

ZURICH, SWITZERLAND, FEBRUARY 5, 2020

Full-year and Q4 2019 results

Transformation on track

FULL-YEAR 2019 HIGHLIGHTS

- Orders \$28.6 billion, steady; comparable +1%
- Revenues \$28.0 billion, +1%; comparable +1%
- Operational EBITA margin¹ 11.1%, impacted by a combined 130 basis points due to stranded costs and non-core activities
- Income from operations \$1,938 million, -13%
- Net income \$1,439 million, -34%
- Basic EPS \$0.67, -34%²; Operational EPS¹ \$1.24, -7%
- Cash flow from operating activities \$2,325 million, -20%, incl. cash outflows for simplification program and Power Grids carve-out
- CHF 0.80 per share dividend proposed

FOURTH QUARTER 2019 HIGHLIGHTS

- Orders \$6.9 billion, -1%; comparable +1%
- Revenues \$7.1 billion, -4%; comparable -2%
- Operational EBITA margin 10.1%, impacted by a combined 170 basis points due to stranded costs and non-core activities
- Income from operations \$648 million, +136%
- Cash flow from operating activities \$1,911 million, +2%, incl. cash outflows for simplification program and Power Grids carve-out

NEW LEADERSHIP

- Björn Rosengren appointed CEO, effective March 1, 2020

“ABB gave a resilient performance in 2019 in the face of challenging market conditions and a significant transformation. Our revenues and operating margin both improved slightly. The divestment of Power Grids is on track and we are clearly starting to see the positive effects of implementing our new operating model and new culture,” said Peter Voser, Chairman and CEO of ABB. “In line with our dividend policy we are proposing a dividend of 0.80 CHF per share. We are committed to providing attractive returns to shareholders, further enhanced by the commencement of share buybacks using the net cash proceeds from the Power Grids transaction later this year.”

KEY FIGURES (\$ in millions, unless otherwise indicated)	CHANGE		CHANGE	
	Q4 2019	Q4 2018	US\$	Comparable ³
Orders	6,886	6,985	-1%	+1%
Revenues	7,068	7,395	-4%	-2%
Income from operations	648	275	+136%	
Operational EBITA ¹	710	584	+22%	+24% ⁴
as % of operational revenues	10.1%	7.9%	+2.2pts	
Income (loss) from continuing operations, net of tax	307	210	+46%	
Net income attributable to ABB	325	317	+3%	
Basic EPS (\$)	0.15	0.15	+2% ²	
Operational EPS (\$) ¹	0.27	0.30	-8% ²	-11% ²
Cash flow from operating activities ⁵	1,911	1,867	+2%	

On December 17, 2018, ABB announced an agreed sale of its Power Grids business. Consequently, the results of the Power Grids business are presented as discontinued operations. The company's results for all periods have been adjusted accordingly.

¹ For a reconciliation of non-GAAP measures, see “supplemental reconciliations and definitions” in the attached Q4 2019 Financial Information.

² EPS growth rates are computed using unrounded amounts. Comparable operational earnings per share is in constant currency (2014 exchange rates not adjusted for changes in the business portfolio).

³ Growth rates for orders, order backlog and revenues are on a comparable basis (local currency adjusted for acquisitions and divestitures).

⁴ Constant currency (not adjusted for portfolio changes).

⁵ Amount represents total for both continuing and discontinued operations.

Short-term outlook

Macroeconomic indicators suggest weaker growth in Europe and the US, while China's stabilizing trend might be impacted by the coronavirus outbreak. The global economy remains affected by geopolitical uncertainties, and overall is anticipated to maintain a similar growth trend when compared to 2019.

The end-markets ABB operates in are showing resilience, with headwinds in some markets, particularly the automotive, machine builders, and conventional power generation sectors. Foreign exchange translation effects are expected to continue to influence the company's results.

Full-year 2019 Group results

"We have made good progress in 2019, gradually reducing stranded costs as part of the Power Grids carve-out process, steadily working through non-core and other legacy issues that hinder performance of the group and realizing savings through our ABB-OS simplification program," said Timo Ihamuotila, CFO of ABB.

"Going forward we will maintain this momentum, driving profitable growth against continued headwinds in some markets, while working to improve operating margins and maintain our track record of solid cash generation."

Full-year 2019 results summary

ABB delivered a resilient performance for the year while undertaking a very extensive transformation, slightly improving revenues and operating margins, against a back-drop of more challenging markets.

Orders were up 1 percent³ (steady in US dollars) at \$28,588 million, with moderate growth of 4 percent in Motion, 4 percent in Electrification and a steady result in Industrial Automation damped by an 11 percent order decline in Robotics & Discrete Automation. The order developments reflect softening global economic growth and substantial headwinds in discrete markets, particularly automotive and machine builders. Orders rose 2 percent in Europe, 1 percent in the Americas and declined 1 percent in AMEA. Service orders were 2 percent higher (1 percent in US dollars) and 20 percent of total orders, compared to 19 percent in 2018.

Revenues rose 1 percent (1 percent in US dollars) to \$27,978 million, supported by backlog execution. Revenues grew in Motion and Electrification by 4 percent and 2 percent respectively, were flat in Industrial Automation and 4 percent lower in Robotics & Discrete Automation. On a regional basis, revenues in Europe rose 4 percent and 2 percent in the Americas, while AMEA was 3 percent lower. Service revenues were up 3 percent (2 percent in US dollars) at 19 percent of group revenues. The book-to-bill ratio stood at 1.02x¹ in 2019 compared with 1.03x in the previous year.

Operational EBITA margin¹ of 11.1 percent was up 20 basis points. Margins were supported by margin expansion in the Motion business, \$146 million improvement in the results for non-core and divested businesses, the elimination of \$72 million of cost stranded in the run-up to the sale of Power Grids and realized savings from the ABB-OS simplification program. Margins were damped by the full-year impact of the GEIS acquisition on the Electrification business, lower margins in Industrial Automation, which was also impacted by a specific project revaluation recorded in the third quarter, and lower margins in Robotics & Discrete Automation, which was impacted by market headwinds in its end markets.

ABB's Income from operations of \$1,938 million, which was 13 percent lower year-on-year, was also impacted by restructuring, Power Grids' related transaction and separation costs and charges, as well as charges from the planned sale of the solar inverter business. These impacts were somewhat mitigated by non-operational gains from sales of businesses and an adjustment to the GEIS purchase price.

Net income from discontinued operations was \$438 million. ABB anticipates a significant improvement in the performance of its discontinued operations from the first quarter onwards.

Net income attributable to ABB of \$1,439 million and basic EPS of \$0.67 were both 34 percent lower compared to the prior year period. The group's effective tax rate of 41.5 percent reflects tax effects from the planned sale of both the solar inverter business and Power Grids' operations.

The full-year operational EPS was \$1.24¹, 7 percent² lower in constant currency.

Cash flow from operating activities of \$2,325 million for the full-year was 20 percent lower year-on-year.

Cash flow provided by operating activities from continuing operations of \$1,899 million was solid and included cash costs related to the ABB-OS simplification program as well as Power Grids related transaction and separation costs of more than \$200 million⁶. Net working capital was 9.5 percent of revenues, compared to 9 percent at end of 2018. Favorable trade receivables, as well as lower inventories and cash tax outflows were partly offset by less cash inflow from trade payables. Capital expenditure for the group's continuing operations was \$762 million, compared to \$772 million during 2018.

Cash flow from operating activities in discontinued operations was \$426 million. Capital expenditure for discontinued operations amounted to \$167 million versus \$201 million in 2018.

FY 2019 business performance

(\$ in millions, unless otherwise indicated)	Orders	CHANGE		Revenues	CHANGE		Op EBITA margin	CHANGE
		US\$	Comparable ³		US\$	Comparable ³		
Electrification	13,050	+10%	+4%	12,728	+9%	+2%	13.3%	-0.6pts
Industrial Automation	6,432	-4%	0%	6,273	-3%	0%	11.7%	-2.4pts
Motion	6,782	+1%	+4%	6,533	+1%	+4%	16.6%	+0.7pts
Robotics & Discrete Automation	3,260	-14%	-11%	3,314	-8%	-4%	11.9%	-2.7pts
Corporate and Other	(936)			(870)				
ABB Group	28,588	0%	+1%	27,978	+1%	+1%	11.1%	+0.2pts

Dividend

ABB's board has proposed an ordinary dividend of 0.80 Swiss francs per share for 2019, subject to shareholder approval at the company's annual general meeting on March 26, 2020. The proposal is in line with ABB's dividend policy to pay a rising, sustainable dividend over time. Further information will be available on ABB's website.

⁶ Management estimate

Q4 2019 Group results

Summary

In the quarter, the businesses faced slowing short-cycle industrial demand, mainly in the US, and ongoing market headwinds in discrete industries, which dampened both top-line performance and operating margins, particularly in Robotics & Discrete Automation. At the group level, operating margins were supported by lower Corporate and Other costs due to lower non-core charges, elimination of stranded costs and savings from the ABB-OS simplification program.

Orders

Orders grew 1 percent (1 percent lower in US dollars) in the quarter compared to the prior year period. Moderate growth in Electrification of 3 percent and solid growth in Industrial Automation and Motion, both up 5 percent, was largely offset by weakness in Robotics & Discrete Automation for which orders fell 18 percent. Foreign exchange translation effects had a net negative impact of 1 percent and portfolio changes a net negative impact of 1 percent.

Service orders, which represented 21 percent of total orders, were 2 percent higher (stable in US dollars) on a year-on-year basis.

The order backlog rose 5 percent (2 percent in US dollars).

Market overview

On a regional basis:

- Orders from Europe were 16 percent higher (12 percent in US dollars), with mixed performance at the country level. Switzerland and Germany recorded excellent order growth, boosted by large orders, and good demand was also evident from Sweden and Finland, while orders in Italy, Norway and the Netherlands declined when compared to the prior year period. In Germany, orders were 37 percent higher (32 percent in US dollars).
- Orders from the Americas were 8 percent lower (8 percent in US dollars), against a tough comparable period. Orders were robust in Canada but weak in the US and Mexico and across several South American countries. Orders from the United States were 7 percent lower (7 percent in US dollars), reflecting a slowing economy.
- In Asia, Middle East and Africa (AMEA), orders were 5 percent lower (9 percent lower in US dollars). Order growth was strong in South Korea and Singapore and robust in China, but weaker in markets such as India, Japan and Australia. In China, orders rose 1 percent (2 percent lower in US dollars).

In ABB's key customer segments:

- In process industries, investment decisions on larger oil, gas and mining projects remain cautious. Conventional power generation markets were challenging. Other process industries, including pulp and paper, and food and beverage, continue to support demand.
- In discrete industries, traditional automotive and automotive-sector related industries as well as machine builders' markets faced continued pressures that impacted ABB's growth. ABB continued to see strong growth in warehouse automation. 3C investments, driven by semi-conductors, began to pick up in the latter part of the quarter.
- In the transport and infrastructure sectors, investments in wind and rail remain strong, especially in Europe. Good order growth continued for specialty vessels, EV charging and data center infrastructure, as well as in power distribution. Building activity remains mixed.

Revenues

Revenues were 2 percent lower (4 percent lower in US dollars) year-on-year. Electrification and Motion revenues were steady. Revenues in Industrial Automation were 1 percent lower and in Robotics & Discrete Automation were 10 percent lower, reflecting the impact of a challenging environment in conventional power generation and across discrete industries, particularly automotive and machine builders. Foreign exchange translation effects had a net negative impact of 1 percent and portfolio changes a net negative impact of 1 percent.

Service revenues decreased 1 percent (2 percent in US dollars). Services represented 21 percent of total revenues.

The book-to-bill ratio for the quarter was 0.97x, compared to 0.94x in the prior year period.

Against a backdrop of continued weakness in some end-markets, ABB expects revenues to be steady or slightly up on a comparable basis for full-year 2020, not including possible impacts from the coronavirus outbreak.

Operational EBITA and Income from Operations

Operational EBITA of \$710 million was 22 percent higher in US dollars (24 percent in local currencies). The operational EBITA margin of 10.1 percent expanded 220 basis points year-on-year, driven largely by lower charges for non-core activities and lower stranded costs in the Corporate and Other operational EBITA result. The results of the non-core business had an impact of 110 basis points on the margin at \$79 million. Stranded costs impacted the margin by approximately 60 basis points with costs of \$40 million compared to \$72 million in the fourth quarter of 2018.

ABB expects its annual operational EBITA margin to show improvement in 2020, weighted to the second half, aided by improved margins in the Electrification business, the elimination of the vast majority of remaining stranded costs, and further benefits from ABB's simplification program.

Income from operations of \$648 million increased 136 percent. The result benefited from a combined \$178 million of non-operational gains due to the sale of ABB's share in two Chinese joint ventures, an adjustment to the price paid for GEIS and a reduction in the loss on the planned divestment of the solar inverter business.

Net income, basic and operational earnings per share

Net income from continuing operations was \$307 million, 46 percent higher year-on-year.

Net income from discontinued operations was \$50 million, including restructuring, carve-out related tax and transaction costs.

Group net income attributable to ABB was \$325 million and basic EPS was \$0.15, 3 percent and 2 percent higher year-on-year, respectively. The group's effective tax rate of 51.0 percent reflects tax effects of approximately \$150 million from separating Power Grids' operations.

Operational EPS of \$0.27 declined 11 percent year-on-year in constant currency.

Cash flow from operating activities

Cash flow from operating activities was up 2 percent to \$1,911 million, compared to \$1,867 million in the fourth quarter of 2018. Versus the prior year period, cash flow from operating activities in continuing operations was slightly improved at \$1,454 million from \$1,406 million, while cash flow from discontinued operations was \$457 million compared to \$461 million in the previous period. Relative to a year ago, cash flow from continuing operating activities benefited from a significant reduction in inventories, largely offset by less favorable timing of cash tax payments.

ABB expects solid cash delivery for the full-year 2020 from continuing operating activities, not including cash outflows for the simplification program and carve-out activities and associated cash tax impacts.

Q4 business performance

(\$ in millions, unless otherwise indicated)	Orders	CHANGE		Revenues	CHANGE		Op EBITA margin	CHANGE
		US\$	Comparable ³		US\$	Comparable ³		
Electrification	3,160	+1%	+3%	3,238	-2%	0%	13.1%	+1.4pts
Industrial Automation	1,706	+4%	+5%	1,683	-2%	-1%	12.1%	-1.5pts
Motion	1,602	+4%	+5%	1,657	-1%	0%	15.4%	+0.5pts
Robotics & Discrete Automation	701	-19%	-18%	787	-12%	-10%	11.0%	-2.1pts
Corporate and Other	(283)			(297)			(253)	
ABB Group	6,886	-1%	+1%	7,068	-4%	-2%	10.1%	+2.2pts

Effective October 1, 2018, the Power Grids business was moved from continuing to discontinued operations. All previously reported amounts have been restated consistent with these portfolio changes. Corporate & Other result is inclusive of intersegment eliminations.

