

ABB LTD  
Form 6-K  
February 28, 2019

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

**Form 6-K**

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16  
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

**For the month of February 2019**

**Commission File Number 001-16429**

**ABB Ltd**

(Translation of registrant's name into English)

**P.O. Box 1831, Affolternstrasse 44, CH-8050, Zurich, Switzerland**

(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F

Form 40-F

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Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

**Note:** Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indication by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

**Note:** Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes

No

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82-

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This Form 6-K consists of the following:

1. Press release issued by ABB Ltd dated February 28, 2019 titled “Solid growth”.
2. Q4 2018 Financial Information.
3. Press release issued by ABB Ltd dated February 28, 2019 titled “Strategy update: Shaping a leader focused in digital industries”.
4. Announcements regarding transactions in ABB Ltd’s Securities made by the directors or the members of the Executive Committee.

The information provided by Item 2 above is hereby incorporated by reference into the Registration Statements on Form F-3 of ABB Ltd and ABB Finance (USA) Inc. (File Nos. 333-223907 and 333-223907-01) and registration statements on Form S-8 (File Nos. 333-190180, 333-181583, 333-179472, 333-171971 and 333-129271) each of which was previously filed with the Securities and Exchange Commission.

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ZURICH, SWITZERLAND, FEBRUARY 28, 2019

## **Solid growth**

### FULL YEAR 2018 HIGHLIGHTS

- Total orders +8%<sup>1</sup>, up in all divisions and regions
- Revenues +4%, strong growth in Robotics and Motion
- Order backlog +6% at end of year, book-to-bill ratio<sup>2</sup> at 1.03x
- ABB Ability™ drives growth across all divisions
- Operational EBITA margin 10.9%<sup>2</sup>, impacted by a combined 250 basis points due to stranded costs, charges for legacy non-core projects and GEIS dilution
- Reported net income at \$2,173 million, -2%
- Cash flow from operating activities at approx. \$3 billion
- New ABB announced
  - Focus of portfolio on digital industries through divestment of Power Grids
  - Simplification of business model and structure
  - Shape four leading businesses aligned with customer patterns
- Acquisition of GEIS completed on June 30, 2018
- CHF 0.80 per share dividend proposed

### FOURTH QUARTER HIGHLIGHTS

- Total orders +7%, higher in all divisions and regions
- Revenues +5%

- Operational EBITA margin 7.9%, impacted by a combined 400 basis points due to stranded costs, legacy non-core charges and GEIS dilution
- Solid cash flow from operating activities at approx. \$1.9 billion
- Sylvia Hill to succeed Jean-Christophe Deslarzes as Chief Human Resources Officer and member of the Executive Committee, effective June 1, 2019

Key Figures (\$ in millions, unless otherwise indicated)	Q4 2017		Change				Change	
	2018	Recast	US\$	Comparable <sup>1</sup>	FY 2018	FY 2017 Recast	US\$	Comparable <sup>1</sup>
Orders	6,985	6,328	+10%	+7%	28,590	25,034	+14%	+8%
Revenues	7,395	6,804	+9%	+5%	27,662	25,196	+10%	+4%
Income from operations	275	324	-15%		2,226	2,230	0%	
Operational EBITA <sup>2</sup>	584	664	-12%	-10% <sup>3</sup>	3,005	2,817	+7%	+5% <sup>3</sup>
as % of operational revenues	7.9%	9.7%	-1.8pts		10.9%	11.2%	-0.3pts	
Income from continuing operations, net of tax	210	214	-2%		1,575	1,519	4%	
Net income attributable to ABB	317	393	-19%		2,173	2,213	-2%	
Basic EPS (\$)	0.15	0.18	-19% <sup>4</sup>		1.02	1.04	-2% <sup>4</sup>	
Operational EPS (\$) <sup>2</sup>	0.30	0.33	-9% <sup>4</sup>	-6% <sup>4</sup>	1.33	1.25	+7% <sup>4</sup>	+8% <sup>4</sup>
Cash flow from operating activities	1,867	1,869	0%		2,924	3,799	-23%	

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

<sup>1</sup> Growth rates for orders, third-party base orders and revenues are on a comparable basis (local currency adjusted for acquisitions and divestitures). US\$ growth rates are presented in Key Figures table.

<sup>2</sup> For non-GAAP measures, see the “Supplemental Financial Information” attachment to the press release.

<sup>3</sup> Constant currency (not adjusted for portfolio changes).

<sup>4</sup> 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).

“In 2018, we brought the company back to growth and delivered solid order and revenue growth. We drove topline momentum with our leading Robotics and Motion offering and played a strong role in the ongoing recovery of process industries with our industrial automation business and ABB Ability™ digital solutions. We will continue to drive the operational improvements in Electrification Products and our company overall”, said ABB CEO Ulrich Spiesshofer.

“At the end of 2018, we set the course for a new ABB as a pioneering technology leader in digital industries. We announced three transformational actions to focus our portfolio, simplify and fundamentally reset our business model as well as strengthen the leading business positions of our company. Our confidence in ABB’s future is reflected in the proposed 10th consecutive dividend increase to CHF 0.80.”

## **Short-term outlook**

Macroeconomic signs are mixed in Europe and trending positively in the United States, with growth expected to continue in China. The overall global market is growing, with rising geopolitical uncertainties in various parts of the world. Oil prices and foreign exchange translation effects are expected to continue to influence the company’s results.

## **Full-year 2018 Group results**

ABB delivered strong order and revenue performance in 2018. The group’s digital solutions offering, ABB Ability™, continued to build its leading market position. Total orders were 8 percent higher (14 percent in US dollars) with strong positive contributions from Robotics and Motion and Industrial Automation as well as solid performance from Electrification Products. Total orders exhibited similar growth trends across all regions. Base orders (classified as orders below \$15 million) improved 6 percent (14 percent in US dollars) in 2018, rising in all divisions and regions. Large orders increased 45 percent (20 percent in US dollars), albeit off a low comparative base, and represented 7 percent of total orders, compared to 6 percent in the prior year. Service orders were 7 percent higher (12 percent in US dollars) and now stand at 19 percent of total orders.

Revenues improved 4 percent (10 percent in US dollars) to \$27,662 million. Revenues grew across all divisions, with strong performance from Robotics and Motion and robust contributions from Electrification Products and Industrial Automation. Service revenues were up 7 percent (11 percent in US dollars) to 19 percent of group revenues. The book-to-bill ratio stood at 1.03x in 2018 compared with 0.99x in the previous year.

ABB continued to shift its center of gravity, de-risking the portfolio and improving organic growth prospects. The exit from EPC (Engineering, Procurement and Construction) activities progressed as ABB transferred its turnkey AC Substation business to Linxon, a new joint-venture with SNC Lavalin. ABB continues to unwind the remaining legacy EPC contracts, which impacted results reported through the period for the non-core business unit in Corporate and other. ABB strengthened the competitiveness of its Electrification Products division through the acquisition of GE Industrial Solutions (“GEIS”) on June 30, 2018. Integration

efforts are well underway. GEIS' performance in the second half of 2018 has been in line with managements expectations.

ABB announced fundamental actions to focus, simplify and lead in digital industries on December 17, 2018. The group's actions included the divestment of the Power Grids business. As a consequence of the announced sale, the results of the Power Grids business are now presented as discontinued operations and the group has reflected stranded costs in its operational EBITA result for both the 2017 and 2018 periods, in line with the guidance provided as part of the announcement on December 17, 2018. Stranded costs are services provided by the group to Power Grids that do not qualify to be reported as discontinued operations. These services include real estate, IT, and other shared corporate services. The company expects the vast majority of these costs to either be transferred to Power Grids or eliminated by the closing of the transaction, which is anticipated in the first half of 2020.

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The company's operational EBITA in 2018 reached \$3,005 million, an increase of 7 percent in US dollars (5 percent in local currencies), including stranded costs of \$297 million. The operational EBITA margin was 10.9%, including 110 basis points related to stranded costs as well as an 100 basis point charge related to legacy non-core business activities, and 40 basis points dilution from GEIS.

Net income attributable to ABB of \$2,173 million was 2 percent lower compared to 2017. Basic EPS was 2 percent lower at \$1.02. Operational EPS<sup>2</sup> was \$1.33, up 8 percent in constant currency<sup>2</sup>.

Cash flow from operating activities<sup>5</sup> of \$2,924 million for the full year was 23 percent lower year on year. This is mainly due to lower cash from discontinued operations as well as less favorable timing of tax payments. Net working capital of \$2,584 million stood at 9 percent of revenues at the end of 2018, compared to 10 percent at the end of the prior year period. Capital expenditures for the group were \$772 million during the year, at the same level as in 2017. Adjusted free cash flow<sup>2</sup> of \$2,024 million was 31 percent below the prior year.

## **Dividend**

ABB's board has proposed an ordinary dividend of 0.80 Swiss francs per share for 2018, subject to shareholder approval at the company's annual general meeting on May 2, 2019. The proposal is in line with ABB's dividend policy to pay a rising, sustainable dividend over time. The ex-dividend and payout dates in Switzerland are expected to be in May 2019. Further information will be available on ABB's website.

## **Q4 2018 Group results**

### **Orders**

Total orders rose 7 percent (10 percent in US dollars), up in all divisions and regions compared to a year ago. Base orders increased 5 percent (11 percent in US dollars), higher in all divisions during the quarter. Large orders represented 5 percent of total orders, steady compared to the prior year period. The order backlog rose 6 percent (5 percent in US dollars) compared to a year ago, improving in all divisions, to end the year at \$13.1 billion.

Service orders were up 5 percent (7 percent in US dollars). Service orders represent 20 percent of total orders, compared to 21 percent in the prior year period.

Changes in the business portfolio, including the acquisition of GEIS resulted in a net positive impact of 8 percent on total reported orders. Foreign exchange translation effects had a 5 percent negative impact on reported orders.

## Market overview

ABB saw positive order trends across its three regions in the quarter:

Total orders from Europe rose 4 percent (5 percent in US dollars), with positive contributions from Italy, Sweden, the Netherlands and France outpacing lower contributions from Germany, Norway and Spain. Base orders rose 2 percent (2 percent in US dollars).

Total orders from the Americas increased 11 percent (32 percent in US dollars). Orders from the United States rose 8 percent (38 percent in US dollars) and also improved in Mexico and Brazil. Base orders from the Americas increased 13 percent (37 percent in US dollars).

In Asia, Middle East and Africa (AMEA), total orders grew 7 percent (steady in US dollars), supported by growth in China, India and Japan. In China, demand was softer in select end-markets, but remained positive, with total orders rising 6 percent (6 percent in US dollars). Base orders for AMEA were steady (1 percent lower in US dollars).

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<sup>5</sup> Cash flow from operating activities is presented in the Consolidated Statement of Cashflows and includes both cash flows from continuing and discontinued operations.

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Demand was supportive across the majority of ABB's key customer segments:

ABB saw healthy demand from process industries, including oil and gas, mining, and pulp and paper, with customers continuing to invest in automation and digital solutions.

Demand across discrete industries remained solid, including continued growth from the food & beverage sector. Demand was strong in the automotive market, with customers seeking robotics solutions for both ICE and EV assembly lines, more than offsetting softer investments from customers in the consumer electronics sector.

Transport and infrastructure demand was healthy. Demand from construction and buildings related customers was robust. Data center growth continued with customer demand focused on combined automation and distribution solutions. ABB saw further activity in cruise ships and from rail customers.

## **Revenues**

Revenues improved 5 percent to \$7,395 million (9 percent in US dollars), with strong growth in Robotics and Motion, robust performance from Electrification Products and a steady result from Industrial Automation. Service revenues were up 4 percent (8 percent in US dollars), enhanced by ABB's leading digital portfolio, ABB Ability™ solutions. Services represented 20 percent of total revenues, steady versus the prior year period.

Business portfolio changes, including the acquisition of GEIS, contributed a net positive of 8 percent to reported revenues. Changes in exchange rates resulted in a negative translation impact on reported revenues of 4 percent.

The book-to-bill ratio stood at 0.94x in the quarter compared with 0.93x in the previous year's period.

## **Operational EBITA**

Operational EBITA of \$584 million in the fourth quarter was 12 percent lower in US dollars (10 percent in local currencies) compared to the prior year period. The operational EBITA margin of 7.9 percent, included \$72 million, or a 100-basis point impact from stranded costs. As well, operational EBITA reflects 260 basis points impact from charges for legacy non-core activities, mainly related to substations, and a 40 basis points impact due to the acquisition of GEIS.

## **Net income, basic and operational earnings per share**

Net income was \$317 million, 19 percent lower year on year. Basic earnings per share of \$0.15 also moved the same amount in percentage terms. Operational earnings per share of \$0.30 was 9 percent lower, and 6 percent in constant currency<sup>4</sup>.

## Cash flow from operating activities

The group delivered solid cash flow from operating activities of \$1,867 million, steady compared to the similarly strong cash flow delivered in the prior year period. Continued focus on working capital had a positive impact compared to the same period last year, offset by less favorable timing of tax payments and a lower contribution from discontinued operations.

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## Q4 divisional performance

(\$ in millions, unless otherwise indicated)	Orders	Change		3 <sup>rd</sup> party base orders	Change		Revenues	Change	
		US\$	Comparable <sup>1</sup>		US\$	Comparable <sup>1</sup>		US\$	Comparable <sup>1</sup>
Electrification Products	3,139	+23%	+2%	3,032	+27%	+3%	3,320	+23%	+3%
Industrial Automation	1,866	+4%	+8%	1,639	+0%	+4%	1,938	-4%	+0%
Robotics and Motion	2,175	+7%	+11%	1,872	+2%	+6%	2,341	+7%	+11%
Corporate & Other	(195)			11			(204)		
<b>ABB Group</b>	<b>6,985</b>	<b>+10%</b>	<b>+7%</b>	<b>6,554</b>	<b>+11%</b>	<b>+5%</b>	<b>7,395</b>	<b>+9%</b>	<b>+5%</b>

Effective January 1, 2018, management responsibility and oversight of certain remaining engineering, procurement and construction (EPC) business, previously included in the Industrial Automation and Robotics and Motion operating segments and the former Power Grids business, were transferred to a new non-core operating business within Corporate and Other. The Power Grids division was moved from continuing to discontinued operations. All previously reported amounts have been adjusted consistent with these portfolio changes.

