(79)	(56)
Net finance expenses	(152)	(122)	(67)	(36)

Book-to-bill ratio

Definition

Book-to-bill ratio is calculated as Orders received divided by Total revenues.

Reconciliation

(\$ in millions, unless otherwise indicated)	Nine months ended September 30,					
	2020			2019		
	Orders	Revenues	Book-to-bill	Orders	Revenues	Book-to-bill
Electrification	8,810	8,568	1.03	9,890	9,490	1.04
Industrial Automation	4,226	4,247	1.00	4,726	4,590	1.03
Motion	5,022	4,704	1.07	5,180	4,876	1.06
Robotics & Discrete Automation	2,169	2,106	1.03	2,559	2,527	1.01
Corporate and Other <i>(incl. intersegment eliminations)</i>	(718)	(673)	n.a.	(653)	(573)	n.a.
ABB Group	19,509	18,952	1.03	21,702	20,910	1.04

(\$ in millions, unless otherwise indicated)	Three months ended September 30,					
	2020			2019		
	Orders	Revenues	Book-to-bill	Orders	Revenues	Book-to-bill
Electrification	2,952	3,031	0.97	3,188	3,161	1.01
Industrial Automation	1,164	1,403	0.83	1,438	1,492	0.96
Motion	1,535	1,611	0.95	1,618	1,630	0.99
Robotics & Discrete Automation	720	806	0.89	709	831	0.85
Corporate and Other <i>(incl. intersegment eliminations)</i>	(262)	(269)	n.a.	(265)	(222)	n.a.
ABB Group	6,109	6,582	0.93	6,688	6,892	0.97

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