Electrification

Orders were up 3 percent (1 percent in US dollars). Orders benefited from strong demand for solutions across the utilities, data center and electric transport sectors. On a regional basis, orders grew in AMEA and Europe, partly offset by a subdued Americas performance. Order growth in China was broad-based. The order backlog rose 9 percent year-on-year (9 percent in US dollars). Revenues were steady (2 percent lower in US dollars) reflecting weaker short-cycle demand. The operational EBITA margin expanded 140 basis points year-on-year to 13.1 percent, supported by GEIS integration, the turnaround of Installation Products and ongoing pricing and cost management.

Industrial Automation

Orders grew 5 percent (4 percent in US dollars), supported by large orders for specialty vessels. Conventional power generation continues to be challenged. Orders were strong in Europe while declining in the Americas and AMEA regions, despite broad based growth in China. The order backlog rose 2 percent (2 percent in US dollars). Revenues were 1 percent lower (2 percent in US dollars) reflecting a weak contribution from conventional power generation activities. Operational EBITA margin of 12.1 percent was 150 basis points lower. Margins were impacted by volume, unfavorable business mix and operational execution, as well as investments in growth.

Motion

Orders rose 5 percent (4 percent in US dollars), led by growth in drive solutions, especially for rail and wind applications. Orders were strong in Europe, while both the Americas and AMEA were slower, partly offset by growth in China. The order backlog increased 9 percent (8 percent in US dollars). Revenues were steady (1 percent lower in US dollars) reflecting a tough comparison base. Operational EBITA margin expanded 50 basis points compared to the prior year period, reaching 15.4 percent, supported by positive mix and operational performance.

Robotics & Discrete Automation

Orders were 18 percent lower (19 percent in US dollars), reflecting a tough comparison base and challenging markets. Headwinds remained strong for robotics in the traditional automotive and automotive-sector related industries, particularly in China. Demand from machine builders remained subdued, particularly in Europe. The order backlog was 5 percent lower (6 percent in US dollars). Revenues declined 10 percent (12 percent in US dollars) impacted by lower book and bill. The operational

EBITA margin of 11.0 percent was 210 basis points below the prior year level, reflecting lower volumes and adverse mix, partly mitigated by remedial cost actions.

Transformation progress

The group's transformation programs, namely the establishment of a new business model comprising four businesses, the carve-out of Power Grids and the implementation of a new operating system, ABB-OS, took major strides forward during the year.

By around year-end, ABB had put into effect a new operating model. This included collapsing regional structures and transferring country structures and the vast majority of centrally managed functional activity into the four businesses, thereby creating more customer-focused and empowered businesses and a much leaner corporate organization.

The divestment of Power Grids is on track with closing expected at the end of the second quarter 2020.

During the year, savings from the ABB-OS simplification program reached the \$150-200 million run-rate targeted for 2019. ABB continuing operations headcount was 113,900 at the beginning of the year and 110,000 at the end of 2019, partly also reflecting stranded cost elimination. ABB's aim is to deliver approximately \$500 million annual run-rate cost reductions across the group from the program during 2021. Continuous improvement plans are now in place within each business and fully integrated into the annual planning process to support delivery of this objective.

ABB's active portfolio management continued through 2019. Of note, Electrification announced it will exit the solar inverter business and acquire a leading Chinese electric vehicle charging company, Chargedot, during the first quarter of 2020. In addition, GEIS, acquired in 2018, is now fully integrated into the Electrification business lines and is tracking to plan for the delivery of cost synergies.

ABB continued to expand its digital ecosystem, announcing several important partnerships over the year, most recently with Ericsson to jointly develop software solutions for robots and smart factories using 5G capabilities. Partnerships help ensure ABB Ability™ solutions consistently utilize latest high-tech developments, maximizing the value proposition of digital solutions for our customers.

More information

The full-year and Q4 2019 results press release and presentation slides are available on the ABB News Center at www.abb.com/news and on the Investor Relations homepage at www.abb.com/investorrelations. A conference call and webcast for analysts and investors is scheduled to begin today at 10.30 a.m. CET (9:30 a.m. BST, 04:30 a.m. EDT). To pre-register for the conference call or to join the webcast, please refer to the ABB website: new.abb.com/investorrelations/. A recorded session will be available as a webcast one hour after the end of the conference call.

ABB (ABBN: SIX Swiss Ex) is a technology leader that is driving the digital transformation of industries. With a history of innovation spanning more than 130 years, ABB has four, customer-focused, globally leading businesses: Electrification, Industrial Automation, Motion, and Robotics & Discrete Automation, supported by the ABB Ability™ digital platform. ABB's Power Grids business will be divested to Hitachi in 2020. ABB operates in more than 100 countries with about 144,000 employees.

INVESTOR CALENDAR

Robotics & Discrete Automation investor event	February 27, 2020
Annual General Meeting	March 26, 2020
Q1 2020 results	April 28, 2020
Q2 2020 results	July 22, 2020
Q3 2020 results	October 21, 2020

Important notice about forward-looking information

This press release includes forward-looking information and statements as well as other statements concerning the outlook for our business, including those in the sections of this release titled "Short-term outlook", "Full-year 2019 results summary", "Dividend", "Revenues", "Operational EBITA and Income from Operations", "Cash flow from operating activities" and "Transformation progress". These statements are based on current expectations, estimates and projections about the factors that may affect our future performance, including global economic conditions, the economic conditions of the regions and industries that are major markets for ABB. These expectations, estimates and projections are generally identifiable by statements containing words such as "anticipates", "expects", "believes", "estimates", "plans", "targets" or similar expressions. However, there are many risks and uncertainties, many of which are beyond our control, that could cause our actual results to differ materially from the forward-looking information and statements made in this press release and which could affect our ability to achieve any or all of our stated targets. The important factors that could cause such differences include, among others, business risks associated with the volatile global economic environment and political conditions, costs associated with compliance activities, market acceptance of new products and services, changes in governmental regulations and currency exchange rates and such other factors as may be discussed from time to time in ABB Ltd's filings with the U.S. Securities and Exchange Commission, including its Annual Reports on Form 20-F. Although ABB Ltd believes that its expectations reflected in any such forward-looking statement are based upon reasonable assumptions, it can give no assurance that those expectations will be achieved.

Zurich, February 5, 2020

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February 5, 2020

Q4 2019

Financial information

Financial Information

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Key Figures

(\$ in millions, unless otherwise indicated)	Q4 2019	Q4 2018	US\$	CHANGE
				Comparable ⁽¹⁾
Orders	6,886	6,985	-1%	1%
Order backlog (end December)	13,324	13,084	2%	5%
Revenues	7,068	7,395	-4%	-2%
Income from operations	648	275	136%	
Operational EBITA ⁽¹⁾	710	584	22%	24% ⁽²⁾
as % of operational revenues ⁽¹⁾	10.1%	7.9%	+2.2 pts	
Income from continuing operations, net of tax	307	210	46%	
Net income attributable to ABB	325	317	3%	
Basic earnings per share from continuing operations (\$)	0.14	0.10	40% ⁽³⁾	
Basic earnings per share (\$)	0.15	0.15	2% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	0.27	0.30	-8% ⁽³⁾	-11% ⁽³⁾
Cash flow from operating activities ⁽⁴⁾	1,911	1,867	2%	

(\$ in millions, unless otherwise indicated)	FY 2019	FY 2018	US\$	CHANGE
				Comparable ⁽¹⁾
Orders	28,588	28,590	0%	1%
Revenues	27,978	27,662	1%	1%
Income from operations	1,938	2,226	-13%	
Operational EBITA ⁽¹⁾	3,107	3,005	3%	7% ⁽²⁾
as % of operational revenues ⁽¹⁾	11.1%	10.9%	+0.2 pts	
Income from continuing operations, net of tax	1,090	1,575	-31%	
Net income attributable to ABB	1,439	2,173	-34%	
Basic earnings per share from continuing operations (\$)	0.49	0.71	-31% ⁽³⁾	
Basic earnings per share (\$)	0.67	1.02	-34% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	1.24	1.33	-7% ⁽³⁾	-7% ⁽³⁾
Cash flow from operating activities ⁽⁴⁾	2,325	2,924	-20%	

(1) For a reconciliation of non-GAAP measures see "[Supplemental Reconciliations and Definitions](#)" on page 38.

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

(3) Earnings per share growth rates are computed using unrounded amounts. Comparable Operational earnings per share growth is in constant currency (2014 foreign exchange rates and 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)		Q4 2019	Q4 2018	CHANGE		
				US\$	Local	Comparable
Orders	ABB Group	6,886	6,985	-1%	0%	1%
	Electrification	3,160	3,139	1%	3%	3%
	Industrial Automation	1,706	1,645	4%	5%	5%
	Motion	1,602	1,538	4%	5%	5%
	Robotics & Discrete Automation	701	866	-19%	-18%	-18%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(283)	(203)			
Order backlog (end December)	ABB Group	13,324	13,084	2%	2%	5%
	Electrification	4,488	4,113	9%	9%	9%
	Industrial Automation	5,077	4,986	2%	2%	2%
	Motion	2,967	2,740	8%	9%	9%
	Robotics & Discrete Automation	1,356	1,438	-6%	-5%	-5%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(564)	(193)			
Revenues	ABB Group	7,068	7,395	-4%	-3%	-2%
	Electrification	3,238	3,320	-2%	0%	0%
	Industrial Automation	1,683	1,723	-2%	-1%	-1%
	Motion	1,657	1,671	-1%	0%	0%
	Robotics & Discrete Automation	787	892	-12%	-10%	-10%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(297)	(211)			
Income from operations	ABB Group	648	275			
	Electrification	478	221			
	Industrial Automation	194	198			
	Motion	245	226			
	Robotics & Discrete Automation	62	106			
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(331)	(476)			
Income from operations %	ABB Group	9.2%	3.7%			
	Electrification	14.8%	6.7%			
	Industrial Automation	11.5%	11.5%			
	Motion	14.8%	13.5%			
	Robotics & Discrete Automation	7.9%	11.9%			
Operational EBITA	ABB Group	710	584	22%	24%	
	Electrification	421	388	9%	10%	
	Industrial Automation	202	235	-14%	-13%	
	Motion	254	248	2%	4%	
	Robotics & Discrete Automation	86	116	-26%	-25%	
	<i>Corporate and Other⁽¹⁾ (incl. intersegment eliminations)</i>	(253)	(403)			
Operational EBITA %	ABB Group	10.1%	7.9%			
	Electrification	13.1%	11.7%			
	Industrial Automation	12.1%	13.6%			
	Motion	15.4%	14.9%			
	Robotics & Discrete Automation	11.0%	13.1%			
Cash flow from operating activities	ABB Group	1,911	1,867			
	Electrification	877	636			
	Industrial Automation	286	380			
	Motion	345	311			
	Robotics & Discrete Automation	119	156			
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(173)	(77)			
	<i>Discontinued operations</i>	457	461			

(1) Corporate and Other includes Stranded corporate costs of \$40 million and \$72 million for the three months ended December 31, 2019 and 2018, respectively.

(\$ in millions, unless otherwise indicated)		FY 2019	FY 2018	CHANGE		
				US\$	Local	Comparable
Orders	ABB Group	28,588	28,590	0%	4%	1%
	Electrification	13,050	11,867	10%	14%	4%
	Industrial Automation	6,432	6,697	-4%	0%	0%
	Motion	6,782	6,725	1%	4%	4%
	Robotics & Discrete Automation	3,260	3,808	-14%	-11%	-11%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(936)	(507)			
Order backlog (end December)	ABB Group	13,324	13,084	2%	2%	5%
	Electrification	4,488	4,113	9%	9%	9%
	Industrial Automation	5,077	4,986	2%	2%	2%
	Motion	2,967	2,740	8%	9%	9%
	Robotics & Discrete Automation	1,356	1,438	-6%	-5%	-5%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(564)	(193)			
Revenues	ABB Group	27,978	27,662	1%	5%	1%
	Electrification	12,728	11,686	9%	12%	2%
	Industrial Automation	6,273	6,500	-3%	0%	0%
	Motion	6,533	6,463	1%	4%	4%
	Robotics & Discrete Automation	3,314	3,611	-8%	-4%	-4%
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(870)	(598)			
Income from operations	ABB Group	1,938	2,226			
	Electrification	1,049	1,290			
	Industrial Automation	700	853			
	Motion	1,009	924			
	Robotics & Discrete Automation	298	456			
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(1,118)	(1,297)			
Income from operations %	ABB Group	6.9%	8.0%			
	Electrification	8.2%	11.0%			
	Industrial Automation	11.2%	13.1%			
	Motion	15.4%	14.3%			
	Robotics & Discrete Automation	9.0%	12.6%			
Operational EBITA	ABB Group	3,107	3,005	3%	7%	
	Electrification	1,688	1,626	4%	8%	
	Industrial Automation	732	914	-20%	-18%	
	Motion	1,082	1,023	6%	9%	
	Robotics & Discrete Automation	393	528	-26%	-22%	
	<i>Corporate and Other⁽¹⁾ (incl. intersegment eliminations)</i>	(788)	(1,086)			
Operational EBITA %	ABB Group	11.1%	10.9%			
	Electrification	13.3%	13.9%			
	Industrial Automation	11.7%	14.1%			
	Motion	16.6%	15.9%			
	Robotics & Discrete Automation	11.9%	14.6%			
Cash flow from operating activities	ABB Group	2,325	2,924			
	Electrification	1,425	1,389			
	Industrial Automation	502	768			
	Motion	933	865			
	Robotics & Discrete Automation	236	399			
	<i>Corporate and Other (incl. intersegment eliminations)</i>	(1,197)	(1,069)			
	<i>Discontinued operations</i>	426	572			

(1) Corporate and Other includes Stranded corporate costs of \$225 million and \$297 million for the year ended December 31, 2019 and 2018, respectively.