### Electrification Products

Total orders rose 2 percent (23 percent in US dollars) and third-party base orders increased 3 percent (27 percent in US dollars). Good demand for products was dampened by a lower order volume for systems. Revenues improved 3 percent (23 percent in US dollars), driven by growth in our short-cycle businesses. Operational EBITA margin was 300 basis points lower year-on-year at 11.7 percent. The integration of GEIS diluted margins by 210 basis points, in line with expectations. Excluding GEIS, operating margins were impacted by negative contractual charges amounting to approximately 90 basis points, which outweighed positive mix, cost savings and pricing actions during the quarter.

### Industrial Automation

Compared to the prior year period, total orders improved 8 percent (4 percent in US dollars), boosted by selective large order activity, while third-party base orders were up by 4 percent (steady in US dollars). Order activity for cruise ships and in process industries including mining and pulp and paper was strong during the quarter. Revenues were steady (4 percent lower in US dollars). The operational EBITA margin of 12.9 percent reflects change in the business mix as well as a one-time charge due to payment default by a customer that

impacted the divisional margin by approximately 80 basis points.

## **Robotics and Motion**

The division saw continued order momentum with total orders up 11 percent (7 percent in US dollars) and third-party base orders up 6 percent (2 percent in US dollars). Order growth was achieved across all regions, supported by large orders from automotive and rail customers and continued demand from process industries. Revenues increased 11 percent (7 percent in US dollars). Operational EBITA margin at 15.0 percent expanded 120 basis points year-on-year, driven by positive volumes and continued cost management.

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## 2018 Highlights

During 2018, ABB recorded strong order momentum across all divisions and regions. The company's pioneering technology leadership in digital industries advanced, with ABB Ability™ recognized by industry analysts as #1 globally in Distributed Control Systems and Enterprise Asset Management software. ABB Ability™ was launched in 2017 and offers more than 220 digital solutions, which enable enterprises to increase productivity and safety at lower costs. For example, ABB and Helsinki City Transport held at the end of 2018 a groundbreaking trial of a remotely operated passenger ferry, which was retrofitted with ABB's new dynamic positioning system, ABB Ability™ Marine Pilot Control, and steered from a control center in Helsinki.

ABB continues to invest in its future. During 2018, the group announced a €100 million investment to build a cutting-edge R&D campus in Austria, and a \$150 million investment to build a state-of-the-art flexible robotics manufacturing site, also including an Artificial Intelligence center of excellence, in Shanghai, China.

The acquisition of GEIS completed on June 30, 2018, strengthened the competitiveness of Electrification Products, particularly in the attractive North American market. ABB targets \$200 million per annum synergies from GEIS by 2022.

On December 17, 2018, ABB announced the agreed sale of its Power Grids business, expanding its existing partnership with Hitachi. Alongside, ABB announced its intention to simplify the business structure and to shape four new leading businesses: Electrification, Industrial Automation, Motion, and Robotics and Discrete Automation. ABB expects a total of \$500 million annual run-rate cost reductions across the group over the medium-term. Approximately \$500 million of related non-operational restructuring and implementation charges are expected to be taken through 2020. ABB is targeting a medium-term group operational EBITA margin target of 13-16 percent. New margin targets for the four businesses are available today at ABB's strategy update (further details can be found under [www.abb.com](http://www.abb.com)).

## Management changes

ABB announced today the appointment of Sylvia Hill (59) as Chief Human Resources Officer and member of the Executive Committee, effective June 1, 2019. She succeeds Jean-Christophe Deslarzes (55), who has decided to step down to pursue a non-executive career. Sylvia Hill joined ABB's Human Resources (HR) team in 1993 and has held positions of increasing responsibility within the HR function, including Head of HR for the Robotics and Motion division, country HR manager for France and the Czech Republic, and Head of HR of the Mediterranean Region. Currently, she is Group Function Head of Global HR Services and HR Transformation.

"Sylvia brings a wealth of experience in HR, change management and talent management to the role," said ABB CEO Ulrich Spiesshofer. "I am delighted to welcome Sylvia to the Executive Committee. I would like to thank JC Deslarzes for his outstanding contribution as Chief Human

Resources Officer over the past five years. Under his leadership, ABB has developed a world-class talent management and people development strategy for the digital era, and significantly improved its attractiveness to young talent.”

Deslarzes will continue to support ABB’s transformation until beginning of 2020 and report directly to CEO Ulrich Spiesshofer. He will remain non-executive Chairman of ABB India.

In December 2018, ABB announced the appointment of Morten Wierod, currently Managing Director Business Unit Drives, as business leader for the newly created Motion business. He will become a member of the Executive Committee effective April 1, 2019.

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## **Short- and long-term outlook**

Macroeconomic signs are mixed in Europe and are trending positively in the United States, with growth expected to continue in China. The overall global market is growing, with rising geopolitical uncertainties in various parts of the world. Oil prices and foreign exchange translation effects are expected to continue to influence the company's results.

ABB's businesses are either the global #1 or #2 player in attractive markets with strong secular drivers. The company's addressable market for its new businesses Electrification, Industrial Automation, Motion, and Robotics and Discrete Automation is expected to grow long term by 3.5-4 percent per annum.

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## More information

The Q4 2018 results press release and financial information documents are available on the ABB News Center at [www.abb.com/news](http://www.abb.com/news) and on the Investor Relations homepage at [www.abb.com/investorrelations](http://www.abb.com/investorrelations).

ABB will host a press conference today starting at 9:00 a.m. Central European Time (CET) (8:00 a.m. BST, 3:00 a.m. EST). The event will be accessible by webcast on <https://new.abb.com/media/media-event---strategy-update-2019>.

ABB will host an analyst and investor conference today starting at 12:00 p.m. CET (11:00 a.m. GMT, 6:00 a.m. EST). The event will be webcast for approximately 90 minutes, covering Q4 and FY18 results and the group's Strategy update presentation. The webcast and related materials will be accessible from 11:00 a.m. CET at: [go.abb.com/strategy-update-2019](http://go.abb.com/strategy-update-2019)

A recorded session will be available as a webcast following the end of the conference call.

**ABB** (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. [www.abb.com](http://www.abb.com)

### Investor calendar 2019

Annual General Meeting	May 2, 2019
First quarter 2019 results	May 2, 2019
Second quarter 2019 results	July 25, 2019
Third quarter 2019 results	October 23, 2019

## 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 2018 Group Results", "2018 Highlights" and "Short- and long-term outlook". 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 Ltd. These expectations, estimates and projections are generally identifiable by statements containing words such as “expects,” “believes,” “estimates,” “targets,” “intends”, “air” 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 28, 2019

Ulrich Spiesshofer, CEO

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1 Q4 2018 Financial Information

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2 Q4 2018 Financial Information

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## Key Figures

(\$ in millions, unless otherwise indicated)	<b>Q4 2018</b>	<b>Q4 2017</b>	CHANGE	
			US\$	Comparable <sup>(1)</sup>
Orders	6,985	6,328	10%	7%
Order backlog (end December)	13,084	12,491	5%	6%
Revenues	7,395	6,804	9%	5%
Income from operations	275	324	-15%	
Operational EBITA <sup>(1)</sup>	584	664	-12%	-10% <sup>(2)</sup>
as % of operational revenues <sup>(1)</sup>	7.9%	9.7%	-1.8 pts	
Income from continuing operations, net of tax	210	214	-2%	
Net income attributable to ABB	317	393	-19%	
Basic earnings per share from continuing operations (\$)	0.10	0.10	0% <sup>(3)</sup>	
Basic earnings per share (\$)	0.15	0.18	-19% <sup>(3)</sup>	
Operational earnings per share <sup>(1)</sup> (\$)	0.30	0.33	-9% <sup>(3)</sup>	-6% <sup>(3)</sup>
Cash flow from operating activities	1,867	1,869	0%	

(\$ in millions, unless otherwise indicated)	FY 2018	FY 2017	CHANGE	
			US\$	Comparable <sup>(1)</sup>
Orders	28,590	25,034	14%	8%
Revenues	27,662	25,196	10%	4%
Income from operations	2,226	2,230	0%	
Operational EBITA <sup>(1)</sup>	3,005	2,817	7%	5% <sup>(2)</sup>
as % of operational revenues <sup>(1)</sup>	10.9%	11.2%	-0.3 pts	
Income from continuing operations, net of tax	1,575	1,519	4%	
Net income attributable to ABB	2,173	2,213	-2%	
Basic earnings per share from continuing operations (\$)	0.71	0.67	5% <sup>(3)</sup>	
Basic earnings per share (\$)	1.02	1.04	-2% <sup>(3)</sup>	
Operational earnings per share <sup>(1)</sup> (\$)	1.33	1.25	7% <sup>(3)</sup>	8% <sup>(3)</sup>
Cash flow from operating activities	2,924	3,799	-23%	

(1) For a reconciliation of non-GAAP measures see “Supplemental Reconciliations and Definitions” on page 41.

(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).

(\$ in millions, unless otherwise indicated)

		Q4 2018	Q4 2017	US\$
<b>Orders</b>	<b>ABB Group</b>	<b>6,985</b>	<b>6,328</b>	<b>10%</b>
	Electrification Products	3,139	2,556	23%
	Industrial Automation	1,866	1,795	4%
	Robotics and Motion	2,175	2,039	7%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(195)	(62)	
<b>Third-party base orders</b>	<b>ABB Group</b>	<b>6,554</b>	<b>5,904</b>	<b>11%</b>
	Electrification Products	3,032	2,394	27%
	Industrial Automation	1,639	1,642	0%
	Robotics and Motion	1,872	1,837	2%
	<i>Corporate and Other</i>	11	31	
<b>Order backlog (end December)</b>	<b>ABB Group</b>	<b>13,084</b>	<b>12,491</b>	<b>5%</b>
	Electrification Products	4,113	3,098	33%
	Industrial Automation	5,148	5,301	-3%
	Robotics and Motion	4,016	3,823	5%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(193)	269	
<b>Revenues</b>	<b>ABB Group</b>	<b>7,395</b>	<b>6,804</b>	<b>9%</b>
	Electrification Products	3,320	2,696	23%
	Industrial Automation	1,938	2,011	-4%
	Robotics and Motion	2,341	2,197	7%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(204)	(100)	
<b>Income from operations</b>	<b>ABB Group</b>	<b>275</b>	<b>324</b>	
	Electrification Products	221	318	
	Industrial Automation	204	214	
	Robotics and Motion	326	247	
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(476)	(455)	
<b>Income from operations %</b>	<b>ABB Group</b>	<b>3.7%</b>	<b>4.8%</b>	
	Electrification Products	6.7%	11.8%	
	Industrial Automation	10.5%	10.6%	
	Robotics and Motion	13.9%	11.2%	
<b>Operational EBITA</b>	<b>ABB Group</b>	<b>584</b>	<b>664</b>	<b>-12%</b>
	Electrification Products	388	398	-3%
	Industrial Automation	251	299	-16%
	Robotics and Motion	349	303	15%
	<i>Corporate and Other</i>			
	<i>Non-core and divested businesses</i>	(194)	(138)	
	<i>Stranded corporate costs</i>	(72)	(73)	
	<i>Corporate and inter-division elim.</i>	(138)	(125)	
<b>Operational EBITA %</b>	<b>ABB Group</b>	<b>7.9%</b>	<b>9.7%</b>	
	Electrification Products	11.7%	14.7%	
	Industrial Automation	12.9%	14.9%	
	Robotics and Motion	15.0%	13.8%	
<b>Cash flow from operating activities</b>	<b>ABB Group</b>	<b>1,867</b>	<b>1,869</b>	

Electrification Products	636	590
Industrial Automation	372	356
Robotics and Motion	476	388
<i>Corporate and Other</i>		
<i>(incl. inter-division eliminations)</i>	(78)	(9)
<i>Discontinued operations</i>	461	544

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(\$ in millions, unless otherwise indicated)

		<b>FY 2018</b>	<b>FY 2017</b>	<b>US\$ L</b>
<b>Orders</b>	<b>ABB Group</b>	<b>28,590</b>	<b>25,034</b>	<b>14%</b>
	Electrification Products	11,867	10,143	17%
	Industrial Automation	7,631	6,553	16%
	Robotics and Motion	9,570	8,465	13%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(478)	(127)	
<b>Third-party base orders</b>	<b>ABB Group</b>	<b>26,448</b>	<b>23,189</b>	<b>14%</b>
	Electrification Products	11,240	9,559	18%
	Industrial Automation	6,592	5,840	13%
	Robotics and Motion	8,560	7,651	12%
	<i>Corporate and Other</i>	56	139	
<b>Order backlog (end December)</b>	<b>ABB Group</b>	<b>13,084</b>	<b>12,491</b>	<b>5%</b>
	Electrification Products	4,113	3,098	33%
	Industrial Automation	5,148	5,301	-3%
	Robotics and Motion	4,016	3,823	5%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(193)	269	
<b>Revenues</b>	<b>ABB Group</b>	<b>27,662</b>	<b>25,196</b>	<b>10%</b>
	Electrification Products	11,686	10,094	16%
	Industrial Automation	7,394	6,879	7%
	Robotics and Motion	9,147	8,396	9%
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(565)	(173)	
<b>Income from operations</b>	<b>ABB Group</b>	<b>2,226</b>	<b>2,230</b>	
	Electrification Products	1,290	1,352	
	Industrial Automation	887	798	
	Robotics and Motion	1,346	1,126	
	<i>Corporate and Other</i>			
	<i>(incl. inter-division eliminations)</i>	(1,297)	(1,046)	
<b>Income from operations %</b>	<b>ABB Group</b>	<b>8.0%</b>	<b>8.9%</b>	
	Electrification Products	11.0%	13.4%	
	Industrial Automation	12.0%	11.6%	
	Robotics and Motion	14.7%	13.4%	
<b>Operational EBITA</b>	<b>ABB Group</b>	<b>3,005</b>	<b>2,817</b>	<b>7%</b>
	Electrification Products	1,626	1,510	8%
	Industrial Automation	1,019	953	7%
	Robotics and Motion	1,447	1,260	15%
	<i>Corporate and Other</i>			
	<i>Non-core and divested businesses</i>	(291)	(163)	
	<i>Stranded corporate costs</i>	(297)	(286)	
	<i>Corporate and inter-division elim.</i>	(499)	(457)	
<b>Operational EBITA %</b>	<b>ABB Group</b>	<b>10.9%</b>	<b>11.2%</b>	
	Electrification Products	13.9%	15.0%	
	Industrial Automation	13.8%	13.9%	
	Robotics and Motion	15.8%	15.0%	
<b>Cash flow from operating activities</b>	<b>ABB Group</b>	<b>2,924</b>	<b>3,799</b>	

Electrification Products	1,389	1,358
Industrial Automation	833	865
Robotics and Motion	1,200	1,119
<i>Corporate and Other</i>		
<i>(incl. inter-division eliminations)</i>	(1,070)	(754)
<i>Discontinued operations</i>	572	1,211

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**Operational EBITA**

(\$ in millions, unless otherwise indicated)

	<b>ABB</b>		<b>Electrification Products</b>		<b>Industrial Automation</b>		<b>Robotics and Motion Control</b>	
	<b>Q4 18</b>	<b>Q4 17</b>	<b>Q4 18</b>	<b>Q4 17</b>	<b>Q4 18</b>	<b>Q4 17</b>	<b>Q4 18</b>	<b>Q4 17</b>
<b>Revenues</b>	<b>7,395</b>	<b>6,804</b>	<b>3,320</b>	<b>2,696</b>	<b>1,938</b>	<b>2,011</b>	<b>2,341</b>	<b>2,115</b>
FX/commodity timing differences in total revenues	(7)	47	4	16	7	(2)	(17)	(1)
<b>Operational revenues</b>	<b>7,388</b>	<b>6,851</b>	<b>3,324</b>	<b>2,712</b>	<b>1,945</b>	<b>2,009</b>	<b>2,324</b>	<b>2,114</b>
<b>Income from operations</b>	<b>275</b>	<b>324</b>	<b>221</b>	<b>318</b>	<b>204</b>	<b>214</b>	<b>326</b>	<b>291</b>
Acquisition-related amortization	75	65	35	22	20	22	15	15
Restructuring and restructuring-related expenses <sup>(1)</sup>	129	108	76	17	31	36	8	10
Changes in obligations related to divested businesses	14	–	–	–	–	–	–	–
Changes in pre-acquisition estimates	6	8	17	8	(11)	–	–	–
Gains and losses from sale of businesses	4	78	–	–	–	–	4	–
Acquisition- and divestment-related expenses and integration costs	56	41	40	12	1	27	1	1
Certain other non-operational items	25	28	–	8	2	–	4	–
FX/commodity timing differences in income from operations	–	12	(1)	13	4	–	(9)	(1)
<b>Operational EBITA</b>	<b>584</b>	<b>664</b>	<b>388</b>	<b>398</b>	<b>251</b>	<b>299</b>	<b>349</b>	<b>300</b>
<b>Operational EBITA margin (%)</b>	<b>7.9%</b>	<b>9.7%</b>	<b>11.7%</b>	<b>14.7%</b>	<b>12.9%</b>	<b>14.9%</b>	<b>15.0%</b>	<b>13.8%</b>

(\$ in millions, unless otherwise indicated)

	<b>ABB</b>		<b>Electrification Products</b>		<b>Industrial Automation</b>		<b>Robotics and Motion Control</b>	
	<b>FY 18</b>	<b>FY 17</b>	<b>FY 18</b>	<b>FY 17</b>	<b>FY 18</b>	<b>FY 17</b>	<b>FY 18</b>	<b>FY 17</b>
<b>Revenues</b>	<b>27,662</b>	<b>25,196</b>	<b>11,686</b>	<b>10,094</b>	<b>7,394</b>	<b>6,879</b>	<b>9,147</b>	<b>8,311</b>
FX/commodity timing differences in total revenues	(2)	(15)	18	(11)	–	(32)	(10)	(1)
<b>Operational revenues</b>	<b>27,660</b>	<b>25,181</b>	<b>11,704</b>	<b>10,083</b>	<b>7,394</b>	<b>6,847</b>	<b>9,137</b>	<b>8,310</b>
<b>Income from operations</b>	<b>2,226</b>	<b>2,230</b>	<b>1,290</b>	<b>1,352</b>	<b>887</b>	<b>798</b>	<b>1,346</b>	<b>1,311</b>
Acquisition-related amortization	273	229	106	98	86	47	63	63
Restructuring and restructuring-related expenses <sup>(1)</sup>	172	300	98	28	35	85	21	21
Changes in obligations related to divested businesses	106	94	–	–	–	–	–	–
Changes in pre-acquisition estimates	8	8	19	8	(11)	–	–	–
Gains and losses from sale of businesses	(57)	(252)	(81)	–	3	(2)	4	–
Acquisition- and divestment-related expenses and integration costs	204	81	168	23	4	52	2	2
Certain other non-operational items	40	161	(2)	21	3	1	11	–

FX/commodity timing differences in income from operations	33	(34)	28	(20)	12	(28)	—
<b>Operational EBITA</b>	<b>3,005</b>	<b>2,817</b>	<b>1,626</b>	<b>1,510</b>	<b>1,019</b>	<b>953</b>	<b>1,447</b>
<b>Operational EBITA margin (%)</b>	<b>10.9%</b>	<b>11.2%</b>	<b>13.9%</b>	<b>15.0%</b>	<b>13.8%</b>	<b>13.9%</b>	<b>15.8%</b>

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

**Depreciation and Amortization**

(\$ in millions)	ABB		Electrification		Industrial		Automation and Robotics	
	Q4 18	Q4 17	Q4 18	Q4 17	Q4 18	Q4 17	Q4 18	Q4 17
Depreciation	149	145	64	53	17	18	34	
Amortization	95	80	41	25	22	24	17	
including total acquisition-related amortization of:	75	65	35	22	20	22	15	

(\$ in millions)	ABB		Electrification		Industrial		Automation and Robotics	
	FY 18	FY 17	FY 18	FY 17	FY 18	FY 17	FY 18	FY 17
Depreciation	578	549	229	205	69	59	139	
Amortization	338	287	126	110	91	53	69	
including total acquisition-related amortization of:	273	229	106	98	86	47	63	

**Orders received and revenues by region**

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE		Revenues		CHANGE		
	Q4 18	Q4 17	US\$	Local	Com-parable	Q4 18	Q4 17	US\$	Local
Europe	2,423	2,318	5%	9%	4%	2,650	2,512	5%	10%
The Americas	2,358	1,793	32%	35%	12%	2,244	1,758	28%	31%
Asia, Middle East and Africa	2,146	2,137	0%	5%	7%	2,439	2,453	-1%	3%
Intersegment orders/revenues <sup>(1)</sup>	58	80				62	81		
<b>ABB Group</b>	<b>6,985</b>	<b>6,328</b>	<b>10%</b>	<b>15%</b>	<b>7%</b>	<b>7,395</b>	<b>6,804</b>	<b>9%</b>	<b>13%</b>

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE		Revenues		CHANGE		
	FY 18	FY 17	US\$	Local	Com-parable	FY 18	FY 17	US\$	Local
Europe	10,617	9,090	17%	14%	10%	10,013	9,032	11%	9%
The Americas	8,205	6,964	18%	19%	7%	8,003	6,831	17%	19%
Asia, Middle East and Africa	9,523	8,716	9%	8%	6%	9,403	9,070	4%	4%
Intersegment orders/revenues <sup>(1)</sup>	245	264				243	263		
<b>ABB Group</b>	<b>28,590</b>	<b>25,034</b>	<b>14%</b>	<b>14%</b>	<b>8%</b>	<b>27,662</b>	<b>25,196</b>	<b>10%</b>	<b>9%</b>

(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.



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**Consolidated Financial Information**

## ABB Ltd Consolidated Income Statements (unaudited)

(\$ in millions, except per share data in \$)

Sales of products

Sales of services and other

**Total revenues**

Cost of sales of products

Cost of services and other

**Total cost of sales****Gross profit**

Selling, general and administrative expenses

Non-order related research and development expenses

Other income (expense), net

**Income from operations**

Interest and dividend income

Interest and other finance expense

Non-operational pension (cost) credit

**Income from continuing operations before taxes**

Provision for taxes

**Income from continuing operations, net of tax**

Income from discontinued operations, net of tax

**Net income**

Net income attributable to noncontrolling interests

**Net income attributable to ABB****Amounts attributable to ABB shareholders:**

Income from continuing operations, net of tax

Income from discontinued operations, net of tax

Net income

**Basic earnings per share attributable to ABB shareholders:**

Income from continuing operations, net of tax

Income from discontinued operations, net of tax

Net income

**Diluted earnings per share attributable to ABB shareholders:**

Income from continuing operations, net of tax

Income from discontinued operations, net of tax

Net income

Dec. 31

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**Weighted-average number of shares outstanding (in millions) used to compute:**

Basic earnings per share attributable to ABB shareholders

Diluted earnings per share attributable to ABB shareholders

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

See Notes to the Consolidated Financial Information

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ABB Ltd Condensed Consolidated Statements of Comprehensive  
Income (unaudited)

(\$ in millions)

**Dec. 31**

**Total comprehensive income (loss), net of tax**

Total comprehensive income attributable to noncontrolling interests, net of tax

**Total comprehensive income (loss) attributable to ABB shareholders, net of tax**

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

See Notes to the Consolidated Financial Information

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 ABB Ltd Consolidated Balance Sheets (unaudited)

	<b>Dec. 31, 2018</b>
(\$ in millions, except share data)	
Cash and equivalents	3,445
Marketable securities and short-term investments	712
Receivables, net	6,386
Contract assets	1,082
Inventories, net	4,284
Prepaid expenses	176
Other current assets	616
Current assets held for sale	5,164
<b>Total current assets</b>	<b>21,865</b>
Property, plant and equipment, net	4,133
Goodwill	10,764
Other intangible assets, net	2,607
Prepaid pension and other employee benefits	83
Investments in equity-accounted companies	87
Deferred taxes	1,006
Other non-current assets	469
Non-current assets held for sale	3,427
<b>Total assets</b>	<b>44,441</b>
Accounts payable, trade	4,424
Contract liabilities	1,707
Short-term debt and current maturities of long-term debt	2,031
Provisions for warranties	948
Other provisions	1,372
Other current liabilities	3,780
Current liabilities held for sale	4,185
<b>Total current liabilities</b>	<b>18,447</b>
Long-term debt	6,587
Pension and other employee benefits	1,828
Deferred taxes	927
Other non-current liabilities	1,689
Non-current liabilities held for sale	429
<b>Total liabilities</b>	<b>29,907</b>
<i>Commitments and contingencies</i>	
<b>Stockholders' equity:</b>	
Common stock, CHF 0.12 par value (2,168,148,264 issued shares at December 31, 2018 and 2017)	188
Additional paid-in capital	56
Retained earnings	19,839
Accumulated other comprehensive loss	(5,311)

Treasury stock, at cost (36,185,858 and 29,541,775 shares at December 31, 2018 and 2017, respectively)	(820)
<b>Total ABB stockholders' equity</b>	<b>13,952</b>
Noncontrolling interests	582
<b>Total stockholders' equity</b>	<b>14,534</b>
<b>Total liabilities and stockholders' equity</b>	<b>44,441</b>

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

See Notes to the Consolidated Financial Information  
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 ABB Ltd Consolidated Statements of Cash Flows (unaudited)

(\$ in millions)

Dec.