Operational EBITA

(\$ in millions, unless otherwise indicated)	Industrial						Robotics & Discrete				
	ABB		Electrification		Automation		Motion		Automation		
	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	
Revenues	7,068	7,395	3,238	3,320	1,683	1,723	1,657	1,671	787	892	
FX/commodity timing											
differences in total revenues	(29)	(7)	(12)	4	(12)	8	(4)	(9)	(4)	(8)	
Operational revenues	7,039	7,388	3,226	3,324	1,671	1,731	1,653	1,662	783	884	
Income from operations	648	275	478	221	194	198	245	226	62	106	
Acquisition-related amortization	60	75	28	35	1	1	13	15	19	20	
Restructuring, related and implementation costs	99	129	51	76	7	31	2	3	4	5	
Changes in obligations related to divested businesses	5	14	—	—	—	—	—	—	—	—	
Changes in pre-acquisition estimates	9	6	9	17	—	—	—	—	—	(11)	
Gains and losses from sale of businesses	(47)	4	(41)	—	—	—	—	4	—	—	
Fair value adjustment on assets and liabilities held for sale	(45)	—	(45)	—	—	—	—	—	—	—	
Acquisition- and divestment-related expenses and integration costs	49	56	50	40	—	1	—	1	—	—	
Certain other non-operational items	(42)	25	(91)	—	—	2	6	3	2	1	
FX/commodity timing											
differences in income from operations	(26)	—	(18)	(1)	—	2	(12)	(4)	(1)	(5)	
Operational EBITA	710	584	421	388	202	235	254	248	86	116	
Operational EBITA margin (%)	10.1%	7.9%	13.1%	11.7%	12.1%	13.6%	15.4%	14.9%	11.0%	13.1%	
Industrial											
ABB						Robotics & Discrete					
(\$ in millions, unless otherwise indicated)		FY 19	FY 18	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18
Revenues	27,978	27,662	12,728	11,686	6,273	6,500	6,533	6,463	3,314	3,611	
FX/commodity timing											
differences in total revenues	(17)	(2)	(11)	18	(4)	(1)	—	(10)	(2)	—	—
Operational revenues	27,961	27,660	12,717	11,704	6,269	6,499	6,533	6,453	3,312	3,611	
Income from operations	1,938	2,226	1,049	1,290	700	853	1,009	924	298	456	
Acquisition-related amortization	265	273	115	106	4	6	53	61	77	82	
Restructuring, related and implementation costs	300	172	112	98	21	35	12	17	12	4	
Changes in obligations related to divested businesses	36	106	—	—	—	—	—	—	—	—	
Changes in pre-acquisition estimates	22	8	22	19	—	—	—	—	—	(11)	
Gains and losses from sale of businesses	(55)	(57)	(42)	(81)	—	3	—	4	—	—	
Fair value adjustment on assets and liabilities held for sale	421	—	421	—	—	—	—	—	—	—	
Acquisition- and divestment-related expenses and integration costs	121	204	119	168	—	4	—	2	1	—	
Certain other non-operational items	80	40	(89)	(2)	2	3	14	10	4	1	
FX/commodity timing											
differences in income from operations	(21)	33	(19)	28	5	10	(6)	5	1	(4)	
Operational EBITA	3,107	3,005	1,688	1,626	732	914	1,082	1,023	393	528	
Operational EBITA margin (%)	11.1%	10.9%	13.3%	13.9%	11.7%	14.1%	16.6%	15.9%	11.9%	14.6%	

Depreciation and Amortization

(\$ in millions)	Industrial										Robotics & Discrete	
	ABB		Electrification		Automation		Motion		Automation			
Depreciation	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18	Q4 19	Q4 18
Depreciation	166	149	80	64	12	11	29	28	11	11		
Amortization	80	95	33	41	2	2	14	17	20	21		
including total acquisition-related amortization of:	60	75	28	35	1	1	13	15	19	20		

(\$ in millions)	Industrial										Robotics & Discrete	
	ABB		Electrification		Automation		Motion		Automation			
FY 19	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18
Depreciation	616	578	271	229	47	47	113	118	44	42		
Amortization	345	338	143	126	8	10	56	66	80	85		
including total acquisition-related amortization of:	265	273	115	106	4	6	53	61	77	82		

Orders received and revenues by region

(\$ in millions, unless otherwise indicated)	Orders received			CHANGE			Revenues			CHANGE		
	Q4 19		Q4 18	US\$	Local	Com-	Q4 19		Q4 18	US\$	Local	Com-
	FY 19	FY 18	US\$	Local	parable	FY 19	FY 18	US\$	Local	parable	FY 19	FY 18
Europe	2,719	2,423	12%	16%	16%	2,573	2,650	-3%	0%	1%		
The Americas	2,160	2,358	-8%	-8%	-8%	2,160	2,244	-4%	-4%	-4%		
Asia, Middle East and Africa	1,956	2,146	-9%	-8%	-5%	2,279	2,439	-7%	-6%	-3%		
Intersegment orders/revenues ⁽¹⁾	51	58				56	62					
ABB Group	6,886	6,985	-1%	0%	1%	7,068	7,395	-4%	-3%	-2%		

(\$ in millions, unless otherwise indicated)	Orders received			CHANGE			Revenues			CHANGE		
	FY 19		FY 18	US\$	Local	Com-	FY 19			US\$	Local	Com-
	FY 19	FY 18	US\$	Local	parable	FY 19	FY 18	US\$	Local	parable	FY 19	FY 18
Europe	10,424	10,617	-2%	4%	2%	10,004	10,013	0%	6%	4%		
The Americas	9,018	8,205	10%	11%	1%	8,919	8,003	11%	13%	2%		
Asia, Middle East and Africa	8,940	9,523	-6%	-3%	0%	8,842	9,403	-6%	-3%	-3%		
Intersegment orders/revenues ⁽¹⁾	206	245				213	243					
ABB Group	28,588	28,590	0%	4%	1%	27,978	27,662	1%	5%	1%		

(1) Intersegment orders/revenues include sales to the Power Grids business which is presented as discontinued operations and are not eliminated from Total orders/revenues.

Consolidated Financial Information

ABB Ltd Consolidated Income Statements (unaudited)

(\$ in millions, except per share data in \$)	Year ended		Three months ended	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Sales of products	22,554	22,366	5,597	5,888
Sales of services and other	5,424	5,296	1,471	1,507
Total revenues	27,978	27,662	7,068	7,395
Cost of sales of products	(15,811)	(15,961)	(3,960)	(4,388)
Cost of services and other	(3,261)	(3,157)	(901)	(920)
Total cost of sales	(19,072)	(19,118)	(4,861)	(5,308)
Gross profit	8,906	8,544	2,207	2,087
Selling, general and administrative expenses	(5,447)	(5,295)	(1,365)	(1,459)
Non-order related research and development expenses	(1,198)	(1,147)	(332)	(331)
Other income (expense), net	(323)	124	138	(22)
Income from operations	1,938	2,226	648	275
Interest and dividend income	67	72	10	11
Interest and other finance expense	(215)	(262)	(36)	(66)
Non-operational pension (cost) credit	72	83	5	6
Income from continuing operations before taxes	1,862	2,119	627	226
Provision for taxes	(772)	(544)	(320)	(16)
Income from continuing operations, net of tax	1,090	1,575	307	210
Income from discontinued operations, net of tax	438	723	50	135
Net income	1,528	2,298	357	345
Net income attributable to noncontrolling interests	(89)	(125)	(32)	(28)
Net income attributable to ABB	1,439	2,173	325	317
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,043	1,514	291	204
Income from discontinued operations, net of tax	396	659	34	113
Net income	1,439	2,173	325	317
Basic earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.49	0.71	0.14	0.10
Income from discontinued operations, net of tax	0.19	0.31	0.02	0.05
Net income	0.67	1.02	0.15	0.15
Diluted earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.49	0.71	0.14	0.10
Income from discontinued operations, net of tax	0.19	0.31	0.02	0.05
Net income	0.67	1.02	0.15	0.15
Weighted-average number of shares outstanding (in millions) used to compute:				
Basic earnings per share attributable to ABB shareholders	2,133	2,132	2,133	2,132
Diluted earnings per share attributable to ABB shareholders	2,135	2,139	2,137	2,134

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)	Year ended		Three months ended	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Total comprehensive income (loss), net of tax	1,279	1,326	315	(132)
Total comprehensive income attributable to noncontrolling interests, net of tax	(83)	(110)	(36)	(36)
Total comprehensive income (loss) attributable to ABB shareholders, net of tax	1,196	1,216	279	(168)

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)	Dec. 31, 2019	Dec. 31, 2018
Cash and equivalents	3,544	3,445
Marketable securities and short-term investments	566	712
Receivables, net	6,434	6,386
Contract assets	1,025	1,082
Inventories, net	4,184	4,284
Prepaid expenses	191	176
Other current assets	674	616
Current assets held for sale and in discontinued operations	9,840	5,164
Total current assets	26,458	21,865
Property, plant and equipment, net	3,972	4,133
Operating lease right-of-use assets	994	–
Goodwill	10,825	10,764
Other intangible assets, net	2,252	2,607
Prepaid pension and other employee benefits	133	83
Investments in equity-accounted companies	33	87
Deferred taxes	910	1,006
Other non-current assets	531	469
Non-current assets held for sale and in discontinued operations	–	3,427
Total assets	46,108	44,441
Accounts payable, trade	4,353	4,424
Contract liabilities	1,719	1,707
Short-term debt and current maturities of long-term debt	2,287	2,031
Current operating leases	305	–
Provisions for warranties	816	948
Other provisions	1,375	1,372
Other current liabilities	3,761	3,780
Current liabilities held for sale and in discontinued operations	5,650	4,185
Total current liabilities	20,266	18,447
Long-term debt	6,772	6,587
Non-current operating leases	717	–
Pension and other employee benefits	1,793	1,828
Deferred taxes	911	927
Other non-current liabilities	1,669	1,689
Non-current liabilities held for sale and in discontinued operations	–	429
Total liabilities	32,128	29,907
<i>Commitments and contingencies</i>		
Stockholders' equity:		
Common stock, CHF 0.12 par value		
(2,168,148,264 issued shares at December 31, 2019 and 2018)	188	188
Additional paid-in capital	73	56
Retained earnings	19,640	19,839
Accumulated other comprehensive loss	(5,590)	(5,311)
Treasury stock, at cost		
(34,647,153 and 36,185,858 shares at December 31, 2019 and 2018, respectively)	(785)	(820)
Total ABB stockholders' equity	13,526	13,952
Noncontrolling interests	454	582
Total stockholders' equity	13,980	14,534
Total liabilities and stockholders' equity	46,108	44,441

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)	Year ended		Three months ended	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Operating activities:				
Net income	1,528	2,298	357	345
Less: Income from discontinued operations, net of tax	(438)	(723)	(50)	(135)
Adjustments to reconcile net income to net cash provided by operating activities:				
Depreciation and amortization	961	916	246	244
Deferred taxes	(83)	(142)	35	(181)
Net loss (gain) from derivatives and foreign exchange	1	93	(9)	14
Net loss (gain) from sale of property, plant and equipment	(51)	(57)	(3)	–
Net loss (gain) from sale of businesses	(55)	(57)	(47)	4
Fair value adjustment on assets and liabilities held for sale	421	–	(45)	–
Share-based payment arrangements	46	50	15	18
Other	(59)	(76)	(4)	(7)
Changes in operating assets and liabilities:				
Trade receivables, net	(202)	(144)	30	114
Contract assets and liabilities	128	(18)	182	78
Inventories, net	(182)	(336)	229	125
Accounts payable, trade	130	454	292	306
Accrued liabilities	(76)	252	12	89
Provisions, net	(36)	87	32	111
Income taxes payable and receivable	(3)	(102)	84	(6)
Other assets and liabilities, net	(131)	(143)	98	287
Net cash provided by operating activities – continuing operations	1,899	2,352	1,454	1,406
Net cash provided by operating activities – discontinued operations	426	572	457	461
Net cash provided by operating activities	2,325	2,924	1,911	1,867
Investing activities:				
Purchases of investments	(748)	(322)	(32)	(13)
Purchases of property, plant and equipment and intangible assets	(762)	(772)	(234)	(235)
Acquisition of businesses (net of cash acquired)				
and increases in cost- and equity-accounted companies	(22)	(2,664)	(9)	(5)
Proceeds from sales of investments	749	567	31	199
Proceeds from maturity of investments	80	160	–	–
Proceeds from sales of property, plant and equipment	82	72	15	23
Proceeds from sales of businesses (net of transaction costs and cash disposed) and cost- and equity-accounted companies	69	113	47	(14)
Net cash from settlement of foreign currency derivatives	(76)	(30)	(10)	9
Other investing activities	(23)	(32)	(21)	(4)
Net cash used in investing activities – continuing operations	(651)	(2,908)	(213)	(40)
Net cash used in investing activities – discontinued operations	(164)	(177)	(44)	(44)
Net cash used in investing activities	(815)	(3,085)	(257)	(84)
Financing activities:				
Net changes in debt with original maturities of 90 days or less	164	221	(731)	(345)
Increase in debt	2,406	1,914	171	–
Repayment of debt	(2,156)	(830)	(144)	(492)
Delivery of shares	10	42	10	–
Purchase of treasury stock	–	(250)	–	–
Dividends paid	(1,675)	(1,717)	–	–
Dividends paid to noncontrolling shareholders	(90)	(86)	(15)	(3)
Other financing activities	13	(35)	(12)	(76)
Net cash used in financing activities – continuing operations	(1,328)	(741)	(721)	(916)
Net cash used in financing activities – discontinued operations	(55)	(48)	(1)	–
Net cash used in financing activities	(1,383)	(789)	(722)	(916)
Effects of exchange rate changes on cash and equivalents	(28)	(131)	33	(26)
Net change in cash and equivalents	99	(1,081)	965	841
Cash and equivalents, beginning of period	3,445	4,526	2,579	2,604
Cash and equivalents, end of period	3,544	3,445	3,544	3,445
Supplementary disclosure of cash flow information:				
Interest paid	284	243	96	95
Income taxes paid	1,005	1,026	236	245

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, 2018	188	29	19,594	(4,345)	(647)	14,819	530	15,349
Cumulative effect of changes in accounting principles				(192)	(9)	(201)		(201)
Comprehensive income:								
Net income				2,173		2,173	125	2,298
Foreign currency translation adjustments, net of tax of \$(14)					(631)	(631)	(15)	(646)
Effect of change in fair value of available-for-sale securities, net of tax of \$(1)					(3)	(3)		(3)
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$(32)					(295)	(295)		(295)
Change in derivatives qualifying as cash flow hedges, net of tax of \$(3)					(28)	(28)		(28)
Total comprehensive income						1,216	110	1,326
Changes in noncontrolling interests		(4)				(4)	(19)	(23)
Noncontrolling interests recognized in connection with business combination							107	107
Dividends to noncontrolling shareholders							(146)	(146)
Dividends paid to shareholders			(1,736)			(1,736)		(1,736)
Share-based payment arrangements		60				60		60
Purchase of treasury stock					(249)	(249)		(249)
Delivery of shares		(35)			77	42		42
Call options		5				5		5
Balance at December 31, 2018	188	56	19,839	(5,311)	(820)	13,952	582	14,534
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			1,439			1,439	89	1,528
Foreign currency translation adjustments, net of tax of \$0					(126)	(126)	(6)	(132)
Effect of change in fair value of available-for-sale securities, net of tax of \$3					14	14		14
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$(36)					(142)	(142)		(142)
Change in derivatives qualifying as cash flow hedges, net of tax of \$0					11	11		11
Total comprehensive income						1,196	83	1,279
Changes in noncontrolling interests		(17)				(17)	12	(5)
Fair value adjustment to noncontrolling interests recognized in business combination							(44)	(44)
Changes in noncontrolling interests in connection with divestments							(55)	(55)
Dividends to noncontrolling shareholders							(122)	(122)
Dividends paid to shareholders			(1,675)			(1,675)		(1,675)
Share-based payment arrangements		55				55		55
Delivery of shares		(24)			34	10		10
Call options		4				4		4
Balance at December 31, 2019	188	73	19,640	(5,590)	(785)	13,526	454	13,980

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 technology leader that is driving the digital transformation of industries with its four customer-focused, globally leading businesses.