**Operating activities:**

Net income

Less: Income from discontinued operations, net of tax

**Adjustments to reconcile net income to net cash provided by operating activities:**

Depreciation and amortization

Deferred taxes

Net loss (gain) from derivatives and foreign exchange

Net loss (gain) from sale of property, plant and equipment

Net loss (gain) from sale of businesses

Share-based payment arrangements

Other

Changes in operating assets and liabilities:

Trade receivables, net

Contract assets and liabilities

Inventories, net

Accounts payable, trade

Accrued liabilities

Provisions, net

Income taxes payable and receivable

Other assets and liabilities, net

**Net cash provided by operating activities – continuing operations****Net cash provided by operating activities – discontinued operations****Net cash provided by operating activities****Investing activities:**

Purchases of investments

Purchases of property, plant and equipment and intangible assets

Acquisition of businesses (net of cash acquired)

and increases in cost- and equity-accounted companies

Proceeds from investments

Proceeds from maturity of investments

Proceeds from sales of property, plant and equipment

Proceeds from sales of businesses (net of transaction costs  
and cash disposed) and cost- and equity-accounted companies

Net cash from settlement of foreign currency derivatives

Other investing activities

**Net cash used in investing activities – continuing operations****Net cash used in investing activities – discontinued operations****Net cash used in investing activities****Financing activities:**

Net changes in debt with original maturities of 90 days or less

Increase in debt

Repayment of debt

Delivery of shares

Purchase of treasury stock

Dividends paid

Dividends paid to noncontrolling shareholders

Other financing activities

**Net cash used in financing activities – continuing operations**

**Net cash used in financing activities – discontinued operations**

**Net cash used in financing activities**

Effects of exchange rate changes on cash and equivalents

**Net change in cash and equivalents**

Cash and equivalents, beginning of period

**Cash and equivalents, end of period**

**Supplementary disclosure of cash flow information:**

Interest paid

Income taxes paid

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

See Notes to the Consolidated Financial Information

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

(\$ in millions)	Accumulated					Total stockholders' equity
	Common stock	Additional paid-in capital	Retained earnings	other comprehensive loss	Treasury stock	
<b>Balance at January 1, 2017</b>	<b>192</b>	<b>24</b>	<b>19,925</b>	<b>(5,187)</b>	<b>(1,559)</b>	<b>1</b>
Comprehensive income:						
Net income			2,213			
Foreign currency translation adjustments, net of tax of \$(1)				899		
Effect of change in fair value of available-for-sale securities, net of tax of \$0				1		
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$(16)				(71)		
Change in derivatives qualifying as cash flow hedges, net of tax of \$2				13		
<b>Total comprehensive income</b>						
Changes in noncontrolling interests		17				
Dividends to noncontrolling shareholders						
Dividends paid to shareholders			(1,622)			(
Share-based payment arrangements		58				
Cancellation of treasury shares	(4)	(27)	(922)		953	
Purchase of treasury stock					(251)	
Delivery of shares		(46)			209	
Call options		4				
<b>Balance at December 31, 2017</b>	<b>188</b>	<b>29</b>	<b>19,594</b>	<b>(4,345)</b>	<b>(647)</b>	<b>1</b>
<b>Balance at January 1, 2018</b>	<b>188</b>	<b>29</b>	<b>19,594</b>	<b>(4,345)</b>	<b>(647)</b>	<b>1</b>
Cumulative effect of changes in accounting principles			(192)	(9)		
Comprehensive income:						
Net income			2,173			
Foreign currency translation adjustments, net of tax of \$(14)				(631)		
Effect of change in fair value of available-for-sale securities, net of tax of \$(1)				(3)		
Unrecognized income (expense) related to pensions and other						

postretirement plans, net of tax of \$(32)				(295)	
Change in derivatives qualifying as cash flow hedges, net of tax of \$(3)				(28)	
<b>Total comprehensive income</b>					
Changes in noncontrolling interests	(4)				
Noncontrolling interests recognized in connection with business combination					
Dividends to noncontrolling shareholders					
Dividends paid to shareholders		(1,736)			
Share-based payment arrangements	60				
Purchase of treasury stock				(249)	
Delivery of shares	(35)			77	
Call options	5				
<b>Balance at December 31, 2018</b>	<b>188</b>	<b>56</b>	<b>19,839</b>	<b>(5,311)</b>	<b>(820)</b>
Due to rounding, numbers presented may not add to the totals provided.					

See Notes to the Consolidated Financial Information

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Notes to the Consolidated Financial Information (unaudited)

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**Note 1**

**The Company and basis of presentation**

ABB Ltd and its subsidiaries (collectively, the Company) together form a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally.

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, 2017.

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. The most significant, difficult and subjective of such 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,
- 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 Company has retained obligations (primarily for environmental and taxes) related to businesses disposed or otherwise exited that qualified as discontinued operations. Changes to these retained obligations are recorded in income/loss from discontinued operations, net of tax.

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.

### **Discontinued operations and reclassifications**

In December 2018, the Company announced an agreement to divest its Power Grids business to Hitachi Corp. (Japan) (See Note 3 for additional information and relevant disclosures). As a result, this business along with certain real estate assets previously included in Corporate and Other, have been reported as discontinued operations. Financial information and disclosures for prior periods have been retroactively recast to give effect to the discontinued operations presentation. In addition, amounts relating to stranded corporate costs have been separately disclosed as a component of Corporate and Other (see Note 15).

In addition, certain amounts reported in the Consolidated Financial Information for prior periods have been reclassified to conform to the current year's presentation. These changes primarily relate to:

- the reorganization of the Company's operating segments (see Note 15), and
- as a result of the adoption of a number of accounting pronouncements (see Note 2):

(i) the reclassification of Unbilled receivables from Receivables to Contract assets,

(ii) the reclassification of Billings in excess of sales, Advances from customers, certain advances to customers previously reported as a reduction in Inventories, and deferred revenues previously reported in Other current liabilities, to Contract liabilities, and

(iii) the reclassification of certain net periodic pension and postretirement benefits costs/credits from Total cost of sales, Selling, general and administrative expenses and Non-order related research and development expenses to Non-operational pension (cost) credit.

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## **Note 2**

### **Recent accounting pronouncements**

#### **Applicable for current periods**

##### **Revenue from contracts with customers**

As of January 1, 2018, the Company adopted a new accounting standard for recognizing revenues from contracts with customers on a modified retrospective basis, applying it to contracts which were not completed at the date of initial application and utilizing the practical expedient for contract modifications. The new standard, which supersedes substantially all previously existing revenue recognition guidance, provides a single comprehensive model for recognizing revenues on the transfer of promised goods or services to customers for an amount that reflects the consideration that is expected to be received for those goods or services. The adoption of this standard resulted in only insignificant differences between the identification of performance obligations and the unit of accounting determination. Therefore, the cumulative effect on retained earnings of retrospectively applying this standard was not significant. However, total assets and total liabilities increased by \$196 million, including \$50 million relating to assets and liabilities held for sale, due to the reclassification of certain advances from customers, previously reported as a reduction in Inventories, to liabilities.

Other than the additional disclosure requirements, the impact of the adoption on the Company's Consolidated Financial Information for the year and three months ended December 31, 2018, was not significant.

##### **Income taxes – Intra-entity transfers of assets other than inventory**

In January 2018, the Company adopted an accounting standard update requiring it to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs instead of when the asset has been sold to an outside party. This update was applied on a modified retrospective basis and resulted in a net reduction in deferred tax assets of \$201 million with a corresponding reduction in retained earnings.

##### **Improving the presentation of net periodic pension cost and net periodic postretirement benefit cost**

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In January 2018, the Company adopted an accounting standard update which changes how employers that sponsor defined benefit pension plans and other postretirement plans present the net periodic benefit cost in the income statement. Under this standard, the Company is required to report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. Other components of net periodic benefit cost are required to be presented in the income statement separately from the service cost component and outside the subtotal of income from operations. Under the amendment only the current service cost component is allowed to be capitalized as a cost of internally manufactured inventory or a self-constructed asset. This update was applied retrospectively for the presentation requirements, and prospectively for the capitalization of the current service cost component requirements. The Company has used the practical expedient, as the amount of other components of net periodic benefit cost capitalized in inventory for prior periods is not significant.

For the twelve and three months ended December 31, 2017, the Company reclassified \$33 million and \$4 million, respectively, of income and presented it outside of income from operations relating to net periodic pension costs.

### **Recognition and measurement of financial assets and financial liabilities**

In January 2018, the Company adopted two accounting standard updates enhancing the reporting model for financial instruments, which include amendments to address aspects of recognition, measurement, presentation and disclosure. The Company is required to measure equity investments (except those accounted for under the equity method) at fair value with changes in fair value recognized in net income. The adoption of these updates resulted in the reclassification of the net cumulative unrealized gains on available-for-sale equity securities of \$9 million (net of tax) at December 31, 2017 from Total accumulated comprehensive loss to Retained earnings on January 1, 2018.

### **Classification of certain cash receipts and cash payments in the statement of cash flows**

In January 2018, the Company adopted an accounting standard update which clarifies how certain cash receipts and cash payments, including debt prepayment or extinguishment costs, the settlement of zero coupon debt instruments, contingent consideration paid after a business combination, proceeds from insurance settlements, distributions from certain equity method investees and beneficial interests obtained in a financial asset securitization, should be presented and classified in the statement of cash flows. This update was applied retrospectively and did not have a significant impact on the consolidated financial statements.

### **Statement of cash flows - Restricted cash**

In January 2018, the Company adopted an accounting standard update which clarifies the classification and presentation of changes in restricted cash on the statement of cash flows. It requires the inclusion of cash and cash equivalents that have restrictions on withdrawal or use in total cash and cash equivalents on the statement of cash flows. This update did not have a significant impact on the consolidated financial statements.

#### **Clarifying the definition of a business**

In January 2018, the Company adopted an accounting standard update which narrows the definition of a business. It also provides a framework for determining whether a set of transferred assets and activities involves a business. This update was applied prospectively and did not have a significant impact on the consolidated financial statements.

#### **Clarifying the scope of asset derecognition guidance and accounting for partial sales of nonfinancial assets**

In January 2018, the Company adopted an accounting standard update which clarifies the scope of asset derecognition guidance, adds guidance for partial sales of nonfinancial assets and clarifies recognizing gains and losses from the transfer of nonfinancial assets in contracts with noncustomers. This update was applied retrospectively and did not have a significant impact on the consolidated financial statements.

#### **Compensation—Stock Compensation**

In January 2018, the Company adopted an accounting standard update which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under this update, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. This update was applied prospectively and did not have a significant impact on the consolidated financial statements.

## **Disclosure Framework — Changes to the disclosure requirements for defined benefit plans**

In December 2018, the Company adopted an accounting standard update which modifies the disclosure requirements for defined benefit pension or other postretirement benefit plans. The update removes certain disclosures relating to (i) amounts expected to be recognized in net periodic benefit cost over the next twelve months, (ii) plan assets expected to be returned to the Company, (iii) a one-percentage-point change in assumed health care costs, and (iv) related parties, including insurance and annuity contracts. It clarifies the disclosure requirements for both the projected and accumulated benefit obligations, as well as requiring additional disclosures for cash balance plans and explanations for significant gains and losses related to changes in the benefit obligations. This update was applied on a retrospective basis and did not have a significant impact on the consolidated financial statements.

## **Applicable for future periods**

### **Leases**

In February 2016, an accounting standard update was issued 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 update, which supersedes existing lease guidance, will continue 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. This update is effective for the Company for annual and interim periods beginning January 1, 2019, and is applicable on a modified retrospective basis with various optional practical expedients.

In July 2018, a further accounting standard update was issued, allowing the Company the additional option of adopting the standard retrospectively with the cumulative-effect of initially applying the new standard recognized at the date of adoption in retained earnings. A further update was issued in December 2018 clarifying certain aspects of accounting for leases by lessors.

The Company will elect to adopt the standard using the additional option outlined above and currently expects the update will increase total assets and total liabilities by approximately \$1.4 billion of which approximately \$0.2 billion relate to assets and liabilities held for sale.

The Company expects that the adoption of this update will only have an insignificant impact on its results of operations and cash flows.

### **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. 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. 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, with early adoption permitted for annual and interim periods beginning January 1, 2019. The Company is currently evaluating the impact of this update on its consolidated financial statements.

### **Derivatives and Hedging—Targeted improvements to accounting for hedging activities**

In August 2017, an accounting standard update was issued 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 is effective for the Company for annual and interim periods beginning January 1, 2019. For cash flow and net investment hedges as of the adoption date, the guidance requires a modified retrospective approach. The amended presentation and disclosure guidance is required only prospectively. The Company will adopt this update as of January 1, 2019, and does not believe that this update will have a significant impact on its consolidated financial statements.

### **Reclassification of certain tax effects from accumulated other comprehensive income**

In February 2018, an accounting standard update was issued 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. This update is effective for the Company for annual and interim periods beginning January 1, 2019. The updated guidance is to be applied in the period of adoption or retrospectively to each period in which the effect of the Tax Cuts and Jobs Act related to items remaining in accumulated other comprehensive income are recognized. The Company is currently evaluating the impact of this update on its consolidated financial statements.

**Customer’s accounting for implementation costs incurred in a cloud computing arrangement that is a service contract**

In August 2018, an accounting standard update was issued which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This update is effective for the Company for annual and interim periods beginning January 1, 2020, with early adoption in any interim period permitted. The Company is currently evaluating the impact of this update 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. This update is effective for the Company for annual and interim periods beginning January 1, 2020, with early adoption permitted. 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 is currently evaluating the impact of this update on its disclosures but does not expect that it will have a material effect on its consolidated financial statements.

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**Note 3****Acquisitions and Divestments****Acquisitions**

Acquisitions were as follows:

(\$ in millions, except number of acquired businesses)	<b>Year ended December 31,</b>		<b>Three months ended December 31,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Purchase price for acquisitions (net of cash acquired) <sup>(1)</sup>	2,638	1,992	2	3
Aggregate excess of purchase price over fair value of net assets acquired <sup>(2)</sup>	1,472	1,267	39	(1)
Number of acquired businesses	3	4	–	1

(1) Excluding changes in cost- and equity-accounted companies

(2) Recorded as goodwill.

In the table above, the “Purchase price for acquisitions” and “Aggregate excess of purchase price over fair value of net assets acquired” amounts for the year ended December 31, 2018, relate primarily to the acquisition of GE Industrial Solutions (GEIS). The amounts for the year ended December 31, 2017, relate primarily to the acquisition of Bernecker + Rainer Industrie-Elektronik GmbH (B&R).

Acquisitions of controlling interests have been accounted for under the acquisition method and have been included in the Company’s Consolidated Financial Statements since the date of acquisition.

On June 30, 2018, the Company acquired through numerous share and asset purchases substantially all the assets, liabilities and business activities of 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 assets and liabilities becomes available. Given the timing and complexity of the acquisition of GEIS, the purchase price allocation in the Company's Consolidated Financial Information has not yet been finalized, primarily relating to amounts allocated to net working capital, pension obligations, current and deferred income taxes as well as intangible assets. Changes in allocated amounts could also affect the amount attributable to the noncontrolling interest. At December 31, 2018, the Company is still gathering, analyzing and evaluating relevant information, including certain inputs required for the valuation of intangibles. As a result, amounts recorded in the preliminary purchase price allocation may change in 2019. The final purchase price adjustments as well as the final fair value determinations could result in material adjustments to the values presented in the preliminary purchase price allocation table below.

On July 6, 2017, the Company acquired the shares of B&R. B&R is a worldwide provider of product- and software-based, open-architecture

solutions for machine and factory automation. This acquisition closes a gap in the Company's industrial automation portfolio and consequently

the goodwill acquired represents the future benefits associated with product portfolio expansion.