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, 2018.

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:

- 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,
- assumptions used in determining inventory obsolescence and net realizable value,
- estimates used to record expected costs for employee severance in connection with restructuring programs,
- 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,
- 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,
- assumptions used in the calculation of pension and postretirement benefits and the fair value of pension plan assets,
- estimates to determine valuation allowances for deferred tax assets and amounts recorded for uncertain tax positions,
- growth rates, discount rates and other assumptions used to determine impairment of long-lived assets and in testing goodwill for impairment, and
- assessment of the allowance for doubtful accounts.

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 Consolidated Financial Information for prior periods have been reclassified to conform to the current year's presentation. These changes relate primarily to the reorganization of the Company's operating segments (see Note 16 for details).

Note 2

Recent accounting pronouncements

Applicable for current periods

Leases

In January 2019, the Company adopted a new accounting standard that requires lessees to recognize lease assets and corresponding lease liabilities on the balance sheet for all leases with terms of more than twelve months with several practical expedients. The new accounting standard continues to classify leases as either finance or operating, with the classification determining the pattern of expense recognition in the income statement. It also requires additional disclosures about the Company's leasing activities. The Company has elected to not recognize lease assets and lease liabilities for leases with terms of less than twelve months and to not separate lease and non-lease components for leases other than real estate.

The Company has adopted the standard on a modified retrospective basis and has therefore recorded a cumulative-effect adjustment to the opening balance of retained earnings on January 1, 2019. It has elected to apply the package of practical expedients which permits the Company to not reassess under the new standard prior conclusions about lease identification, lease classification and initial direct costs. While the adoption of this standard only had an insignificant impact on the Company's results of operations and cash flows, total assets and total liabilities increased by \$1,344 million and \$1,360 million, respectively, of which \$148 million and \$153 million, respectively, relate to assets and liabilities held for sale. Comparable information has not been restated to reflect the adoption of this new standard and continues to be measured and reported under the accounting standard in effect for those periods presented.

Derivatives and Hedging—Targeted improvements to accounting for hedging activities

In January 2019, the Company adopted an accounting standard update which expands and refines hedge accounting for both financial and non-financial risk components, aligns the recognition and presentation of the effects of hedging instruments and hedge items in the financial statements, and includes certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. This update was applied on a modified retrospective basis for cash flow and net investment hedges and prospectively for the amended presentation and disclosure guidance but did not have a significant impact on the consolidated financial statements.

Reclassification of certain tax effects from accumulated other comprehensive income

In January 2019, the Company adopted an accounting standard update which allows a reclassification of the stranded tax effects in accumulated other comprehensive income resulting from the Tax Cuts and Jobs Act of 2017 to retained earnings. The updated guidance was applied in the period of adoption and resulted in a reclassification of \$36 million from accumulated other comprehensive income to retained earnings.

Applicable for future periods

Measurement of credit losses on financial instruments

In June 2016, an accounting standard update was issued which replaces the existing incurred loss impairment methodology for most financial assets with a new "current expected credit loss" model. Additional related updates with targeted improvements and clarifications were issued subsequently. The new model will result in the 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 will be 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 will be measured in a manner similar to current GAAP, except that the losses will be recorded through an allowance for credit losses rather than as a direct write-down of the security.

This update is effective for the Company for annual and interim periods beginning January 1, 2020. For financial assets carried at amortized cost a cumulative-effect adjustment for the changes in the allowances for credit losses will be recognized in retained earnings on the consolidated balance sheet as of January 1, 2020. The Company does not expect the update to have a significant impact on its consolidated financial statements.

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

In August 2018, an accounting standard update was issued which modifies 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. The changes and modifications to the Level 3 disclosures are to be applied prospectively, while all other amendments are to be applied retrospectively. The Company will adopt this update as of January 1, 2020, and does not believe that this update will have a significant impact on its consolidated financial statements.

Simplifying the Accounting for Income Taxes

In December 2019, an accounting standard update was issued which simplifies the accounting for income taxes by removing certain exceptions to the general principles in this topic. The amendments also improve consistent application of existing guidance by clarifying certain aspects. 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.

Note 3

Discontinued operations, business divestments and assets held for sale

Discontinued operations

The Company reports a disposal, or planned disposal, of a component or a group of components as a discontinued operation if the disposal represents a strategic shift that has or will have a major effect on the Company's operations and financial results. A strategic shift could include a disposal of a major geographical area, a major line of business or other major parts of the Company. A component may be a reportable segment or an operating segment, a reporting unit, a subsidiary, or an asset group.

Assets and liabilities of a component reported as a discontinued operation are presented as held for sale and in discontinued operations in the Company's Consolidated Balance Sheets.

Interest expense that is not directly attributable to or related to the Company's continuing business or discontinued business is allocated to discontinued operations based on the ratio of net assets to be sold less debt that is 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 is not allocated to discontinued operations.

On December 17, 2018, the Company announced an agreement to divest 80.1 percent of its Power Grids business to Hitachi Ltd. (Hitachi) valuing the business at \$11 billion. The business also includes certain real estate properties which were previously reported within Corporate and Other as the Company primarily manages real estate assets centrally as corporate assets. As a result, this business, along with the related real estate assets previously included in Corporate and Other, have been reported as discontinued operations. The divestment is expected to be completed at the end of the second quarter of 2020, following the receipt of customary regulatory approvals as well as the completion of certain legal entity reorganizations expected to be completed before the sale. At December 31, 2019, all assets and liabilities in the discontinued operation have been classified as current as the sale is expected to be completed within 12 months.

As this planned divestment represents a strategic shift that will 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 reflected as held-for-sale for all periods presented. In addition, amounts relating to stranded corporate costs have been excluded from discontinued operations and are included as a component of Corporate and Other. Stranded costs represent overhead and other management costs which were previously able to be included in the measure of segment profit (Operational EBITA) for the former Power Grids operating segment but are not directly attributable to the discontinued operation and thus do not qualify to be recorded as part of income from discontinued operations.

Operating results of the discontinued operations are summarized as follows:

(\$ in millions)	Year ended		Three months ended	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Total revenues	9,037	9,698	2,524	2,623
Total cost of sales	(6,983)	(7,378)	(1,974)	(2,052)
Gross profit	2,054	2,320	550	571
Expenses	(1,394)	(1,326)	(434)	(381)
Income from operations	660	994	115	189
Net interest and other finance expense	(61)	(55)	(31)	(14)
Non-operational pension (cost) credit	5	12	(4)	3
Income from discontinued operations before taxes	605	951	81	179
Provision for taxes	(167)	(228)	(31)	(44)
Income from discontinued operations, net of tax	438	723	50	135

Of the total Income from discontinued operations before taxes in the table above, \$566 million and \$874 million in the year ended December 31, 2019 and 2018, respectively, and \$66 million and \$158 million in the three months ended December 31, 2019 and 2018, respectively, are attributable to the Company, while the remainder is attributable to noncontrolling interests.

Income from discontinued operations before taxes excludes stranded costs which were previously able to be allocated to the Power Grids operating segment. As a result, for the year ended December 31, 2019 and 2018, \$225 million and \$297 million, respectively, and for the three months ended December 31, 2019 and 2018, \$40 million and \$72 million, respectively, 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 are now reported as part of Corporate and Other. In the table above, Net interest and other finance expense in the year ended December 31, 2019 and 2018, includes \$44 million and \$43 million, respectively, and in the three months ended December 31, 2019 and 2018, includes \$9 million and \$11 million, respectively, of interest expense which has been recorded on an allocated basis in accordance with the Company's accounting policy election. In addition, as required by U.S. GAAP, subsequent to December 17, 2018, the Company has not recorded depreciation or amortization on the property, plant and equipment, and intangible assets reported as discontinued operations. In the year and three months ended December 31, 2018, respectively, a total of \$258 million and \$62 million of depreciation and amortization expense was recorded for such assets.

Included in the reported Total revenues of the Company for the year ended December 31, 2019 and 2018, are revenues from the Company's operating segments to the Power Grids business of \$213 million and \$243 million, respectively, and for the three months ended December 31, 2019 and 2018, of \$56 million and \$62 million, respectively, 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 16).

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 in the Company's Consolidated Balance Sheets are summarized as follows:

(\$ in millions)	Dec. 31, 2019	Dec. 31, 2018
Receivables, net	2,541	2,377
Contract assets	1,243	1,236
Inventories, net	1,667	1,457
Property, plant and equipment, net	1,754	—
Goodwill	1,631	—
Other current assets	1,004	94
Current assets held for sale and in discontinued operations	9,840	5,164
Property, plant and equipment, net	—	1,477
Goodwill	—	1,620
Other non-current assets	—	330
Non-current assets held for sale and in discontinued operations	—	3,427
Accounts payable, trade	1,722	1,732
Contract liabilities	1,121	998
Pension and other employee benefits	419	—
Other current liabilities	1,984	1,455
Current liabilities held for sale and in discontinued operations	5,246	4,185
Pension and other employee benefits	—	268
Other non-current liabilities	—	161
Non-current liabilities held for sale and in discontinued operations	—	429

Planned business divestments classified as held for sale

The Company classifies its long-lived assets or disposal groups to be sold as held for sale in the period in which all of the held for sale criteria are met. The Company initially measures a long-lived asset or disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell. Any resulting loss is recognized in the period in which the held for sale criteria are met, while gains are not recognized on the sale of a long-lived asset or disposal group until the date of sale. The Company assesses the fair value of a long-lived asset or disposal group less any costs to sell at each reporting period and until the asset or disposal group is no longer classified as held for sale.

Management had made the decision to divest its solar inverters business and concluded that, during the second quarter of 2019, the held for sale criteria had been met. In July 2019, an agreement was reached to sell the solar inverters business for no consideration. Under the agreement the Company is obligated to transfer cash on the closing date to provide minimum liquidity funding requirements and make additional payments through to 2025. At December 31, 2019, a total of EUR 266 million (\$299 million) is estimated to be due to the buyer. As a result, in the year and three months ended December 31, 2019, the Company recorded a loss of \$421 million and gain of \$45 million, respectively, in "Other income (expense), net", representing the excess of the carrying value over the estimated fair value of this business. The carrying value at December 31, 2019, includes a loss arising from the cumulative translation adjustment of \$99 million.

The fair value is 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, is part of the Company's Electrification segment.

The estimated loss is based on current exchange rates and net assets of the business. Any changes to these factors through to the closing date of the transaction will result in adjustments to the loss recognized on the planned sale.

The divestment is expected to be completed in the first quarter of 2020.

As this planned divestment does not qualify as a discontinued operation, the results of operations for this business are included in the Company's continuing operations for all periods presented. The assets and liabilities of this business are shown as assets and liabilities held for sale in the Company's Consolidated Balance Sheet at December 31, 2019. The carrying amounts of the major classes of assets and liabilities held for sale relating to this planned divestment are 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 \$421 million and gain of \$45 million, in the year and three months ended December 31, 2019, respectively, Income from continuing operations before taxes includes a net loss of \$490 million and net income of \$24 million, respectively, from the solar inverters business. In the year and three months ended December 31, 2018, net losses of \$94 million and \$49 million, respectively, from this business were included in Income from continuing operations before taxes.

Note 4

Acquisitions

On June 30, 2018, the Company acquired through numerous share and asset purchases substantially all the assets, liabilities and business activities of GE Industrial Solutions (GEIS), GE's global electrification solutions business. GEIS, headquartered in Atlanta, United States, provides technologies that distribute and control electricity and support the commercial, data center, health care, mining, renewable energy, oil and gas, water and telecommunications sectors. The resulting cash outflows for the Company amounted to \$2,622 million (net of cash acquired of \$192 million). The acquisition strengthens the Company's global position in electrification and expands its access to the North American market through strong customer relationships, a large installed base and extensive distribution networks. Consequently, the goodwill acquired represents expected operating synergies and cost savings as well as intangible assets that are not separable such as employee know-how and expertise.

While the Company uses its best estimates and assumptions as part of the purchase price allocation process to value assets acquired and liabilities assumed at the acquisition date, the purchase price allocation for acquisitions is preliminary for up to 12 months after the acquisition date and is subject to refinement as more detailed analyses are completed and additional information about the fair values of the acquired assets and liabilities becomes available. The purchase price allocation relating to the GEIS acquisition was finalized during the second quarter of 2019, and resulted in net \$92 million of measurement period adjustments, increasing goodwill, primarily related to changes in the valuation of net working capital, deferred tax liabilities and intangible assets acquired.

In addition, in November 2019, the Company recognized a gain of \$92 million relating to the receipt of cash from General Electric for a favorable resolution of an uncertainty with respect to the price paid to acquire GEIS. This occurred after the end of the measurement period and as a result, the Company recorded a gain in "Other income (expense), net".

The final allocation (including measurement period adjustments) of the purchase consideration for GEIS, is as follows:

(\$ in millions)	Final allocated amounts	Weighted-average useful life
Technology	92	7 years
Customer relationships	178	12 years
Trade names	135	13 years
Supply agreement	32	13 years
Intangible assets	437	
Property, plant and equipment	373	
Deferred tax liabilities	(45)	
Inventories	405	
Other assets and liabilities, net ⁽¹⁾	(19)	
Goodwill ⁽²⁾	1,534	
Noncontrolling interest	(63)	
Total consideration (net of cash acquired)⁽³⁾	2,622	

(1) Gross receivables totaled \$658 million; the fair value of which was \$624 million after adjusting for contractual cash flows not expected to be collected.