The aggregate preliminary allocation of the purchase consideration for business acquisitions in the year ended December 31, 2018 and 2017, was as follows:

Year ended December 31,	2018			Weighted- average useful life	2017	
	GEIS	Other	Total		Allocated amounts <sup>(1)</sup>	Weighted- average useful life
(\$ in millions)						
Technology	87	–	<b>87</b>	7 years	412	2
Customer relationships	214	–	<b>214</b>	14 years	264	2
Trade names	122	–	<b>122</b>	13 years	61	1
Supply agreement	34	–	<b>34</b>	13 years	–	–
Intangible assets	457	–	<b>457</b>		737	
Property, plant and equipment	379	9	<b>388</b>		131	
Debt acquired	–	–	–		(50)	
Deferred tax liabilities	(110)	(1)	<b>(111)</b>		(249)	
Inventories	435	3	<b>438</b>		176	
Other assets and liabilities, net <sup>(2)</sup>	126	(25)	<b>101</b>		(20)	
Goodwill <sup>(3)</sup>	1,442	30	<b>1,472</b>		1,267	
Noncontrolling interest	(107)	–	<b>(107)</b>		–	
<b>Total consideration (net of cash acquired)<sup>(4)</sup></b>	<b>2,622</b>	<b>162,638</b>			<b>1,992</b>	

(1) Excludes measurement period adjustments related to prior year acquisitions.

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

(3) The Company expects that goodwill recorded in certain jurisdictions will be tax deductible. The amount is subject to the finalization of the purchase price allocation in 2019.

(4) Primarily relates to the acquisition of GEIS in 2018 and B&R in 2017. Cash acquired in the GEIS acquisition totaled \$192 million.

The Company's Consolidated Income Statement 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 and 2017, as if GEIS had been acquired on January 1, 2017.

(\$ in millions)	Year ended		Three months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Total revenues	28,936	27,881	7,395	7,528
Income from continuing operations, net of tax	1,622	1,631	210	277

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		Three months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Impact on cost of sales from additional amortization of intangible assets	(10)	(20)	-	(4)
Impact on cost of sales from fair valuing acquired inventory	26	(26)	-	-
Impact on cost of sales from additional depreciation of property, plant and equipment	(4)	(8)	-	(1)
Impact on selling, general and administrative expenses from additional amortization of intangible assets	(5)	(12)	-	(1)
Impact on selling, general and administrative expenses from acquisition-related costs	44	20	-	10
Impact on interest from financing costs	(15)	(62)	-	(14)
Taxation adjustments	(5)	33	-	7
<b>Total pro forma adjustments</b>	<b>31</b>	<b>(75)</b>	<b>-</b>	<b>(3)</b>

## **Business divestments**

For the year and three months ended December 31, 2017, the Company recorded net gains (including transaction costs) of \$252 million and net losses (including transaction costs) of \$78 million, respectively, in "Other income (expense), net". For the year and three months ended December 31, 2017, an associated tax expense of \$7 million and tax benefit of \$21 million, respectively, relating to the divestment of consolidated businesses were recorded in "Provision for taxes". These are primarily due to the divestment of the Company's high-voltage cable system and cable accessories businesses in March 2017 (the Cables business) and the Oil & Gas EPC business in December 2017.

The Company has retained certain obligations of the Cables business and thus the Company remains directly or indirectly liable for these liabilities which existed at the date of the divestment. Subsequent to the divestment, in the year ended December 31, 2017, the Company recorded a loss of \$94 million for changes in the amounts recorded for these obligations. In addition, the Company has provided certain performance guarantees to third parties which guarantee the performance of the buyer under existing contracts with customers as well as for certain capital expenditures of the divested business (see Note 7).

## **Held for sale and 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 in the Company's Consolidated Balance Sheets.

Interest 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.

In December 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. The divestment is expected to be completed in the first half of 2020, following the receipt of customary regulatory approvals. As this 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.

Operating results of the discontinued businesses are summarized as follows:

(\$ in millions)	Year ended		Three
	Dec. 31, 2018	Dec. 31, 2017	Dec. 31, 2017
Total revenues	9,698	10,028	2,971
Total cost of sales	(7,378)	(7,501)	(2,174)
<b>Gross profit</b>	<b>2,320</b>	<b>2,527</b>	<b>797</b>
Expenses	(1,326)	(1,376)	(399)
<b>Income from operations</b>	<b>994</b>	<b>1,152</b>	<b>398</b>
Net interest and other finance expense	(55)	(42)	(15)
Non-operational pension (cost) credit	12	9	3
<b>Income from discontinued operations before taxes</b>	<b>951</b>	<b>1,119</b>	<b>376</b>
Provision for taxes	(228)	(273)	(81)
<b>Income from discontinued operations, net of tax</b>	<b>723</b>	<b>846</b>	<b>295</b>

Of the total Income from discontinued operations before taxes in the table above, \$874 million and \$1,034 million in 2018 and 2017, respectively, and \$158 million and \$256 million in the three months ended December 31, 2018 and 2017, respectively, are attributable to the Company, while the remainder is attributable to noncontrolling interests.

Income from discontinued operations before taxes excludes certain costs which were previously allocated to the Power Grids operating segment as these costs were not directly attributable to the business. As a result, for the year ended December 31, 2018 and 2017, \$297 million and \$286 million, respectively, and for the three months ended December 31, 2018 and 2017, \$72 million and \$73 million, respectively, of allocated overhead and other management costs (Stranded corporate costs), which were previously included in the measure of segment profit for the Power Grids operating segment are now reported as part of Corporate and Other. In the year and three months ended December 31, 2018, Income from discontinued operations before taxes includes \$18 million and \$16 million, respectively, of separation costs incurred to execute the transaction. These costs primarily include advisory services.

Included in the reported Total revenues of the Company for the year ended December 31, 2018 and 2017, are revenues from the Company's operating segments to the Power Grids business of \$243 million and \$263 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. In the three months ended December 31, 2018 and 2017, these revenues amounted to \$62 million and \$81 million, respectively (See Note 15).

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

(\$ in millions)	<b>Dec. 31, 2018</b>	<b>Dec. 31, 2017</b>
Receivables, net	2,377	2,406
Contract assets	1,236	1,008
Inventories, net	1,457	1,518
Other current assets	94	111
<b>Current assets held for sale</b>	<b>5,164</b>	<b>5,043</b>
Property, plant and equipment, net	1,477	1,559
Goodwill	1,620	1,663
Other non-current assets	330	338
<b>Non-current assets held for sale</b>	<b>3,427</b>	<b>3,560</b>
Accounts payable, trade	1,732	1,683
Contract liabilities	998	1,116
Other current liabilities	1,455	1,721
<b>Current liabilities held for sale</b>	<b>4,185</b>	<b>4,520</b>
Pension and other employee benefits	268	293
Other non-current liabilities	161	177
<b>Non-current liabilities held for sale</b>	<b>429</b>	<b>470</b>

## Goodwill

Changes in total goodwill were as follows:

(\$ in millions)	<b>Total Goodwill</b>
<b>Balance at January 1, 2017</b>	<b>7,953</b>
Goodwill acquired during the year <sup>(1)</sup>	1,267
Goodwill allocated to disposals <sup>(2)</sup>	(2)
Exchange rate differences and other	318
<b>Balance at December 31, 2017</b>	<b>9,536</b>
Goodwill acquired during the year <sup>(3)</sup>	1,472
Goodwill allocated to disposals	(31)
Exchange rate differences and other	(213)
<b>Balance at December 31, 2018</b>	<b>10,764</b>

(1) Includes primarily goodwill in respect of B&R, acquired in July 2017, which has been allocated to the Industrial Automation operating segment.

(2) Goodwill allocated to the high-voltage cable system business sold in March 2017, within Corporate and Other (formerly reported in the Power Grids operating segment) was reported as assets held-for-sale at December 31, 2016.

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

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**Note 4****Cash and equivalents, marketable securities and short-term investments**

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

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

(\$ in millions)	December 31, 2017					Mar se and shor invest
	Cost basis	Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents	
<b>Changes in fair value recorded in net income</b>						
Cash	1,963	–	–	<b>1,963</b>	1,963	
Time deposits	2,834	–	–	<b>2,834</b>	2,563	
Other short-term investments	305	–	–	<b>305</b>	–	

	<b>5,102</b>	-	-	<b>5,102</b>	<b>4,526</b>
<b>Changes in fair value recorded in other comprehensive income</b>					
Equity securities	152	13	-	<b>165</b>	-
Debt securities available-for-sale:					
U.S. government obligations	127	-	(2)	<b>125</b>	-
Other government obligations	2	-	-	<b>2</b>	-
Corporate	215	1	(1)	<b>215</b>	-
	<b>496</b>	<b>14</b>	<b>(3)</b>	<b>507</b>	-
<b>Total</b>	<b>5,598</b>	<b>14</b>	<b>(3)</b>	<b>5,609</b>	<b>4,526</b>

(1) See "New accounting pronouncements - Applicable for current period" in Note 2 for changes applicable in 2018.

Other short-term investments at December 31, 2018 and 2017, are receivables of \$206 million and \$305 million, respectively, representing reverse repurchase agreements. These collateralized lendings, made to a financial institution, have maturity dates of less than one year.

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## Note 5

### 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 the

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 the 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**

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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:

<b>Type of derivative</b> (\$ in millions)	<b>Total notional amounts at</b>	
	<b>December 31, 2018</b>	<b>December 31, 2017</b>
Foreign exchange contracts	13,612	16,261
Embedded foreign exchange derivatives	733	899
Interest rate contracts	3,300	5,706

### 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:

<b>Type of derivative</b>	<b>Unit</b>	<b>Total notional amounts at</b>	
		<b>December 31, 2018</b>	<b>December 31, 2017</b>
Copper swaps	metric tonnes	46,143	28,976
Silver swaps	ounces	2,861,294	1,966,729
Aluminum swaps	metric tonnes	9,491	1,869

### Equity derivatives

At December 31, 2018 and 2017, the Company held 41 million and 37 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$6 million and \$42 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, 2018 and 2017, “Accumulated other comprehensive loss” included net unrealized losses of \$16 million and net unrealized gains of \$12 million, respectively, net of tax, on derivatives designated as cash flow hedges. Of the amount at December 31, 2018, net losses of \$6 million are expected to be reclassified to earnings in the following 12 months. At December 31, 2018, the longest maturity of a derivative classified as a cash flow hedge was 61 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, 2018 and 2017.

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:

(\$ in millions)	Gains (losses) recognized in OCI on derivatives (effective portion)		Location	Gains (losses) reclassified from OCI into income (effective portion)	
	2018	2017		2018	2017
<b>Year ended December 31,</b>					
<b>Type of derivative</b>					
Foreign exchange contracts	(6)	3	Total revenues	–	2
			Total cost of sales	–	2
Commodity contracts	(9)	9	Total cost of sales	–	6
Cash-settled call options	(36)	22	SG&A expenses <sup>(1)</sup>	(22)	15
<b>Total</b>	<b>(51)</b>	<b>34</b>		<b>(22)</b>	<b>25</b>

(\$ in millions)	Gains (losses) recognized in OCI on derivatives (effective portion)		Location	Gains (losses) reclassified from OCI into income (effective portion)	
	2018	2017		2018	2017
<b>Three months ended December 31,</b>					
<b>Type of derivative</b>					
Foreign exchange contracts	(1)	1	Total revenues	–	1
			Total cost of sales	–	–
Commodity contracts	(2)	5	Total cost of sales	(2)	2
Cash-settled call options	(16)	11	SG&A expenses <sup>(1)</sup>	(10)	7
<b>Total</b>	<b>(19)</b>	<b>17</b>		<b>(12)</b>	<b>10</b>

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

The amounts in respect of gains (losses) recognized in income for hedge ineffectiveness and amounts excluded from effectiveness testing were not significant for the year and three months ended December 31, 2018 and 2017.

Net derivative losses of \$24 million and net derivative gains of \$23 million, both net of tax, were reclassified from “Accumulated other comprehensive loss” to earnings during the year ended December 31, 2018 and 2017, respectively. During the three months ended December 31, 2018 and 2017, net derivative losses of \$13 million and \$11 million, both net of

tax, respectively, were reclassified from “Accumulated other comprehensive loss” to earnings.

### 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, 2018 and 2017, 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,	
	2018	2017	2018	2017
Gains (losses) recognized in Interest and other finance expense:				
- on derivatives designated as fair value hedges	(4)	(23)	32	(20)
- on hedged item	5	27	(32)	22

### 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	Location	Gains (losses) recognized in income			
		Year ended December 31,		Three months ended December 31,	
		2018	2017	2018	2017
(\$ in millions)					
Foreign exchange contracts	Total revenues	(121)	92	(2)	(19)
	Total cost of sales	46	(41)	(20)	(7)
	SG&A expenses <sup>(1)</sup>	10	(18)	-	1
	Non-order related research and development	(1)	-	-	-
	Interest and other finance expense	40	22	16	(21)
Embedded foreign exchange contracts	Total revenues	58	7	-	20
	Total cost of sales	(4)	(2)	1	(4)
	SG&A expenses <sup>(1)</sup>	2	5	-	-
Commodity contracts	Total cost of sales	(33)	31	(4)	13
Other	Interest and other finance expense	3	(2)	-	-
<b>Total</b>		<b>-</b>	<b>94</b>	<b>(9)</b>	<b>(17)</b>

(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	
	Derivative assets Current in "Other current assets"	Non-current in "Other non-current assets"
<b>Derivatives designated as hedging instruments:</b>		
Foreign exchange contracts	-	-
Commodity contracts	-	-
Interest rate contracts	-	35
Cash-settled call options	3	3
<b>Total</b>	<b>3</b>	<b>38</b>
<b>Derivatives not designated as hedging instruments:</b>		
Foreign exchange contracts	117	14
Commodity contracts	8	1
Embedded foreign exchange derivatives	15	10

<b>Total</b>	<b>140</b>	<b>25</b>
<b>Total fair value</b>	<b>143</b>	<b>63</b>

(\$ in millions)	<b>December</b>	
	<b>Derivative assets Current in “Other current assets”</b>	<b>Non-current in “Other non-current assets”</b>
<b>Derivatives designated as hedging instruments:</b>		
Foreign exchange contracts	1	–
Commodity contracts	5	–
Interest rate contracts	–	41
Cash-settled call options	25	16
<b>Total</b>	<b>31</b>	<b>57</b>
<b>Derivatives not designated as hedging instruments:</b>		
Foreign exchange contracts	134	24
Commodity contracts	31	1
Cross-currency interest rate swaps	–	–
Cash-settled call options	–	1
Embedded foreign exchange derivatives	15	10
<b>Total</b>	<b>180</b>	<b>36</b>
<b>Total fair value</b>	<b>211</b>	<b>93</b>

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, 2018 and 2017, 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, 2018 and 2017, information related to these offsetting arrangements was as follows:

(\$ in millions)

Type of agreement or similar arrangement	December 31, 2018				
	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net exposure
Derivatives	181	(121)	-	-	-
Reverse repurchase agreements	206	-	-	(206)	-
<b>Total</b>	<b>387</b>	<b>(121)</b>	<b>-</b>	<b>(206)</b>	<b>-</b>

(\$ in millions)

Type of agreement or similar arrangement	December 31, 2018				
	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash pledged	Non-cash pledged	Net liability exposure
Derivatives	220	(121)	-	-	99
<b>Total</b>	<b>220</b>	<b>(121)</b>	<b>-</b>	<b>-</b>	<b>99</b>

(\$ in millions)

Type of agreement or similar arrangement	December 31, 2017				
	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net exposure
Derivatives	279	(167)	-	-	-
Reverse repurchase agreements	305	-	-	(305)	-
<b>Total</b>	<b>584</b>	<b>(167)</b>	<b>-</b>	<b>(305)</b>	<b>-</b>

(\$ in millions)

Type of agreement or similar arrangement	December 31, 2017				
	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash pledged	Non-cash pledged	Net liability exposure
Derivatives	259	(167)	-	-	92
<b>Total</b>	<b>259</b>	<b>(167)</b>	<b>-</b>	<b>-</b>	<b>92</b>

□

**Note 6**

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## 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)	<b>December 31, 2019</b>	
	<b>Level 1</b>	<b>Level 2</b>
<b>Assets</b>		
Available-for-sale securities in "Marketable securities and short-term investments":		
Equity securities	–	203
Debt securities—U.S. government obligations	214	–
Debt securities—Corporate	–	88
Derivative assets—current in "Other current assets"	–	143
Derivative assets—non-current in "Other non-current assets"	–	63
<b>Total</b>	<b>214</b>	<b>497</b>
<b>Liabilities</b>		
Derivative liabilities—current in "Other current liabilities"	–	192
Derivative liabilities—non-current in "Other non-current liabilities"	–	37
<b>Total</b>	<b>–</b>	<b>229</b>

(\$ in millions)	<b>Decem</b>	<b>Level 1</b>	<b>Level 2</b>
<b>Assets</b>			
Available-for-sale securities in "Marketable securities and short-term investments":			
Equity securities	–		165
Debt securities—U.S. government obligations	125		–
Debt securities—Other government obligations	–		2
Debt securities—Corporate	–		215
Receivable in "Other non-current assets":			
Receivable under securities lending arrangement	79		–
Derivative assets—current in "Other current assets"	–		211
Derivative assets—non-current in "Other non-current assets"	–		93
<b>Total</b>	<b>204</b>		<b>686</b>
<b>Liabilities</b>			
Derivative liabilities—current in "Other current liabilities"	–		207
Derivative liabilities—non-current in "Other non-current liabilities"	–		70
<b>Total</b>	<b>–</b>		<b>277</b>

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:

- **Available-for-sale securities in "Marketable securities and short-term investments" and "Other non-current assets":** 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. The fair value of the receivable under the securities lending arrangement has been determined based on the fair value of the security lent.
- **Derivatives:** The fair values of derivative instruments are determined using quoted prices of identical instruments from an active market, if available (Level 1). 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**

There were no significant non-recurring fair value measurements during the year and three months ended December 31, 2018 and 2017.

**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)	<b>December 31, 2018</b>	<b>December 31, 2017</b>	<b>December 31, 2016</b>
	<b>Carrying value</b>	<b>Level 1</b>	<b>Level 2</b>
<b>Assets</b>			
Cash and equivalents (excluding available-for-sale securities with original maturities up to 3 months):			
Cash	1,983	1,983	–
Time deposits	1,462	–	1,462
Marketable securities and short-term investments (excluding available-for-sale securities):			
Time deposits	1	–	1
Receivables under reverse repurchase agreements	206	–	206
Other non-current assets:			
Loans granted	30	–	31
Restricted time deposits	39	39	–
<b>Liabilities</b>			
Short-term debt and current maturities of long-term debt (excluding capital lease obligations)	2,008	1,480	528
Long-term debt (excluding capital lease obligations)	6,457	5,839	707

(\$ in millions)	<b>December 31, 2018</b>	<b>December 31, 2017</b>	<b>December 31, 2016</b>
	<b>Carrying value</b>	<b>Level 1</b>	<b>Level 2</b>
<b>Assets</b>			
Cash and equivalents (excluding available-for-sale securities with original maturities up to 3 months):			
Cash	1,963	1,963	–
Time deposits	2,563	–	2,563
Marketable securities and short-term investments (excluding available-for-sale securities):			
Time deposits	271	–	271
Receivables under reverse repurchase agreements	305	–	305
Other non-current assets:			
Loans granted	29	–	30

Restricted time deposits	35	35	–
<b>Liabilities</b>			
Short-term debt and current maturities of long-term debt (excluding capital lease obligations)	694	400	294
Long-term debt (excluding capital lease obligations)	6,567	6,046	773

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

- Cash and equivalents (excluding available-for-sale securities with original maturities up to 3 months), and Marketable securities and short-term investments (excluding available-for-sale 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 capital 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 capital lease obligations, approximate their fair values.
- Long-term debt (excluding capital 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).

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## **Note 7**

### **Commitments and contingencies**

#### **Contingencies—Regulatory, Compliance and Legal**

##### **Antitrust**

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.

##### **Suspect payments**

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.

##### **General**

In addition, 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, 2018 and 2017, the Company had aggregate liabilities of \$221 million and \$229 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)	<b>December 31, 2018</b>	<b>December 31, 2017</b>
Performance guarantees	1,584	1,775
Financial guarantees	10	17
Indemnification guarantees	64	72
<b>Total<sup>(1)</sup></b>	<b>1,658</b>	<b>1,864</b>

(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, 2018 and 2017, 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, 2018 and 2017, the maximum potential payable under these guarantees amounts to \$771 million and \$929 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, 2018 and 2017, the total outstanding performance bonds aggregated to \$7.4 billion and \$7.7 billion, respectively, of which \$4.3 billion and \$4.7 billion, respectively, relate 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, 2018 and 2017.

## 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)

<b>Balance at January 1,</b>	<b>2018</b> <b>909</b>
Net change in warranties due to acquisitions and divestments	41
Claims paid in cash or in kind	(307)
Net increase in provision for changes in estimates, warranties issued and warranties expired	341
Exchange rate differences	(36)
<b>Balance at December 31,</b>	<b>948</b>

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 15).

During 2016, the Company determined that the provision for product warranties in its solar business, acquired in 2013 as part of the purchase of Power-One, was no longer sufficient to cover expected warranty costs in the remaining warranty period. Due to higher than originally expected product failure rates for certain solar inverters designed and manufactured by Power-One, a substantial portion of which relates to products which were delivered to customers prior to the acquisition date, the Company increased the previously estimated warranty provision for its solar business during the year and three months ended December 31, 2018, by \$36 million, and during the year and three months ended December 31, 2017, by \$23 million and \$18 million, respectively. For both the year and three months ended December 31, 2018 and 2017, \$16 million and \$8 million, respectively, of the increase in provision relates to products delivered prior to the acquisition date and have been excluded from Operational EBITA. The corresponding increases were included in Cost of sales of products.

The warranty liability has been recorded based on the information currently available and is subject to change in the future.

□

**Note 8****Contract assets and liabilities**

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

(\$ in millions)	<b>December 31, 2018</b>	<b>December 31, 2017</b>	<b>December 31, 2016</b>
Contract assets	1,082	1,141	1,222
Contract liabilities	1,707	1,792	1,690

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)

Revenue recognized, which was included in the Contract liabilities balance at Jan 1, 2018/2017  
 Additions to Contract liabilities - excluding amounts recognized as revenue during the period  
 Receivables recognized that were included in the Contract asset balance at Jan 1, 2018/2017

At December 31, 2018, the Company had unsatisfied performance obligations totaling \$13,084 million and, of this amount, the Company expects to fulfill approximately 76 percent of the obligations in 2019, approximately 14 percent of the obligations in 2020 and the balance thereafter.

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**Note 9****Debt**

The Company's total debt at December 31, 2018 and 2017, amounted to \$8,618 million and \$7,408 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)	<b>December 31, 2018</b>	<b>December 31, 2017</b>
Short-term debt	561	317
Current maturities of long-term debt	1,470	409
<b>Total</b>	<b>2,031</b>	<b>726</b>

Short-term debt primarily represented issued commercial paper and short-term loans from various banks. At December 31, 2018 and 2017, \$292 million and \$259 million, respectively, was outstanding under the \$2 billion commercial paper program in the United States. In addition, at December 31, 2018, \$172 million was outstanding under the \$2 billion Euro-commercial paper program.

In November 2018, the Company repaid at maturity the CHF 350 million 1.50% Bonds, equivalent to \$351 million at date of payment.

**Long-term debt**

The Company's long-term debt at December 31, 2018 and 2017, amounted to \$6,587 million and \$6,682 million, respectively.

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

—

(in millions)	December 31, 2018			December 31, 2017		
	Nominal outstanding		Carrying value <sup>(1)</sup>	Nominal outstanding		Carrying value <sup>(1)</sup>
Bonds:						
1.50% CHF Bonds, due 2018				CHF	350	\$ 358
2.625% EUR Instruments, due 2019	EUR	1,250	\$ 1,431	EUR	1,250	\$ 1,493
2.8% USD Notes, due 2020	USD	300	\$ 299			—
4.0% USD Notes, due 2021	USD	650	\$ 646	USD	650	\$ 644
2.25% CHF Bonds, due 2021	CHF	350	\$ 373	CHF	350	\$ 378
5.625% USD Notes, due 2021	USD	250	\$ 265	USD	250	\$ 270
2.875% USD Notes, due 2022	USD	1,250	\$ 1,242	USD	1,250	\$ 1,256
3.375% USD Notes, due 2023	USD	450	\$ 448			—
0.625% EUR Instruments, due 2023	EUR	700	\$ 807	EUR	700	\$ 834
0.75% EUR Instruments, due 2024	EUR	750	\$ 862	EUR	750	\$ 889
3.8% USD Notes, due 2028	USD	750	\$ 746			—
4.375% USD Notes, due 2042	USD	750	\$ 723	USD	750	\$ 723
<b>Total</b>			<b>\$ 7,842</b>			<b>\$ 6,845</b>

(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 April 2018, the Company issued the following notes with a principal of:

- \$300 million, due 2020, paying interest semi-annually in arrears at a fixed rate of 2.8 percent per annum,
- \$450 million, due 2023, paying interest semi-annually in arrears at a fixed rate of 3.375 percent per annum, and
- \$750 million, due 2028, paying interest semi-annually in arrears at a fixed rate of 3.8 percent per annum.

The aggregate net proceeds of these bond issues, after underwriting discount and other fees, amounted to \$1,494 million.

### Subsequent events

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 addition, as at February 27, 2019, the amount outstanding under the \$2 billion program in the United States increased to \$794 million from \$292 million at December 31, 2018. There was no significant change in the Euro-commercial \$2 billion program.

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**Note 10****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	Switzerland	International
Year ended December 31,	2018	2017	2018	2017
<b>Operational pension cost:</b>				
Service cost	92	106	122	122
<b>Operational pension cost</b>	<b>92</b>	<b>106</b>	<b>122</b>	<b>122</b>
<b>Non-operational pension cost (credit):</b>				
Interest cost	30	41	198	208
Expected return on plan assets	(117)	(112)	(305)	(295)
Amortization of prior service cost (credit)	(15)	10	1	1
Amortization of net actuarial loss	-	-	92	91
Curtailments, settlements and special termination benefits	-	-	23	16
<b>Non-operational pension cost (credit)</b>	<b>(102)</b>	<b>(61)</b>	<b>9</b>	<b>21</b>
<b>Net periodic benefit cost</b>	<b>(10)</b>	<b>45</b>	<b>131</b>	<b>143</b>

(\$ in millions)

	Defined pension benefits		Other postretirement benefits	
	Switzerland	International	Switzerland	International
Three months ended December 31,	2018	2017	2018	2017
<b>Operational pension cost:</b>				
Service cost	22	21	33	29
<b>Operational pension cost</b>	<b>22</b>	<b>21</b>	<b>33</b>	<b>29</b>
<b>Non-operational pension cost (credit):</b>				
Interest cost	8	9	52	47
Expected return on plan assets	(27)	(27)	(79)	(69)
Amortization of prior service cost (credit)	(3)	(3)	-	-
Amortization of net actuarial loss	-	-	20	22
Curtailments, settlements and special termination benefits	-	-	22	14
<b>Non-operational pension cost (credit)</b>	<b>(22)</b>	<b>(21)</b>	<b>15</b>	<b>14</b>
<b>Net periodic benefit cost</b>	<b>-</b>	<b>-</b>	<b>48</b>	<b>43</b>

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 \$45 million and \$55 million, for the year end December 31, 2018 and 2017, respectively, and \$11 million and \$14 million, for the three months end December 31, 2018 and 2017, respectively, related to discontinued operations.