(2) The amount of goodwill which is tax deductible is \$769 million.

(3) Cash acquired totaled \$192 million.

The Company's Consolidated Income Statements for the year and three months ended December 31, 2018, includes total revenues of \$1,317 million and \$683 million, respectively, and net income of \$1 million and \$25 million, respectively, in respect of GEIS since the date of acquisition.

The unaudited pro forma financial information in the table below summarizes the combined pro forma results of the Company and GEIS for the year and three months ended December 31, 2018, as if GEIS had been acquired on January 1, 2017.

(\$ in millions)	Year ended December 31, 2018	Three months ended December 31, 2018
Total revenues	28,936	7,395
Income from continuing operations, net of tax	1,622	210

The pro forma results are for information purposes only and do not include any anticipated cost synergies or other effects of the planned integration of GEIS. Accordingly, such pro forma amounts are not necessarily indicative of the results that would have occurred had the acquisition been completed on the date indicated, nor are they indicative of the future operating results of the combined company.

The unaudited pro forma results above include certain adjustments related to the GEIS acquisition. The table below summarizes the adjustments necessary to present the pro forma financial information of the combined entity as if GEIS had been acquired on January 1, 2017.

(\$ in millions)	Year ended December 31, 2018	Three months ended December 31, 2018
Impact on cost of sales from additional amortization of intangible assets	(10)	-
Impact on cost of sales from fair valuing acquired inventory	26	-
Impact on cost of sales from additional depreciation of property, plant and equipment	(4)	-
Impact on selling, general and administrative expenses from additional amortization of intangible assets	(5)	-
Impact on selling, general and administrative expenses from acquisition-related costs	44	-
Impact on interest from financing costs	(15)	-
Taxation adjustments	(5)	-
Total pro forma adjustments	31	-

Business divestments

For the year and three months ended December 31, 2019, the Company recorded net gains (including transaction costs) of \$55 million and \$47 million, respectively, in "Other income (expense), net, primarily due to the divestment of two businesses in China.

Goodwill

Changes in total goodwill were as follows:

(\$ in millions)	Total Goodwill
Balance at January 1, 2018	9,536
Goodwill acquired during the year ⁽¹⁾	1,472
Goodwill allocated to disposals	(31)
Exchange rate differences and other	(213)
Balance at December 31, 2018	10,764
Goodwill allocated to disposals	(18)
Measurement period adjustments to goodwill acquired in previous periods	92
Exchange rate differences and other	(13)
Balance at December 31, 2019	10,825

(1) Includes goodwill in respect of GEIS, acquired in June 2018, which has been allocated to the Electrification operating segment.

Note 5

Cash and equivalents, marketable securities and short-term investments

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

(\$ in millions)	Cost basis	December 31, 2019				Marketable securities and short-term investments		
		Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents			
Changes in fair value recorded in net income								
Cash								
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		

(\$ in millions)	Cost basis	December 31, 2018				Marketable securities and short-term investments		
		Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents			
Changes in fair value recorded in net income								
Cash								
Cash	1,983			1,983	1,983			
Time deposits	1,463			1,463	1,462	1		
Other short-term investments	206			206	–	206		
Equity securities	206	(3)		203		203		
	3,858	–	(3)	3,855	3,445	410		
Changes in fair value recorded in other comprehensive income								
Debt securities available-for-sale:								
U.S. government obligations	217		(3)	214	–	214		
Corporate	90		(2)	88	–	88		
	307	–	(5)	302	–	302		
Total	4,165	–	(8)	4,157	3,445	712		

Other short-term investments at December 31, 2018 were receivables of \$206 million, representing reverse repurchase agreements.

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	
	December 31, 2019	December 31, 2018
Foreign exchange contracts	15,015	13,612
Embedded foreign exchange derivatives	924	733
Interest rate contracts	5,188	3,300

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	
		December 31, 2019	December 31, 2018
Copper swaps	metric tonnes	42,494	46,143
Silver swaps	ounces	2,508,770	2,861,294
Aluminum swaps	metric tonnes	8,388	9,491

Equity derivatives

At December 31, 2019 and 2018, the Company held 40 million and 41 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$26 million and \$6 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. Any ineffectiveness in the hedge relationship, or hedge component excluded from the assessment of effectiveness, is recognized in earnings during the current period.

At December 31, 2019 and 2018, "Accumulated other comprehensive loss" included net unrealized losses of \$5 million and \$16 million, respectively, net of tax, on derivatives designated as cash flow hedges. Of the amount at December 31, 2019, net losses of \$2 million are expected to be reclassified to earnings in the following 12 months. At December 31, 2019, the longest maturity of a derivative classified as a cash flow hedge was 49 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 year and three months ended December 31, 2019 and 2018.

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 as follows:

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 year and three months ended December 31, 2019 and 2018, 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)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Gains (losses) recognized in Interest and other finance expense:				
- on derivatives designated as fair value hedges	38	(4)	(20)	32
- on hedged item	(38)	5	20	(32)

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			
		Year ended December 31,		Three months ended December 31,	
		2019	2018	2019	2018
Foreign exchange contracts	Total revenues	(7)	(121)	53	(2)
	Total cost of sales	(64)	46	(22)	(20)
	SG&A expenses ⁽¹⁾	2	10	(4)	-
	Non-order related research and development	1	(1)	-	-
	Interest and other finance expense	(122)	40	(62)	16
Embedded foreign exchange contracts	Total revenues	17	58	4	-
	Total cost of sales	(6)	(4)	1	1
	SG&A expenses ⁽¹⁾	-	2	-	-
Commodity contracts	Total cost of sales	12	(33)	16	(4)
	Interest and other finance expense	-	3	1	-
Total		(167)	-	(13)	(9)

(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)	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
December 31, 2018				
(\$ in millions)	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”
	“Other current assets”	“Other non-current assets”	“Other current liabilities”	“Other non-current liabilities”
Derivatives designated as hedging instruments:				
Foreign exchange contracts	–	–	1	4
Commodity contracts	–	–	2	–
Interest rate contracts	–	35	–	1
Cash-settled call options	3	3	–	–
Total	3	38	3	5
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	117	14	160	30
Commodity contracts	8	1	21	1
Embedded foreign exchange derivatives	15	10	8	1
Total	140	25	189	32
Total fair value	143	63	192	37

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 December 31, 2019 and 2018, have been presented on a gross basis.

The Company's netting agreements and other similar arrangements allow net settlements under certain conditions. At December 31, 2019 and 2018, information related to these offsetting arrangements was as follows:

(\$ in millions)	December 31, 2019			
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
Derivatives	214	(102)	–	–
Total	214	(102)	–	–
(\$ 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
Derivatives	151	(102)	–	–
Total	151	(102)	–	–

(\$ in millions)		December 31, 2018			
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	181	(121)	–	–	60
Reverse repurchase agreements	206	–	–	(206)	–
Total	387	(121)	–	(206)	60

(\$ in millions)		December 31, 2018			
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	220	(121)	–	–	99
Total	220	(121)	–	–	99

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, reverse repurchase agreements, 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)	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

	December 31, 2019			
	Level 1	Level 2	Level 3	Total fair value
Liabilities				
Derivative liabilities—current in "Other current liabilities"				
Derivative liabilities—non-current in "Other non-current liabilities"	–	23	–	23
Total	–	166	–	166

	December 31, 2018			
	Level 1	Level 2	Level 3	Total fair value
Assets				
Securities in "Marketable securities and short-term investments":				
Equity securities	–	203	–	203
Debt securities—U.S. government obligations	214	–	–	214
Debt securities—Corporate	–	88	–	88
Derivative assets—current in "Other current assets"	–	143	–	143
Derivative assets—non-current in "Other non-current assets"	–	63	–	63
Total	214	497	–	711

Liabilities

	December 31, 2018			
	Level 1	Level 2	Level 3	Total fair value
Liabilities				
Derivative liabilities—current in "Other current liabilities"				
Derivative liabilities—non-current in "Other non-current liabilities"	–	37	–	37
Total	–	229	–	229

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

In June 2019, the Company adjusted the carrying value of the solar inverters business which is classified as held for sale (See Note 3). There were no other significant non-recurring fair value measurements during the year and three months ended December 31, 2019 and 2018.

Disclosure about financial instruments carried on a cost basis

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

(\$ in millions)	Carrying value	December 31, 2019			Total fair value		
		Level 1	Level 2	Level 3			
Assets							
Cash and equivalents (excluding securities with original maturities up to 3 months):							
Cash	2,111	2,111	–	–	2,111		
Time deposits	1,433	–	1,433	–	1,433		
Other non-current assets:							
Loans granted	30	–	31	–	31		
Restricted time deposits	37	37	–	–	37		
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		

(\$ in millions)	Carrying value	December 31, 2018			Total fair value		
		Level 1	Level 2	Level 3			
Assets							
Cash and equivalents (excluding securities with original maturities up to 3 months):							
Cash	1,983	1,983	–	–	1,983		
Time deposits	1,462	–	1,462	–	1,462		
Marketable securities and short-term investments (excluding securities):							
Time deposits	1	–	1	–	1		
Receivables under reverse repurchase agreements	206	–	206	–	206		
Other non-current assets:							
Loans granted	30	–	31	–	31		
Restricted time deposits	39	39	–	–	39		
Liabilities							
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)							
2,008	1,480	528	–	–	2,008		
Long-term debt (excluding finance lease obligations)	6,457	5,839	707	–	6,546		

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), and Marketable securities and short-term investments (excluding securities): The carrying amounts approximate the fair values as the items are short-term in nature.
- 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

Commitments and contingencies

Contingencies—Regulatory, Compliance and Legal

Regulatory

In April 2014, the European Commission announced its decision regarding its investigation of anticompetitive practices in the cables industry and granted the Company full immunity from fines under its leniency program.

In February 2019, the Brazilian Antitrust Authority (CADE) announced its decision regarding its investigation of anticompetitive practices in certain power businesses of the Company, including flexible alternating current transmission systems (FACTS) and power transformers, and granted the Company full immunity from fines under its leniency program.

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. The SFO has commenced an investigation into this matter. The Company is cooperating fully with the authorities. At this time, it is not possible for the Company to make an informed judgment about the outcome of these matters.

Based on findings during an internal investigation, the Company self-reported to the SEC and the DoJ, to various authorities in South Africa and other countries as well as to certain multilateral financial institutions 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 December 31, 2019 and 2018, the Company had aggregate liabilities of \$157 million and \$221 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. 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 material 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)	December 31, 2019	December 31, 2018
Performance guarantees	1,860	1,584
Financial guarantees	10	10
Indemnification guarantees	64	64
Total⁽¹⁾	1,934	1,658

(1) 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 December 31, 2019 and 2018, 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 2027, 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 eight 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 December 31, 2019 and 2018, the maximum potential payable under these guarantees amounts to \$898 million and \$771 million, respectively, and these guarantees have various maturities ranging from one to ten years.

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 December 31, 2019 and 2018, the total outstanding performance bonds aggregated to \$6.8 billion and \$7.4 billion, respectively, of which \$3.7 billion and \$4.3 billion, respectively, relates to discontinued operations. There have been no significant amounts reimbursed to financial institutions under these types of arrangements in the year and three months ended December 31, 2019 and 2018.

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)	2019	2018
Balance at January 1,	948	909
Net change in warranties due to acquisitions, divestments and liabilities held for sale ⁽¹⁾	(88)	41
Claims paid in cash or in kind	(310)	(307)
Net increase in provision for changes in estimates, warranties issued and warranties expired	276	341
Exchange rate differences	(10)	(36)
Balance at December 31,	816	948

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

During 2018, 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 \$92 million during the year ended December 31, 2018. The corresponding increases were included in Cost of sales of products and 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 16). The warranty liability has been recorded based on the information currently available and is subject to change in the future.

Note 9

Contract assets and liabilities

The following table provides information about Contract Assets and Contract Liabilities:

(\$ in millions)	December 31, 2019	December 31, 2018	December 31, 2017
Contract assets	1,025	1,082	1,141
Contract liabilities	1,719	1,707	1,792

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 predominantly on 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)	Year ended December 31,			
	2019		2018	
Contract assets	Contract liabilities	Contract assets	Contract liabilities	
Revenue recognized, which was included in the Contract liabilities balance at Jan 1, 2019/2018	(1,158)		(879)	
Additions to Contract liabilities - excluding amounts recognized as revenue during the period		1,255		518
Receivables recognized that were included in the Contract asset balance at Jan 1, 2019/2018	(786)		(633)	

At December 31, 2019, the Company had unsatisfied performance obligations totaling \$13,324 million and, of this amount, the Company expects to fulfill approximately 75 percent of the obligations in 2020, approximately 14 percent of the obligations in 2021 and the balance thereafter.

Note 10

Debt

The Company's total debt at December 31, 2019 and 2018, amounted to \$9,059 million and \$8,618 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)	December 31, 2019	December 31, 2018
Short-term debt	838	561
Current maturities of long-term debt	1,449	1,470
Total	2,287	2,031

Short-term debt primarily represented issued commercial paper and short-term loans from various banks. At December 31, 2019 and 2018, \$706 million and \$292 million, respectively, was outstanding under the \$2 billion commercial paper program in the United States. At December 31, 2018, \$172 million was outstanding under the \$2 billion Euro-commercial paper program. No amount was outstanding under this program at December 31, 2019.

In March 2019, the Company repaid at maturity its EUR 1,250 million 2.625% Instruments, equivalent to \$1,414 million at date of payment.

Long-term debt

The Company's long-term debt at December 31, 2019 and 2018, amounted to \$6,772 million and \$6,587 million, respectively.

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

(in millions)	December 31, 2019			December 31, 2018		
	Nominal outstanding	Carrying value ⁽¹⁾	Nominal outstanding	Carrying value ⁽¹⁾		
Bonds:						
2.625% EUR Instruments, due 2019		–	EUR	1,250	\$	1,431
2.8% USD Notes, due 2020	USD 300	\$ 300	USD	300	\$	299
Floating EUR Notes, due 2020	EUR 1,000	\$ 1,122				–
4.0% USD Notes, due 2021	USD 650	\$ 648	USD	650	\$	646
2.25% CHF Bonds, due 2021	CHF 350	\$ 373	CHF	350	\$	373
5.625% USD Notes, due 2021	USD 250	\$ 260	USD	250	\$	265
2.875% USD Notes, due 2022	USD 1,250	\$ 1,267	USD	1,250	\$	1,242
3.375% USD Notes, due 2023	USD 450	\$ 448	USD	450	\$	448
0.625% EUR Instruments, due 2023	EUR 700	\$ 799	EUR	700	\$	807
0.75% EUR Instruments, due 2024	EUR 750	\$ 859	EUR	750	\$	862
0.3% CHF Notes, due 2024	CHF 280	\$ 288				–
3.8% USD Notes, due 2028	USD 750	\$ 746	USD	750	\$	746
1.0% CHF Notes, due 2029	CHF 170	\$ 175				–
4.375% USD Notes, due 2042	USD 750	\$ 724	USD	750	\$	723
Total		\$ 8,009			\$ 7,842	

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

In February 2019, the Company issued the following notes with a principal of:

- CHF 280 million, due 2024, paying interest annually in arrears at a fixed rate of 0.3 percent per annum, and
- CHF 170 million, due 2029, paying interest annually in arrears at a fixed rate of 1.0 percent per annum.