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits		Other postretirement benefits			
	Switzerland	International	Switzerland	International		
<b>Year ended December 31,</b>	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>		
Total contributions to defined benefit pension and other postretirement benefit plans	89	90	152	139	11	11
Of which, discretionary contributions to defined benefit pension plans	-	-	25	15	-	-

(\$ in millions)	Defined pension benefits		Other postretirement benefits			
	Switzerland	International	Switzerland	International		
<b>Three months ended December 31,</b>	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>		
Total contributions to defined benefit pension and other postretirement benefit plans	21	24	68	60	5	4
Of which, discretionary contributions to defined benefit pension plans	-	-	15	15	-	-

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. During the year and three months ended December 31, 2017, 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.

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## Note 11

### Stockholders' equity

In 2018 the Company purchased on the open market an aggregate of 10 million of its own shares resulting in an increase in Treasury stock of \$249 million. Also in 2018 the Company delivered, out of treasury stock, 2.4 million shares for options exercised in connection with its Management Incentive Plan.

At the Annual General Meeting of Shareholders on March 29, 2018, shareholders approved the proposal of the Board of Directors to distribute 0.78 Swiss francs per share to shareholders. The declared dividend amounted to \$1,736 million and was paid in April 2018.

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**Note 12****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**

	<b>Three Year ended months December 31, ended December 31, 2018 2017 2018 2017</b>			
(\$ in millions, except per share data in \$)				
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,514	1,441	204	204
Income from discontinued operations, net of tax	659	772	113	189
<b>Net income</b>	<b>2,173</b>	<b>2,213</b>	<b>317</b>	<b>393</b>
<b>Weighted-average number of shares outstanding (in millions)</b>	<b>2,132</b>	<b>2,138</b>	<b>2,132</b>	<b>2,136</b>

Basic earnings per share attributable to ABB shareholders:

Income from continuing operations, net of tax	0.71	0.67	0.10	0.10
Income from discontinued operations, net of tax	0.31	0.36	0.05	0.09
<b>Net income</b>	<b>1.02</b>	<b>1.04</b>	<b>0.15</b>	<b>0.18</b>

**Diluted earnings per share**

	<b>Th Year ended mo December 31, en Decem 2018 2017 2018</b>			
(\$ in millions, except per share data in \$)				
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,514	1,441	204	204
Income from discontinued operations, net of tax	659	772	113	189
<b>Net income</b>	<b>2,173</b>	<b>2,213</b>	<b>317</b>	<b>393</b>
Weighted-average number of shares outstanding (in millions)	2,132	2,138	2,132	2,136
Effect of dilutive securities:				
Call options and shares		7	10	2

**Adjusted weighted-average number of shares outstanding (in millions)** 2,139 2,148 2,134

Diluted earnings per share attributable to ABB shareholders:

Income from continuing operations, net of tax	0.71	0.67	0.10
Income from discontinued operations, net of tax	0.31	0.36	0.05
<b>Net income</b>	<b>1.02</b>	<b>1.03</b>	<b>0.15</b>

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**Note 13****Reclassifications out of accumulated other comprehensive loss**

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

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and postretirement plan adjustments
<b>Balance at January 1, 2017</b>	<b>(3,592)</b>	<b>7</b>	<b>(1,000)</b>
<b>Other comprehensive (loss) income:</b>			
Other comprehensive (loss) income before reclassifications	912	1	
Amounts reclassified from OCI	–	–	
Changes attributable to divestments <sup>(1)</sup>	12	–	
<b>Total other comprehensive (loss) income</b>	<b>924</b>	<b>1</b>	
Less:			
Amounts attributable to noncontrolling interests	25	–	
<b>Balance at December 31, 2017</b>	<b>(2,693)</b>	<b>8</b>	<b>(1,000)</b>
Cumulative effect of changes in accounting principles <sup>(2)</sup>	–	(9)	
<b>Other comprehensive (loss) income:</b>			
Other comprehensive (loss) income before reclassifications	(627)	(4)	
Amounts reclassified from OCI	(31)	1	
Changes attributable to divestments	12	–	
<b>Total other comprehensive (loss) income</b>	<b>(646)</b>	<b>(3)</b>	
Less:			
Amounts attributable to noncontrolling interests	(15)	–	
<b>Balance at December 31, 2018</b>	<b>(3,324)</b>	<b>(4)</b>	<b>(1,000)</b>

(1) Changes attributable to divestments are included in the computation of the net gain or loss on sale of businesses (see Note 3).

(2) 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)	<b>Location of (gains) losses reclassified from OCI</b>	<b>Year ended December 31, 2018</b>
<b>Details about OCI components</b>		
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 <sup>(1)</sup>	(19)
Amortization of net actuarial loss	Non-operational pension (cost) credit <sup>(1)</sup>	91
Net losses from pension settlements	Non-operational pension (cost) credit <sup>(1)</sup>	23
<b>Total before tax</b>		<b>95</b>
Tax	Provision for taxes	(31)
<b>Amounts reclassified from OCI</b>		<b>64</b>

(1) Amounts include a total of \$12 million and \$9 million, for the year end December 31, 2018 and 2017, respectively, and \$2 million and \$4 million, for the three months end December 31, 2018 and 2017, respectively, reclassified from OCI to Income from discontinued operations (see Note 3).

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, 2018 and 2017.

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**Note 14****Restructuring and related expenses****White Collar Productivity program**

From September 2015 to December 2017, the Company executed a restructuring program to make the Company leaner, faster and more customer-focused. The program involved the rapid expansion and use of regional shared service centers as well as a streamlining of global operations and head office functions, with business units moving closer to their respective key markets. The program involved various restructuring initiatives across all operating segments and regions.

As of December 31, 2017, the Company had incurred substantially all costs related to the White Collar Productivity program.

Liabilities associated with the White Collar Productivity program are primarily included in "Other provisions". The following table shows the activity from the beginning of the program to December 31, 2018, by expense type.

(\$ in millions)	<b>Employee severance costs</b>	<b>Contract settlement loss order and other cost</b>
<b>Liability at January 1, 2015</b>	—	
Expenses	300	
Cash payments	(27)	
<b>Liability at December 31, 2015</b>	<b>273</b>	
Expenses	182	
Cash payments	(91)	(2)
Change in estimates	(85)	(1)
Exchange rate differences	(17)	(1)
<b>Liability at December 31, 2016</b>	<b>262</b>	
Expenses	28	
Cash payments	(92)	(4)
Change in estimates	(118)	
Exchange rate differences	21	
<b>Liability at December 31, 2017</b>	<b>101</b>	
Cash payments	(55)	
Change in estimates and exchange rate differences	(13)	
<b>Liability at December 31, 2018</b>	<b>33</b>	

The change in estimates during 2017 of \$118 million, is mainly due to higher than expected rates of attrition and internal re-deployment. The decrease in the liability was recorded in Income from operations, primarily as reductions in Cost of sales of \$53 million and in Selling, general and administrative expenses of \$55 million. During the three months ended December 31, 2017, the change in estimates of \$29 million, related to restructuring activities initiated in both 2015 and 2016, was recorded primarily as reductions in Cost of sales of \$11 million and in Selling, general and administrative expenses of \$17 million.

The change in estimates during 2016 of \$86 million is due to significantly higher than expected rates of attrition and internal re-deployment and a lower than expected severance cost per employee for the employee groups affected by the first phase of restructuring initiated in 2015.

The following table outlines the net costs incurred in the year and three months ended December 31, 2017, and the cumulative net costs incurred to December 31, 2017:

(\$ in millions)	<b>Net cost incurred Year ended December 31, 2017<sup>(1)</sup></b>	<b>Net cost incurred Three months ended December 31, 2017<sup>(1)</sup></b>	<b>Cumulative net cost incurred up to December 31, 2017<sup>(1)</sup></b>
Electrification Products	(17)	(6)	72
Industrial Automation	(23)	(4)	106
Robotics and Motion	(14)	(4)	56
Corporate and Other	(32)	(5)	91
<b>Total</b>	<b>(86)</b>	<b>(19)</b>	<b>325</b>

(1) Net costs incurred in 2017 and Cumulative net costs incurred up to December 31, 2017, have been recast to reflect the reorganization of the Company's operating segments as outlined in Note 15.

The Company recorded the following expenses, net of changes in estimates, under this program:

(\$ in millions)	<b>Year ended December 31, 2017<sup>(1)</sup></b>	<b>Three months ended December 31,</b>
Employee severance costs	(90)	
Estimated contract settlement, loss order and other costs	3	
Inventory and long-lived asset impairments	1	
<b>Total</b>	<b>(86)</b>	

(1) Of which \$47 million was recorded in Total cost of sales and \$35 million in Selling, general and administrative expenses.

(2) Of which \$11 million was recorded in Total cost of sales and \$7 million in Selling, general and administrative 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, 2018, the cumulative costs incurred up to December 31, 2018, and the total amount of costs expected to be incurred under the program per operating segment:

(\$ in millions)	<b>Cost incurred Year ended December 31, 2018</b>	<b>Cost incurred Three months ended December 31, 2018</b>	<b>Cumulative net cost incurred up to December 31, 2018</b>	<b>Expected</b>
Electrification Products	32	32	32	
Industrial Automation	21	21	21	
Robotics and Motion	1	1	1	

Corporate and Other	11	11	11
<b>Total</b>	<b>65</b>	<b>65</b>	<b>65</b>

In the year and three months ended December 31, 2018, restructuring expenses recorded for this program relate to employee severance costs and are included in the following line items in the Consolidated Income Statements:

(\$ in millions)	<b>Year ended December 31, 2018</b>	<b>Three months ended December 31, 2018</b>
Total cost of sales		35
Selling, general and administrative expenses		23
Non-order related research and development expenses		3
Other income (expense), net		4
<b>Total</b>		<b>65</b>

At December 31, 2018, liabilities associated with the program amount to \$65 million and are primarily included in "Other provisions".

### Other restructuring-related activities

In the year ended December 31, 2018 and 2017, the Company executed various other restructuring-related activities and incurred expenses of \$116 million and \$181 million, respectively. In the three months ended December 31, 2018 and 2017, expenses relating to these various other restructuring-related activities amounted to \$65 million and \$74 million, respectively. These expenses mainly relate to employee severance costs and are primarily recorded in:

(\$ in millions)	<b>Year ended December 31,</b>		<b>Three months ended December 31,</b>	
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
Total cost of sales	24	119	14	51
Selling, general and administrative expenses	52	10	34	5
Non-order related research and development expenses	2	—	2	—
Other income (expenses), net	38	52	15	18
<b>Total</b>	<b>116</b>	<b>181</b>	<b>65</b>	<b>74</b>



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**Note 15****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 the operating segments consist of Electrification Products, Industrial Automation, and Robotics and Motion. The remaining operations of the Company are included in Corporate and Other. Following the announcement in December 2018, to sell its Powers Grids business, the Company reclassified the results of operations for this business and certain related amounts previously included in Corporate and Other to discontinued operations (See Note 3).

Effective January 1, 2018, management responsibility and oversight of certain remaining engineering, procurement and construction (EPC) businesses, previously included in the Industrial Automation and Robotics and Motion operating segments and the former Power Grids business, were transferred to a new non-core operating business within Corporate and Other. In addition, the results of certain divested businesses, which prior to their divestment in March 2018, were included within the Industrial Automation segment have been reclassified to Corporate and Other for all periods presented. In addition, during 2018, the Company changed the presentation of Cash and cash equivalents within the reported total segment assets such that all amounts are now considered as part of Corporate and other.

The segment information for the year and three months ended December 31, 2017 and at December 31, 2017, 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 Products:** 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 solutions for modern machine and factory automation and large turbochargers. In addition, the division offers a comprehensive range of services ranging from repair to advanced services such as remote monitoring, preventive maintenance and cybersecurity services.
- **Robotics and Motion:** manufactures and sells robotics, motors, generators, drives, wind converters, components and systems for railways and related services and digital solutions for a wide range of applications in industry, transportation and infrastructure, and utilities.
- **Corporate and Other:** includes headquarters, central research and development, the Company's real estate activities, Group Treasury Operations, non-core operating activities, historical operating activities of certain divested businesses and other minor business activities.

The Company evaluates the profitability of its segments based on Operational EBITA, which represents income from operations excluding:

- amortization expense on intangibles arising upon acquisitions (acquisition-related amortization),
- restructuring and restructuring-related expenses,
- 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,
- 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, 2018 and 2017, as well as total assets at December 31, 2018 and 2017.