The aggregate net proceeds of these bond issues, after underwriting discount and other fees, amounted to CHF 449 million (equivalent to approximately \$449 million on date of issuance).

In April 2019, the Company issued 18-month floating rate notes with an aggregate principal of EUR 1,000 million, due in October 2020. These notes pay interest quarterly in arrears at a variable interest rate of 35 basis points above the 3-month EURIBOR, with a floor rate of zero. The aggregate net proceeds amounted to EUR 1,002 million (equivalent to approximately \$1,129 million on date of issuance).

Note 11

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.

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		2019	2018
Year ended December 31,	2019	2018	2019	2018	2019	2018
Operational pension cost:						
Service cost	76	92	113	122	1	1
Operational pension cost	76	92	113	122	1	1
Non-operational pension cost (credit):						
Interest cost	15	30	174	198	4	4
Expected return on plan assets	(112)	(117)	(276)	(305)	–	–
Amortization of prior service cost (credit)	(14)	(15)	2	1	(5)	(5)
Amortization of net actuarial loss	–	–	108	92	(3)	(1)
Curtailments, settlements and special termination benefits	11	–	27	23	(10)	–
Non-operational pension cost (credit)	(100)	(102)	35	9	(14)	(2)
Net periodic benefit cost	(24)	(10)	148	131	(13)	(1)

(\$ in millions)	Defined pension benefits				Other postretirement	
	Switzerland		International		2019	2018
Three months ended December 31,	2019	2018	2019	2018	2019	2018
Operational pension cost:						
Service cost	20	22	31	33	–	1
Operational pension cost	20	22	31	33	–	1
Non-operational pension cost (credit):						
Interest cost	4	8	44	52	1	1
Expected return on plan assets	(28)	(27)	(78)	(79)	–	–
Amortization of prior service cost (credit)	(3)	(3)	–	–	(1)	(2)
Amortization of net actuarial loss	–	–	28	20	(1)	–
Curtailments, settlements and special termination benefits	11	–	20	22	–	–
Non-operational pension cost (credit)	(16)	(22)	14	15	(1)	(1)
Net periodic benefit cost	4	–	45	48	(1)	–

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 \$47 million and \$45 million, for the year end December 31, 2019 and 2018, respectively, and \$18 million and \$11 million, for the three months ended December 31, 2019 and 2018, respectively, related to discontinued operations.

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits				Other postretirement			
	Switzerland		International		2019	2018		
Year ended December 31,	2019	2018	2019	2018	2019	2018		
Total contributions to defined benefit pension and other postretirement benefit plans								
Total contributions to defined benefit pension and other postretirement benefit plans	91	89	115	152	10	11		
Of which, discretionary contributions to defined benefit pension plans	2	–	8	25	–	–		
Three months ended December 31,								
Switzerland		International		Other postretirement		benefits		
Three months ended December 31,	2019	2018	2019	2018	2019	2018	2019	2018
Total contributions to defined benefit pension and other postretirement benefit plans	21	21	41	68	6	5	–	–
Of which, discretionary contributions to defined benefit pension plans	–	–	8	15	–	–	–	–

During the year and three months ended December 31, 2019, total contributions included available-for-sale debt securities, having a fair value at the contribution date of \$13 million, contributed to certain of the Company's pension plans in Germany and the United Kingdom. During the year and three months ended December 31, 2018, total contributions included available-for-sale debt securities, having a fair value at the contribution date of \$31 million, contributed to certain of the Company's pension plans in Germany and the United Kingdom.

Note 12

Stockholder's equity

At the Annual General Meeting of Shareholders on May 2, 2019, shareholders approved the proposal of the Board of Directors to distribute 0.80 Swiss francs per share to shareholders. The declared dividend amounted to \$1,675 million and was paid in the second quarter of 2019.

Note 13

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

(\$ in millions, except per share data in \$)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,043	1,514	291	204
Income from discontinued operations, net of tax	396	659	34	113
Net income	1,439	2,173	325	317
Weighted-average number of shares outstanding (in millions)	2,133	2,132	2,133	2,132
Basic earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.49	0.71	0.14	0.10
Income from discontinued operations, net of tax	0.19	0.31	0.02	0.05
Net income	0.67	1.02	0.15	0.15

Diluted earnings per share

(\$ in millions, except per share data in \$)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,043	1,514	291	204
Income from discontinued operations, net of tax	396	659	34	113
Net income	1,439	2,173	325	317
Weighted-average number of shares outstanding (in millions)	2,133	2,132	2,133	2,132
Effect of dilutive securities:				
Call options and shares	2	7	4	2
Adjusted weighted-average number of shares outstanding (in millions)	2,135	2,139	2,137	2,134
Diluted earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.49	0.71	0.14	0.10
Income from discontinued operations, net of tax	0.19	0.31	0.02	0.05
Net income	0.67	1.02	0.15	0.15

Note 14

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	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total OCI
	translation adjustments				
Balance at January 1, 2018	(2,693)	8	(1,672)	12	(4,345)
Cumulative effect of changes in accounting principles ⁽¹⁾	–	(9)	–	–	(9)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	(627)	(4)	(359)	(49)	(1,039)
Amounts reclassified from OCI	(31)	1	64	21	55
Changes attributable to divestments	12	–	–	–	12
Total other comprehensive (loss) income	(646)	(3)	(295)	(28)	(972)
Less:					
Amounts attributable to noncontrolling interests	(15)	–	–	–	(15)
Balance at December 31, 2018	(3,324)	(4)	(1,967)	(16)	(5,311)

(\$ in millions)	Foreign currency	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total OCI
	translation adjustments				
Balance at January 1, 2019	(3,324)	(4)	(1,967)	(16)	(5,311)
Adoption of accounting standard update ⁽²⁾	–	–	(36)	–	(36)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	(130)	14	(214)	20	(310)
Amounts reclassified from OCI	–	–	72	(9)	63
Changes attributable to divestments	(2)	–	–	–	(2)
Total other comprehensive (loss) income	(132)	14	(142)	11	(249)
Less:					
Amounts attributable to noncontrolling interests	(6)	–	–	–	(6)
Balance at December 31, 2019	(3,450)	10	(2,145)	(5)	(5,590)

(1) Amounts relate to the adoption of two accounting standard updates in 2018 regarding the Recognition and measurement of financial assets and financial liabilities and Revenue from contracts with customers.

(2) Amounts relate to the adoption of an accounting standard update in 2019 regarding the Tax Cuts and Jobs Act of 2017. See "Applicable for current periods" section of Note 2 for more details.

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)	Details about OCI components	Location of (gains) losses reclassified from OCI	Year ended		Three months ended	
			December 31,		December 31,	
			2019	2018	2019	2018
Foreign currency translation adjustments:						
Gain on liquidation of foreign subsidiary		Other income (expense), net	–	(31)	–	–
Pension and other postretirement plan adjustments:						
Amortization of prior service cost (credit)		Non-operational pension (cost) credit ⁽¹⁾	(25)	(19)	(12)	(5)
Amortization of net actuarial loss		Non-operational pension (cost) credit ⁽¹⁾	99	91	27	20
Net gains from pension settlements and curtailments		Non-operational pension (cost) credit ⁽¹⁾	38	23	37	23
Total before tax			112	95	52	38
Tax		Provision for taxes	(40)	(31)	(25)	(15)
Amounts reclassified from OCI			72	64	27	23

(1) Amounts include total credits of \$6 million and \$12 million, respectively, for the years ended December 31, 2019 and 2018 reclassified from OCI to Income from discontinued operations. Amounts include a cost of \$3 million and a credit of \$2 million, respectively, the three months ended December 31, 2019 and 2018, 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 year and three months ended December 31, 2019 and 2018.

Note 15

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. The program is expected to be performed over two years and incur restructuring expenses of \$350 million.

The following table outlines the costs incurred in the year and three months ended December 31, 2019 and 2018, respectively, the cumulative costs incurred up to December 31, 2019, and the total amount of costs expected to be incurred under the program per operating segment:

(\$ in millions)	Cost incurred ⁽¹⁾				Cumulative net cost incurred up to December 31, 2019 ⁽¹⁾	Total expected costs ⁽¹⁾
	Year ended December 31,	2019	2018	Three months ended December 31,		
Electrification	18	32	20	32	50	80
Industrial Automation	3	21	2	21	24	40
Motion	6	1	5	1	7	50
Robotics & Discrete Automation	8	–	1	–	8	20
Corporate and Other	54	11	10	11	65	160
Total	89	65	38	65	154	350

(1) Costs incurred, Cumulative net cost incurred up to December 31, 2019, and Total expected costs have been recast to reflect the reorganization of the Company's operating segments as outlined in Note 16.

Of the total expected costs of \$350 million the majority relates to employee severance costs. The Company recorded the following expenses, net of changes in estimates, under this program:

(\$ in millions)	Three months ended December 31,				Cumulative costs incurred up to December 31, 2019
	Year ended December 31,	2019	2018	2019	
Employee severance costs	81	65	36	65	146
Estimated contract settlement, loss order and other costs	1	–	1	–	1
Inventory and long-lived asset impairments	7	–	1	–	7
Total	89	65	38	65	154

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

(\$ in millions)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Total cost of sales	8	35	1	35
Selling, general and administrative expenses	46	23	22	23
Non-order related research and development expenses	1	3	—	3
Other income (expense), net	34	4	15	4
Total	89	65	38	65

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 December 31, 2019, by expense type:

(\$ in millions)	Employee	Contract settlement,	Total
	severance costs	loss order and other costs	
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

Other restructuring-related activities

In the year and three months ended December 31, 2019, the Company executed various other restructuring-related activities and incurred expenses, net of changes in estimates, of \$114 million and \$35 million, respectively, mainly related to employee severance costs and estimated contract settlement, loss order and other costs. In the year and three months ended December 31, 2018, expenses, net of changes in estimates, relating to these various other restructuring-related activities were \$116 million and \$65 million, respectively. These costs are included in the following line items in the Consolidated Income Statements:

(\$ in millions)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Total cost of sales	46	24	2	14
Selling, general and administrative expenses	4	52	5	34
Non-order related research and development expenses	—	2	1	2
Other income (expenses), net	64	38	27	15
Total	114	116	35	65

Note 16

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.

Effective April 1, 2019, the Company announced a reorganization of its operating segments into four customer-focused, entrepreneurial businesses. The Electrification Products segment was renamed the Electrification segment. The Industrial Automation segment remains unchanged except that it now excludes the Machine and Factory Automation business line, which has been transferred, along with the Robotics business line from the former Robotics and Motion segment, to the new Robotics & Discrete Automation segment. The new Motion segment contains the remaining business lines of the former Robotics and Motion segment.

The segment information for the year and three months ended December 31, 2018 and at December 31, 2018, has been recast to reflect these changes.

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

- **Electrification:** manufactures and sells products and solutions which are designed to provide smarter and safer electrical flow from the substation to the socket. The portfolio of increasingly digital and connected solutions includes electric vehicle charging infrastructure, solar 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.

- **Industrial Automation:** develops and sells integrated automation and electrification systems and solutions, such as process and discrete control solutions, advanced process control software and manufacturing execution systems, sensing, measurement and analytical instrumentation and solutions, electric ship propulsion systems, as well as large turbochargers. In addition, the business offers a comprehensive range of services ranging from repair to advanced services such as remote monitoring, preventive maintenance and cybersecurity services.
- **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.
- **Robotics & Discrete Automation:** develops and sells robotics and machinery automation solutions, including robots, controllers, software, function packages, cells, programmable logic controllers (PLC), industrial PCs (IPC), servo motion, engineered manufacturing solutions, turn-key solutions and collaborative robot solutions for a wide range of applications. In addition, the business offers a comprehensive range of digital solutions as well as field and after sales service.
- **Corporate and Other:** includes headquarters, central research and development, the Company's real estate activities, Corporate Treasury Operations, historical operating activities of certain divested businesses 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:

- amortization expense on intangibles arising upon acquisitions (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,
- 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 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 year and three months ended December 31, 2019 and 2018, as well as total assets at December 31, 2019 and 2018.

(\$ in millions)	Year ended December 31, 2019					
	Industrial		Robotics & Discrete		Corporate and Other	
	Electrification	Automation	Motion	Automation	Total	
Geographical markets						
Europe	4,039	2,416	1,879	1,634	36	10,004
The Americas	4,568	1,582	2,315	453	1	8,919
Asia, Middle East and Africa	3,665	2,153	1,827	1,157	40	8,842
	12,272	6,151	6,021	3,244	77	27,765
End Customer Markets						
Utilities	2,355	1,057	696	–	18	4,126
Industry	4,798	3,606	3,890	3,165	35	15,494
Transport & infrastructure	5,119	1,488	1,435	79	24	8,145
	12,272	6,151	6,021	3,244	77	27,765
Product type						
Products	10,315	1,439	5,152	1,785	65	18,756
Systems	958	1,648	–	968	12	3,586
Services and other	999	3,064	869	491	–	5,423
	12,272	6,151	6,021	3,244	77	27,765
Third-party revenues	12,272	6,151	6,021	3,244	77	27,765
Intersegment revenues ⁽¹⁾	456	122	512	70	(947)	213
Total Revenues	12,728	6,273	6,533	3,314	(870)	27,978

	Year ended December 31, 2018					
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	
					Total	
Geographical markets						
Europe	3,881	2,475	1,862	1,737	58	10,013
The Americas	3,650	1,467	2,389	476	21	8,003
Asia, Middle East and Africa	3,680	2,449	1,699	1,339	236	9,403
	11,211	6,391	5,950	3,552	315	27,419
End Customer Markets						
Utilities	2,452	1,174	746	—	176	4,548
Industry	4,395	3,573	3,877	3,510	98	15,453
Transport & infrastructure	4,364	1,644	1,327	42	41	7,418
	11,211	6,391	5,950	3,552	315	27,419
Product type						
Products	9,679	1,528	5,111	2,019	118	18,455
Systems	617	1,853	—	1,001	197	3,668
Services and other	915	3,010	839	532	—	5,296
	11,211	6,391	5,950	3,552	315	27,419
Third-party revenues	11,211	6,391	5,950	3,552	315	27,419
Intersegment revenues ⁽¹⁾	475	109	513	59	(913)	243
Total Revenues	11,686	6,500	6,463	3,611	(598)	27,662
Three months ended December 31, 2019						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	
					Total	
Geographical markets						
Europe	1,064	640	500	384	(15)	2,573
The Americas	1,086	422	545	108	(1)	2,160
Asia, Middle East and Africa	965	594	473	273	(26)	2,279
	3,115	1,656	1,518	765	(42)	7,012
End Customer Markets						
Utilities	769	319	200	—	(30)	1,258
Industry	1,147	908	964	741	(8)	3,752
Transport & infrastructure	1,199	429	354	24	(4)	2,002
	3,115	1,656	1,518	765	(42)	7,012
Product type						
Products	2,317	332	1,283	409	(22)	4,319
Systems	534	477	—	232	(20)	1,223
Services and other	264	847	235	124	—	1,470
	3,115	1,656	1,518	765	(42)	7,012
Third-party revenues	3,115	1,656	1,518	765	(42)	7,012
Intersegment revenues ⁽¹⁾	123	27	139	22	(255)	56
Total Revenues	3,238	1,683	1,657	787	(297)	7,068

(\$ in millions)	Three months ended December 31, 2018					Total
	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	
Geographical markets						
Europe	1,048	665	495	451	(9)	2,650
The Americas	1,184	369	580	123	(12)	2,244
Asia, Middle East and Africa	970	660	460	301	48	2,439
	3,202	1,694	1,535	875	27	7,333
End Customer Markets						
Utilities	257	316	208	–	5	786
Industry	1,116	976	991	866	28	3,977
Transport & infrastructure	1,829	402	336	9	(6)	2,570
	3,202	1,694	1,535	875	27	7,333
Product type						
Products	2,714	409	1,308	491	55	4,977
Systems	180	446	–	251	(28)	849
Services and other	308	839	227	133	–	1,507
	3,202	1,694	1,535	875	27	7,333
Third-party revenues	3,202	1,694	1,535	875	27	7,333
Intersegment revenues ⁽¹⁾	118	29	136	17	(238)	62
Total Revenues	3,320	1,723	1,671	892	(211)	7,395

(1) Intersegment revenues include sales to the Power Grids business which is presented as discontinued operations and are not eliminated from Total revenues.

(\$ in millions)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
<i>Operational EBITA:</i>				
Electrification	1,688	1,626	421	388
Industrial Automation	732	914	202	235
Motion	1,082	1,023	254	248
Robotics & Discrete Automation	393	528	86	116
Corporate and Other				
– Non-core and divested businesses	(145)	(291)	(79)	(199)
– Stranded corporate costs	(225)	(297)	(40)	(72)
– Corporate costs and Other Intersegment elimination	(418)	(498)	(134)	(132)
Total	3,107	3,005	710	584
Acquisition-related amortization	(265)	(273)	(60)	(75)
Restructuring, related and implementation costs ⁽¹⁾	(300)	(172)	(99)	(129)
Changes in obligations related to divested businesses	(36)	(106)	(5)	(14)
Changes in pre-acquisition estimates	(22)	(8)	(9)	(6)
Gains and losses from sale of businesses	55	57	47	(4)
Fair value adjustment on assets and liabilities held for sale	(421)	–	45	–
Acquisition- and divestment-related expenses and integration costs	(121)	(204)	(49)	(56)
<i>Foreign exchange/commodity timing differences in income from operations:</i>				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	20	(1)	41	(2)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	8	(23)	2	(12)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(7)	(9)	(17)	14
<i>Certain other non-operational items:</i>				
Costs for planned divestment of Power Grids	(141)	–	(39)	–
Regulatory, compliance and legal costs	(7)	(34)	2	(5)
Business transformation costs	(19)	(17)	(6)	(10)
Executive Committee transition costs	(14)	–	(2)	–
Favorable resolution of an uncertain purchase price adjustment	92	–	92	–
Gain on sale of investments	15	–	–	–
Gain on liquidation of a foreign subsidiary	–	31	–	–
Asset write downs/impairments	(4)	(25)	(4)	(13)
Other non-operational items	(2)	5	(1)	3
Income from operations	1,938	2,226	648	275
Interest and dividend income	67	72	10	11
Interest and other finance expense	(215)	(262)	(36)	(66)
Non-operational pension (cost) credit	72	83	5	6
Income from continuing operations before taxes	1,862	2,119	627	226

(1) Amounts in 2019 include \$97 million and \$26 million of implementation costs in relation to the OS program for the year and three months ended December 31, 2019, respectively.

(\$ in millions)	Total assets ^{(1), (2)}	
	December 31, 2019	December 31, 2018
Electrification	11,671	12,052
Industrial Automation	4,559	4,287
Motion	6,149	6,016
Robotics & Discrete Automation	4,661	4,760
Corporate and Other	19,068	17,326
Consolidated	46,108	44,441

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

(2) At December 31, 2019 and 2018, Corporate and Other includes \$9,840 million and \$8,591 million, respectively, 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 year and three months ended December 31, 2019.

On January 1, 2018, the Company adopted a new accounting standard, Revenue from contracts with customers, and consistent with the method of adoption elected, comparative information for 2017 has not been restated and continues to be reported under the accounting standards previously in effect for that period. In addition, on January 1, 2019, the Company adopted a new accounting standard for lease accounting (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 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

Business	Q4 2019 compared to Q4 2018							
	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	1%	2%	0%	3%	-2%	2%	0%	0%
Industrial Automation	4%	1%	0%	5%	-2%	1%	0%	-1%
Motion	4%	1%	0%	5%	-1%	1%	0%	0%
Robotics & Discrete Automation	-19%	1%	0%	-18%	-12%	2%	0%	-10%
ABB Group	-1%	1%	1%	1%	-4%	1%	1%	-2%

Business	FY 2019 compared to FY 2018							
	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	10%	4%	-10%	4%	9%	3%	-10%	2%
Industrial Automation	-4%	4%	0%	0%	-3%	3%	0%	0%
Motion	1%	3%	0%	4%	1%	3%	0%	4%
Robotics & Discrete Automation	-14%	3%	0%	-11%	-8%	4%	0%	-4%
ABB Group	0%	4%	-3%	1%	1%	4%	-4%	1%

Regional comparable growth rate reconciliation

Region	Q4 2019 compared to Q4 2018							
	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	12%	4%	0%	16%	-3%	3%	1%	1%
The Americas	-8%	0%	0%	-8%	-4%	0%	0%	-4%
Asia, Middle East and Africa	-9%	1%	3%	-5%	-7%	1%	3%	-3%
ABB Group	-1%	1%	1%	1%	-4%	1%	1%	-2%

Region	FY 2019 compared to FY 2018							
	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	-2%	6%	-2%	2%	0%	6%	-2%	4%
The Americas	10%	1%	-10%	1%	11%	2%	-11%	2%
Asia, Middle East and Africa	-6%	3%	3%	0%	-6%	3%	0%	-3%
ABB Group	0%	4%	-3%	1%	1%	4%	-4%	1%

Order backlog growth rate reconciliation

Business	December 31, 2019 compared to December 31, 2018							
	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	9%	0%	0%	9%				
Industrial Automation	2%	0%	0%	2%				
Motion	8%	1%	0%	9%				
Robotics & Discrete Automation	-6%	1%	0%	-5%				
ABB Group	2%	0%	3%	5%				

Other growth rate reconciliations

	Q4 2019 compared to Q4 2018				FY 2019 compared to FY 2018			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Service orders	0%	2%	0%	2%	1%	4%	-3%	2%
Service revenues	-2%	1%	0%	-1%	2%	4%	-3%	3%

Business realignment

Effective April 1, 2019, the Company announced a reorganization of its operating segments into four customer-focused, entrepreneurial businesses. The Electrification Products segment was renamed the Electrification segment. The Industrial Automation segment remains unchanged except that it now excludes the Machine and Factory Automation business line, which has been transferred, along with the Robotics business line from the former Robotics and Motion segment, to the new Robotics & Discrete Automation segment. The new Motion segment contains the remaining business lines of the former Robotics and Motion segment.

The following information presents a reconciliation of growth rates of orders and revenues for 2018 compared to 2017 to reflect these organizational changes:

Comparable growth rate reconciliation by business

Business	Q4 2018 compared to Q4 2017							
	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	23%	4%	-25%	2%	23%	5%	-25%	3%
Industrial Automation	4%	4%	0%	8%	-5%	4%	0%	-1%
Motion	3%	4%	0%	7%	8%	4%	0%	12%
Robotics & Discrete Automation	11%	5%	0%	16%	4%	4%	0%	8%
ABB Group	10%	5%	-8%	7%	9%	4%	-8%	5%

Business	FY 2018 compared to FY 2017							
	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	17%	-1%	-12%	4%	16%	0%	-13%	3%
Industrial Automation	10%	-2%	0%	8%	0%	0%	0%	0%
Motion	13%	-1%	0%	12%	10%	0%	0%	10%
Robotics & Discrete Automation	28%	-3%	-15%	10%	22%	-2%	-14%	6%
ABB Group	14%	0%	-6%	8%	10%	-1%	-5%	4%

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,
- 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 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.

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)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Operational EBITA	3,107	3,005	710	584
Acquisition-related amortization	(265)	(273)	(60)	(75)
Restructuring, related and implementation costs ⁽¹⁾	(300)	(172)	(99)	(129)
Changes in obligations related to divested businesses	(36)	(106)	(5)	(14)
Changes in pre-acquisition estimates	(22)	(8)	(9)	(6)
Gains and losses from sale of businesses	100	57	103	(4)
Fair value adjustment on assets and liabilities held for sale	(466)	–	(11)	–
Acquisition- and divestment-related expenses and integration costs	(121)	(204)	(49)	(56)
Certain other non-operational items	(80)	(40)	42	(25)
Foreign exchange/commodity timing differences in income from operations	21	(33)	26	–
Income from operations	1,938	2,226	648	275
Interest and dividend income	67	72	10	11
Interest and other finance expense	(215)	(262)	(36)	(66)
Non-operational pension (cost) credit	72	83	5	6
Income from continuing operations before taxes	1,862	2,119	627	226
Provision for taxes	(772)	(544)	(320)	(16)
Income from continuing operations, net of tax	1,090	1,575	307	210
Income from discontinued operations, net of tax	438	723	50	135
Net income	1,528	2,298	357	345

(1) Amounts in the year and three months ended December 31, 2019 include \$97 million and \$26 million of implementation costs in relation to the OS program, respectively.

Reconciliation of Operational EBITA margin by business

(\$ in millions, unless otherwise indicated)	Three months ended December 31, 2019					
	Industrial			Robotics & Discrete	Other and Intersegment	Corporate and
	Electrification	Automation	Motion	Automation	elimination	Consolidated
Total revenues	3,238	1,683	1,657	787	(297)	7,068
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(20)	(6)	(8)	(6)	(2)	(42)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(12)	–	(1)	3	(10)
Unrealized foreign exchange movements on receivables (and related assets)	8	6	4	3	2	23
Operational revenues	3,226	1,671	1,653	783	(294)	7,039
Income (loss) from operations	478	194	245	62	(331)	648
Acquisition-related amortization	28	1	13	19	(1)	60
Restructuring, related and implementation costs	51	7	2	4	35	99
Changes in obligations related to divested businesses	–	–	–	–	5	5
Changes in pre-acquisition estimates	9	–	–	–	–	9
Gains and losses from sale of businesses	(41)	–	–	–	(6)	(47)
Fair value adjustment on assets and liabilities held for sale	(45)	–	–	–	–	(45)
Acquisition- and divestment-related expenses and integration costs	50	–	–	–	(1)	49
Certain other non-operational items	(91)	–	6	2	41	(42)
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(27)	–	(15)	–	1	(41)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(3)	–	(1)	2	(2)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	9	3	3	–	2	17
Operational EBITA	421	202	254	86	(253)	710
Operational EBITA margin (%)	13.1%	12.1%	15.4%	11.0%	n.a.	10.1%

In the three months ended December 31, 2019, Certain other non-operational items in the table above includes the following:

(\$ in millions, unless otherwise indicated)	Three months ended December 31, 2019					
	Industrial			Robotics & Discrete	Corporate and Other	Consolidated
	Electrification	Automation	Motion	Automation	and Other	Consolidated
Certain other non-operational items:						
Costs for planned divestment of Power Grids	–	–	–	–	39	39
Regulatory, compliance and legal costs	–	–	–	–	(2)	(2)
Asset write downs/impairments	–	–	–	–	4	4
Business transformation costs	(2)	–	6	2	–	6
Executive Committee transition costs	–	–	–	–	2	2
Favorable resolution of an uncertain purchase price adjustment	(92)	–	–	–	–	(92)
Other non-operational items	3	–	–	–	(2)	1
Total	(91)	–	6	2	41	(42)

(\$ in millions, unless otherwise indicated)	Three months ended December 31, 2018					
	Electrification	Industrial Automation	Motion	Robotics &	Corporate and	Other and
				Discrete Automation	Intersegment elimination	Consolidated
Total revenues	3,320	1,723	1,671	892	(211)	7,395
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(4)	4	(10)	(8)	(5)	(23)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	5	–	–	4	9
Unrealized foreign exchange movements on receivables (and related assets)	8	(1)	1	–	(1)	7
Operational revenues	3,324	1,731	1,662	884	(213)	7,388
Income (loss) from operations	221	198	226	106	(476)	275
Acquisition-related amortization	35	1	15	20	4	75
Restructuring, related and implementation costs	76	31	3	5	14	129
Changes in obligations related to divested businesses	–	–	–	–	14	14
Changes in pre-acquisition estimates	17	–	–	(11)	–	6
Gains and losses from sale of businesses	–	–	4	–	–	4
Acquisition- and divestment-related expenses and integration costs	40	1	1	–	14	56
Certain other non-operational items	–	2	3	1	19	25
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	–	5	(1)	(3)	1	2
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	6	–	(1)	7	12
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(1)	(9)	(3)	(1)	–	(14)
Operational EBITA	388	235	248	116	(403)	584
Operational EBITA margin (%)	11.7%	13.6%	14.9%	13.1%	n.a.	7.9%

In the three months ended December 31, 2018, Certain other non-operational items in the table above includes the following:

(\$ in millions, unless otherwise indicated)	Three months ended December 31, 2018					
	Electrification	Industrial Automation	Motion	Robotics &	Corporate	Other and
				Discrete Automation	and Other	Consolidated
Certain other non-operational items:						
Regulatory, compliance and legal costs	–	2	–	–	3	5
Asset write downs/impairments	–	–	–	–	13	13
Business transformation costs	–	–	3	–	7	10
Other non-operational items	–	–	–	1	(4)	(3)
Total	–	2	3	1	19	25

(\$ in millions, unless otherwise indicated)	Year ended December 31, 2019						
	Electrification	Industrial	Motion	Robotics &	Corporate and	Other and	
				Discrete	Intersegment	Automation	
(\$ in millions, unless otherwise indicated)	Electrification	Industrial	Motion	Robotics & Discrete	Corporate and Intersegment	Other and Automation	Consolidated
Total revenues	12,728	6,273	6,533	3,314	(870)	27,978	
Foreign exchange/commodity timing differences in total revenues:							
Unrealized gains and losses on derivatives							
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(13)	1	(3)	(2)	(2)	(19)	
Unrealized foreign exchange movements on receivables (and related assets)	–	(12)	–	(1)	(5)	(18)	
Operational revenues	12,717	6,269	6,533	3,312	(870)	27,961	
Income (loss) from operations	1,049	700	1,009	298	(1,118)	1,938	
Acquisition-related amortization	115	4	53	77	16	265	
Restructuring, related and implementation costs	112	21	12	12	143	300	
Changes in obligations related to divested businesses	–	–	–	–	36	36	
Changes in pre-acquisition estimates	22	–	–	–	–	22	
Gains and losses from sale of businesses	(42)	–	–	–	(13)	(55)	
Fair value adjustment on assets and liabilities held for sale	421	–	–	–	–	421	
Acquisition- and divestment-related expenses and integration costs	119	–	–	1	1	121	
Certain other non-operational items	(89)	2	14	4	149	80	
Foreign exchange/commodity timing differences in income from operations:							
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(23)	9	(7)	2	(1)	(20)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	(3)	–	(1)	(7)	(8)	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	1	(1)	1	–	6	7	
Operational EBITA	1,688	732	1,082	393	(788)	3,107	
Operational EBITA margin (%)	13.3%	11.7%	16.6%	11.9%	n.a.	11.1%	

In the year ended December 31, 2019, Certain other non-operational items in the table above includes the following:

(\$ in millions, unless otherwise indicated)	Year ended December 31, 2019						
	Electrification	Industrial	Motion	Robotics &	Corporate	Other and	
				Discrete	Intersegment	Automation	Consolidated
(\$ in millions, unless otherwise indicated)	Electrification	Industrial	Motion	Robotics & Discrete	Corporate and Intersegment	Other and Automation	Consolidated
Certain other non-operational items:							
Costs for planned divestment of Power Grids	–	–	–	–	141	141	
Regulatory, compliance and legal costs	–	–	–	–	7	7	
Asset write downs/impairments	–	–	–	–	4	4	
Business transformation costs	1	–	14	4	–	19	
Executive Committee transition costs	–	–	–	–	14	14	
Favorable resolution of an uncertain purchase price adjustment	(92)	–	–	–	–	(92)	
Gain on the sale of investments	–	–	–	–	(15)	(15)	
Other non-operational items	2	2	–	–	(2)	2	
Total	(89)	2	14	4	149	80	

Year ended December 31, 2018						
(\$ in millions, unless otherwise indicated)	Industrial			Robotics & Discrete	Corporate and Other and Intersegment	Consolidated
	Electrification	Automation	Motion	Automation	elimination	
Total revenues	11,686	6,500	6,463	3,611	(598)	27,662
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	16	(13)	(10)	–	(5)	(12)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	17	–	–	–	20
Unrealized foreign exchange movements on receivables (and related assets)	(1)	(5)	–	–	(4)	(10)
Operational revenues	11,704	6,499	6,453	3,611	(607)	27,660
Income (loss) from operations	1,290	853	924	456	(1,297)	2,226
Acquisition-related amortization	106	6	61	82	18	273
Restructuring, related and implementation costs	98	35	17	4	18	172
Changes in obligations related to divested businesses	–	–	–	–	106	106
Changes in pre-acquisition estimates	19	–	–	(11)	–	8
Gains and losses from sale of businesses	(81)	3	4	–	17	(57)
Acquisition- and divestment-related expenses and integration costs	168	4	2	–	30	204
Certain other non-operational items	(2)	3	10	1	28	40
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	27	(13)	4	(5)	(12)	1
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	18	–	(1)	3	23
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(2)	5	1	2	3	9
Operational EBITA	1,626	914	1,023	528	-1086	3,005
Operational EBITA margin (%)	13.9%	14.1%	15.9%	14.6%	n.a.	10.9%

In the year ended December 31, 2018, Certain other non-operational items in the table above includes the following:

Year ended December 31, 2018						
(\$ in millions, unless otherwise indicated)	Industrial			Robotics & Discrete	Corporate and Other	Consolidated
	Electrification	Automation	Motion	Automation		
Certain other non-operational items:						
Regulatory, compliance and legal costs	–	3	–	–	31	34
Asset write downs/impairments	–	–	–	–	25	25
Business transformation costs	–	–	10	–	7	17
Gain on liquidation of a foreign subsidiary	–	–	–	–	(31)	(31)
Losses (recovery) on Korea fraud	–	–	–	–	(8)	(8)
Other non-operational items	(2)	–	–	1	4	3
Total	(2)	3	10	1	28	40

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) certain other non-operational items,
- (ix) 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),
- (x) 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
- (xi) Certain other non-operational amounts recorded within Provision for taxes.

Adjustment for certain non-operational amounts recorded within Provision for taxes

Adjustments are made for certain amounts recorded within Provision 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.

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.

Adjusted Group effective tax rate

The Adjusted Group effective tax rate is computed by dividing a combined adjusted provision for taxes (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 provision for taxes (primarily gains and losses from sale of businesses) are excluded to arrive at the computation. Amounts recorded in Provision for taxes 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)

In connection with ABB's 2015-2020 targets, Operational EPS growth is measured assuming 2014 as the base year and uses constant exchange rates. We compute the constant currency operational net income for all periods using the relevant monthly exchange rates which were in effect during 2014 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 \$)	Year ended December 31,		
	2019	2018	Growth ⁽³⁾
Net income (attributable to ABB)	1,439	2,173	-34%
Non-operational adjustments:			
Acquisition-related amortization	265	273	
Restructuring, related and implementation costs ⁽¹⁾	300	172	
Non-operational pension cost (credit)	(72)	(83)	
Changes in obligations related to divested businesses	36	106	
Changes in pre-acquisition estimates	22	8	
Gains and losses from sale of businesses	(55)	(57)	
Fair value adjustment on assets and liabilities held for sale	421	–	
Acquisition- and divestment-related expenses and integration costs	121	204	
Certain other non-operational items	80	40	
FX/commodity timing differences in income from operations	(21)	33	
Non-operational adjustments in discontinued operations	218	209	
Tax on operational adjustments ⁽²⁾	(228)	(240)	
Adjustment for non-operational amounts in Provision for taxes	124	–	
Operational net income	2,650	2,838	-7%
Weighted-average number of shares outstanding (in millions)	2,133	2,132	
Operational EPS	1.24	1.33	-7%
Constant currency Operational EPS adjustment	0.16	0.17	
Operational EPS (constant currency basis - 2014 exchange rates)	1.40	1.50	-7%
(\$ in millions, except per share data in \$)	Three months ended December 31,		
	2019	2018	Growth ⁽³⁾
Net income (attributable to ABB)	325	317	3%
Non-operational adjustments:			
Acquisition-related amortization	60	75	
Restructuring, related and implementation costs ⁽¹⁾	99	129	
Non-operational pension cost (credit)	(4)	(6)	
Changes in obligations related to divested businesses	5	14	
Changes in pre-acquisition estimates	9	6	
Gains and losses from sale of businesses	(47)	4	
Fair value adjustment on assets and liabilities held for sale	(45)	–	
Acquisition- and divestment-related expenses and integration costs	49	56	
Certain other non-operational items	(42)	25	
FX/commodity timing differences in income from operations	(26)	–	
Non-operational adjustments in discontinued operations	116	108	
Tax on operational adjustments ⁽²⁾	(43)	(96)	
Adjustment for non-operational amounts in Provision for taxes	124	–	
Operational net income	580	632	-8%
Weighted-average number of shares outstanding (in millions)	2,133	2,132	
Operational EPS	0.27	0.30	-8%
Constant currency Operational EPS adjustment	0.02	0.03	
Operational EPS (constant currency basis - 2014 exchange rates)	0.29	0.33	-11%

(1) Amounts in the year and three months ended December 31, 2019, include \$97 million and \$26 million of implementation costs in relation to the OS program, respectively.

(2) Tax amount is computed by applying the Adjusted Group effective tax rate to the operational adjustments, except for gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale), 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, and Marketable securities and short-term investments.

Reconciliation

(\$ in millions)	December 31,		
	2019	2018	2017
Short-term debt and current maturities of long-term debt	2,287	2,031	726
Long-term debt	6,772	6,587	6,682
Total debt	9,059	8,618	7,408
Cash and equivalents	3,544	3,445	4,526
Marketable securities and short-term investments	566	712	1,083
Cash and marketable securities	4,110	4,157	5,609
Net debt	4,949	4,461	1,799

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, and (c) pension and other employee benefits); 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)	December 31,		
	2019	2018	2017
Net working capital:			
Receivables, net	6,434	6,386	5,861
Contract assets	1,025	1,082	1,141
Inventories, net	4,184	4,284	3,737
Prepaid expenses	191	176	159
Accounts payable, trade	(4,353)	(4,424)	(3,736)
Contract liabilities	(1,719)	(1,707)	(1,792)
Other current liabilities ⁽¹⁾	(3,069)	(3,213)	(2,880)
Net working capital in assets and liabilities held for sale	(34)	–	–
Net working capital	2,659	2,584	2,490
Total revenues for the twelve months ended	27,978	27,662	25,196
Adjustment to annualize/eliminate revenues of certain acquisitions/divestments	(113)	1,030	178
Adjusted revenues for the trailing twelve months	27,865	28,692	25,374
Net working capital as a percentage of revenues (%)	9.5%	9.0%	9.8%

(1) Amounts exclude \$692 million, \$567 million and \$629 million at December 31, 2019, 2018 and 2017, respectively, related primarily to (a) income taxes payable, (b) current derivative liabilities, and (c) pension and other employee benefits.

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 adjusted free cash flow divided by Net income attributable to ABB.

Adjusted free cash flow

Adjusted free cash flow is calculated as net cash provided by operating activities adjusted for: (i) purchases of property, plant and equipment and intangible assets, (ii) proceeds from sales of property, plant and equipment, and (iii) changes in financing and other non-current receivables, net (included in other investing activities).

Free cash flow for the trailing twelve months

Free cash flow for the trailing twelve months includes adjusted 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 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	
	December 31, 2019	December 31, 2018
Net cash provided by operating activities	2,325	2,924
Adjusted for the effects of:		
Continuing operations:		
Purchases of property, plant and equipment and intangible assets	(762)	(772)
Proceeds from sale of property, plant and equipment	82	72
Changes in financing receivables and other non-current receivables	11	(8)
Discontinued operations:		
Purchases of property, plant and equipment and intangible assets	(167)	(201)
Proceeds from sale of property, plant and equipment	8	8
Changes in financing receivables and other non-current receivables	(2)	1
Adjusted free cash flow	1,495	2,024
Net income attributable to ABB	1,439	2,173
Free cash flow conversion to net income	104%	93%

Net finance expenses

Definition

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

Reconciliation

(\$ in millions)	Year ended December 31,		Three months ended December 31,	
	2019	2018	2019	2018
Interest and dividend income	67	72	10	11
Interest and other finance expense	(215)	(262)	(36)	(66)
Net finance expenses	(148)	(190)	(26)	(55)

Book-to-bill ratio

Definition

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

Reconciliation

(\$ in millions, unless otherwise indicated)	Three months ended December 31,	
	2019	2018
Orders received	6,886	6,985
Total revenues	7,068	7,395
Book-to-bill ratio	0.97	0.94
Year ended December 31,		
(\$ in millions, unless otherwise indicated)		
Orders received	28,588	28,590
Total revenues	27,978	27,662
Book-to-bill ratio	1.02	1.03
2017	25,034	25,196

Return on Capital employed (ROCE)

Definition

Return on Capital employed (ROCE)

Return on Capital employed is calculated as Operational EBITA after tax, divided by the average of the period's opening and closing Capital employed, adjusted (as needed) to reflect impacts from significant acquisitions/divestments occurring during the same period.

Capital employed

Capital employed is calculated as the sum of Adjusted total fixed assets and Net working capital (as defined above).

Adjusted total fixed assets

Adjusted total fixed assets is the sum of (i) property, plant and equipment, net, (ii) goodwill, (iii) other intangible assets, net, (iv) investments in equity-accounted companies, and (v) operating lease right-of-use assets, less (vi) deferred tax liabilities recognized in certain acquisitions.

Notional tax on operational EBITA

The Notional tax on operational EBITA is computed using an adjusted group effective tax rate applicable to continuing operations. The rate applied is computed as described above in Operational EPS and excludes any impacts from discontinued operations.

Reconciliation

(\$ in millions, unless otherwise indicated)	December 31,	
	2019	2018
Adjusted total fixed assets:		
Property, plant and equipment, net	3,972	4,133
Goodwill	10,825	10,764
Other intangible assets, net	2,252	2,607
Investments in equity-accounted companies	33	87
Operating lease right-of-use assets	994	1,196
Fixed assets included in assets held for sale ⁽¹⁾	69	–
Total fixed assets	18,145	18,787
Less: Deferred taxes recognized in certain acquisitions ⁽²⁾	(2,225)	(2,234)
Adjusted total fixed assets	15,920	16,553
Net working capital - continuing operations (as defined above)	2,659	2,584
Capital employed	18,579	19,137
 Average Capital employed:		
Capital employed at December 31, 2018	19,137	
Capital employed at December 31, 2019	18,579	
Average Capital employed	18,858	
 Operational EBITA for the year ended	3,107	
Notional tax on operational EBITA	(848)	
Operational EBITA after tax	2,259	
Return on capital employed (ROCE)	12.0%	

(1) Held for sale: In 2019 and 2018 the Power Grids business is reported as a discontinued operation. In addition, for 2019, the solar inverters business has been presented as held for sale.

(2) Amount relates to GEIS acquired in 2018, B&R acquired in 2017, Power-One acquired in 2013, Thomas & Betts acquired in 2012 and Baldor acquired in 2011.

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