(\$ in millions)	Year ended December 31, 2018				Total
	Electrification Products	Industrial Automation	Robotics and Motion	Corporate and Other	
<b>Geographical markets</b>					
Europe	3,881	3,145	2,929	58	<b>10,013</b>
The Americas	3,650	1,544	2,788	21	<b>8,003</b>
Asia, Middle East and Africa	3,680	2,565	2,922	236	<b>9,403</b>
	<b>11,211</b>	<b>7,254</b>	<b>8,639</b>	<b>315</b>	<b>27,419</b>
<b>End Customer Markets</b>					
Utilities	2,452	1,168	749	176	<b>4,545</b>
Industry	4,395	4,447	6,529	98	<b>15,469</b>
Transport & infrastructure	4,364	1,639	1,361	41	<b>7,405</b>
	<b>11,211</b>	<b>7,254</b>	<b>8,639</b>	<b>315</b>	<b>27,419</b>
<b>Product type</b>					
Products	9,679	2,391	6,206	118	<b>18,394</b>
Systems	617	1,853	1,062	197	<b>3,729</b>
Services and other	915	3,010	1,371	–	<b>5,296</b>
	<b>11,211</b>	<b>7,254</b>	<b>8,639</b>	<b>315</b>	<b>27,419</b>
Third-party revenues	11,211	7,254	8,639	315	<b>27,419</b>
Intersegment revenues <sup>(1)</sup>	475	140	508	(880)	<b>243</b>
<b>Total Revenues</b>	<b>11,686</b>	<b>7,394</b>	<b>9,147</b>	<b>(565)</b>	<b>27,662</b>

(\$ in millions)	Year ended December 31, 2017				Total
	Electrification Products	Industrial Automation	Robotics and Motion	Corporate and Other	
<b>Geographical markets</b>					
Europe	3,514	2,773	2,613	132	<b>9,032</b>
The Americas	2,613	1,381	2,721	116	<b>6,831</b>
Asia, Middle East and Africa	3,464	2,570	2,543	493	<b>9,070</b>
	<b>9,591</b>	<b>6,724</b>	<b>7,877</b>	<b>741</b>	<b>24,933</b>
<b>End Customer Markets</b>					
Utilities	2,597	1,270	633	575	<b>5,075</b>
Industry	4,022	3,796	5,991	155	<b>13,964</b>
Transport & infrastructure	2,972	1,658	1,253	11	<b>5,894</b>
	<b>9,591</b>	<b>6,724</b>	<b>7,877</b>	<b>741</b>	<b>24,933</b>
<b>Product type</b>					
Products	8,322	1,796	5,661	169	<b>15,948</b>
Systems	614	2,089	959	565	<b>4,227</b>
Services and other	655	2,839	1,257	7	<b>4,758</b>
	<b>9,591</b>	<b>6,724</b>	<b>7,877</b>	<b>741</b>	<b>24,933</b>
Third-party revenues	9,591	6,724	7,877	741	<b>24,933</b>
Intersegment revenues <sup>(1)</sup>	503	155	519	(914)	<b>263</b>
<b>Total Revenues</b>	<b>10,094</b>	<b>6,879</b>	<b>8,396</b>	<b>(173)</b>	<b>25,196</b>



(\$ in millions)	<b>Three months ended December 31, 2018</b>				<b>Total</b>
	<b>Electrification Products</b>	<b>Industrial Automation and Motion</b>	<b>Robotics and Other</b>	<b>Corporate</b>	
<b>Geographical markets</b>					
Europe	1,048	825	786	(9)	<b>2,650</b>
The Americas	1,184	388	684	(12)	<b>2,244</b>
Asia, Middle East and Africa	970	688	733	48	<b>2,439</b>
	<b>3,202</b>	<b>1,901</b>	<b>2,203</b>	<b>27</b>	<b>7,333</b>
<b>End Customer Markets</b>					
Utilities	257	313	206	5	<b>781</b>
Industry	1,116	1,186	1,659	28	<b>3,989</b>
Transport & infrastructure	1,829	402	338	(6)	<b>2,563</b>
	<b>3,202</b>	<b>1,901</b>	<b>2,203</b>	<b>27</b>	<b>7,333</b>
<b>Product type</b>					
Products	2,714	616	1,567	55	<b>4,952</b>
Systems	180	446	276	(28)	<b>874</b>
Services and other	308	839	360	-	<b>1,507</b>
	<b>3,202</b>	<b>1,901</b>	<b>2,203</b>	<b>27</b>	<b>7,333</b>
Third-party revenues	3,202	1,901	2,203	27	<b>7,333</b>
Intersegment revenues <sup>(1)</sup>	118	37	138	(231)	<b>62</b>
<b>Total Revenues</b>	<b>3,320</b>	<b>1,938</b>	<b>2,341</b>	<b>(204)</b>	<b>7,395</b>

(\$ in millions)	<b>Three months ended December 31, 2017</b>				<b>Total</b>
	<b>Electrification Products</b>	<b>Industrial Automation and Motion</b>	<b>Robotics and Other</b>	<b>Corporate</b>	
<b>Geographical markets</b>					
Europe	949	837	718	8	<b>2,512</b>
The Americas	650	416	670	22	<b>1,758</b>
Asia, Middle East and Africa	947	714	679	113	<b>2,453</b>
	<b>2,546</b>	<b>1,967</b>	<b>2,067</b>	<b>143</b>	<b>6,723</b>
<b>End Customer Markets</b>					
Utilities	634	339	168	123	<b>1,264</b>
Industry	1,068	1,166	1,650	31	<b>3,915</b>
Transport & infrastructure	844	462	249	(11)	<b>1,544</b>
	<b>2,546</b>	<b>1,967</b>	<b>2,067</b>	<b>143</b>	<b>6,723</b>
<b>Product type</b>					
Products	2,182	599	1,471	97	<b>4,349</b>
Systems	174	520	241	46	<b>981</b>
Services and other	190	848	355	-	<b>1,393</b>
	<b>2,546</b>	<b>1,967</b>	<b>2,067</b>	<b>143</b>	<b>6,723</b>
Third-party revenues	2,546	1,967	2,067	143	<b>6,723</b>
Intersegment revenues <sup>(1)</sup>	150	44	130	(243)	<b>81</b>
<b>Total Revenues</b>	<b>2,696</b>	<b>2,011</b>	<b>2,197</b>	<b>(100)</b>	<b>6,804</b>

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

	<b>Three Year ended months ended</b>			
	<b>December 2018</b>	<b>December 2017</b>	<b>December 2018</b>	<b>December 2017</b>
(\$ in millions)				
<i>Operational EBITA:</i>				
Electrification Products	1,626	1,510	388	39
Industrial Automation	1,019	953	251	29
Robotics and Motion	1,447	1,260	349	30
<i>Corporate and Other:</i>				
-Non-core and divested businesses	(291)	(163)	(194)	(138)
– Stranded corporate costs	(297)	(286)	(72)	(73)
– Corporate costs and Other Intersegment elimination	(499)	(457)	(138)	(125)
<b>Consolidated Operational EBITA</b>	<b>3,005</b>	<b>2,817</b>	<b>584</b>	<b>66</b>
Acquisition-related amortization	(273)	(229)	(75)	(65)
Restructuring and restructuring-related expenses <sup>(1)</sup>	(172)	(300)	(129)	(108)
Changes in obligations related to divested businesses	(106)	(94)	(14)	
Changes in pre-acquisition estimates	(8)	(8)	(6)	(8)
Gains and losses from sale of businesses	57	252	(4)	(78)
Acquisition- and divestment-related expenses and integration costs	(204)	(81)	(56)	(41)
<i>Foreign exchange/commodity timing differences in income from operations:</i>				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(1)	56	(2)	(3)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(23)	8	(12)	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(9)	(30)	14	(9)
<i>Certain other non-operational items:</i>				
Regulatory, compliance and legal costs	(34)	(102)	(5)	(11)
Asset write downs/ impairments	(25)	–	(13)	
Losses and other (costs) recoveries on Korea fraud	–	(40)	8	(7)
Other non-operational items	19	(19)	(15)	(10)
<b>Income from operations</b>	<b>2,226</b>	<b>2,230</b>	<b>275</b>	<b>32</b>
Interest and dividend income	72	73	11	2
Interest and other finance expense	(262)	(234)	(66)	(45)
Non-operational pension (cost) credit	83	33	6	
<b>Income from continuing operations before taxes</b>	<b>2,119</b>	<b>2,102</b>	<b>226</b>	<b>30</b>

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

	<b>Total assets<sup>(1), (2)</sup></b>	
	<b>December 31, 2018</b>	<b>December 31, 2017</b>
(\$ in millions)		
Electrification Products	12,049	8,881
Industrial Automation	6,669	6,961
Robotics and Motion	8,397	8,416
Corporate and Other	17,326	19,200
<b>Consolidated</b>	<b>44,441</b>	<b>43,458</b>

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

(2) Assets held for sale of \$8,591 million and \$8,603 million are included in Corporate and Other at December 31, 2018 and 2017, respectively (see Note 3).

## **2019 Realignment of segments**

On December 17, 2018, the Company announced a reorganization of its operating segments into four customer-focused, entrepreneurial businesses. With effect from April 1, 2019:

- the Electrification Products segment will be renamed the Electrification segment,
- the Industrial Automation segment will remain unchanged except that it will now exclude the Machine and Factory Automation business, which will be transferred to the new Robotics and Discrete Automation segment,
- the new Robotics and Discrete Automation segment will include the combined businesses of the Machine and Factory Automation business, previously included in the Industrial Automation segment, and the Robotics business from the former Robotics and Motion segment, and
- the new Motion segment will contain the remaining businesses of the former Robotics and Motion segment.







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## **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, 2018.

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 has not been restated and continues to be reported under the accounting standards previously in effect for those periods (see Note 2 to the Consolidated Financial Information).

### **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.

### Divisional comparable growth rate reconciliation

#### Q4 2018 compared to Q4 2017

Division	Order growth rate				Revenue growth rate			
	US\$ reported)	Foreign		Comparable	US\$ reported)	Foreign		Comparable
		(as exchange)	Portfolio			impact changes	(as exchange)	
Electrification Products	23%	4%	-25%	2%	23%	5%	-25%	
Industrial Automation	4%	4%	0%	8%	-4%	4%	0%	
Robotics and Motion	7%	4%	0%	11%	7%	4%	0%	
<b>ABB Group</b>	<b>10%</b>	<b>5%</b>	<b>-8%</b>	<b>7%</b>	<b>9%</b>	<b>4%</b>	<b>-8%</b>	

#### FY 2018 compared to FY 2017

Division	Order growth rate				Revenue growth rate			
	US\$ reported)	Foreign		Comparable	US\$ reported)	Foreign		Comparable
		(as exchange)	Portfolio			impact changes	(as exchange)	
Electrification Products	17%	-1%	-12%	4%	16%	0%	-13%	
Industrial Automation	16%	-1%	-7%	8%	7%	0%	-6%	
Robotics and Motion	13%	-1%	0%	12%	9%	-1%	0%	
<b>ABB Group</b>	<b>14%</b>	<b>0%</b>	<b>-6%</b>	<b>8%</b>	<b>10%</b>	<b>-1%</b>	<b>-5%</b>	

**Regional comparable growth rate reconciliation****Q4 2018 compared to Q4 2017**

Region	Order growth rate				Revenue growth rate		
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Comparable
Europe	5%	4%	-5%	4%	5%	5%	5%
The Americas	32%	3%	-23%	12%	28%	3%	3%
Asia, Middle East and Africa	0%	5%	2%	7%	-1%	4%	4%
<b>ABB Group</b>	<b>10%</b>	<b>5%</b>	<b>-8%</b>	<b>7%</b>	<b>9%</b>	<b>4%</b>	<b>4%</b>

**FY 2018 compared to FY 2017**

Region	Order growth rate				Revenue growth rate		
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Comparable
Europe	17%	-3%	-4%	10%	11%	-2%	-2%
The Americas	18%	1%	-12%	7%	17%	2%	2%
Asia, Middle East and Africa	9%	-1%	-2%	6%	4%	0%	0%
<b>ABB Group</b>	<b>14%</b>	<b>0%</b>	<b>-6%</b>	<b>8%</b>	<b>10%</b>	<b>0%</b>	<b>0%</b>

**Order backlog growth rate reconciliation****December 31, 2018 compared to  
December 31, 2017**

Division	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification Products	33%	6%	-32%	7%
Industrial Automation	-3%	5%	0%	2%
Robotics and Motion	5%	5%	0%	10%
<b>ABB Group</b>	<b>5%</b>	<b>5%</b>	<b>-4%</b>	<b>6%</b>

**Other growth rate reconciliations**

	Q4 2018 compared to Q4 2017				FY 2018 compared to FY 2017			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Large orders	8%	3%	68%	79%	20%	-2%	27%	27%
Base orders	10%	6%	-11%	5%	14%	-1%	-7%	-7%

Service orders	7%	4%	-6%	<b>5%</b>	12%	-1%	-4%
Service revenues	8%	4%	-8%	<b>4%</b>	11%	0%	-4%

### Comparable revenue growth rate reconciliation (rolling twelve months)

	Foreign exchange Portfolio			
<b>12 months ended:</b>	<b>US\$</b>	<b>impact</b>	<b>changes</b>	<b>Comparable</b>
December 31, 2017	1.1%	-0.2%	-0.5%	<b>0.4%</b>
March 31, 2018	4.6%	-0.5%	-2.6%	<b>1.5%</b>
June 30, 2018	7.8%	1.8%	-7.2%	<b>2.4%</b>
September 30, 2018	8.7%	-0.7%	-4.6%	<b>3.4%</b>
December 31, 2018	9.8%	-0.6%	-4.8%	<b>4.4%</b>

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## 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 and restructuring-related expenses,
- 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,
- 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.

## 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 division.

### Reconciliation of consolidated Operational EBITA to Net Income

(\$ in millions)	<b>Three Year ended months December 31, ended December</b>			
	<b>2018</b>	<b>2017</b>	<b>2018</b>	<b>2017</b>
<b>Operational EBITA</b>	<b>3,005</b>	<b>2,817</b>	<b>584</b>	<b>666</b>
Acquisition-related amortization	(273)	(229)	(75)	(65)
Restructuring and restructuring-related expenses <sup>(1)</sup>	(172)	(300)	(129)	(108)
Changes in obligations related to divested businesses	(106)	(94)	(14)	—
Changes in pre-acquisition estimates	(8)	(8)	(6)	(8)
Gains and losses from sale of businesses	57	252	(4)	(78)
Acquisition- and divestment-related expenses and integration costs	(204)	(81)	(56)	(41)
Certain other non-operational items	(40)	(161)	(25)	(28)
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(1)	56	(2)	(3)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(23)	8	(12)	—
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(9)	(30)	14	(9)
<b>Income from operations</b>	<b>2,226</b>	<b>2,230</b>	<b>275</b>	<b>326</b>

Interest and dividend income	72	73	11	2
Interest and other finance expense	(262)	(234)	(66)	(45)
Non-operational pension (cost) credit	83	33	6	
<b>Income from continuing operations before taxes</b>	<b>2,119,102</b>	<b>226</b>	<b>30</b>	
Provision for taxes	(544)	(583)	(16)	(89)
<b>Income from continuing operations, net of tax</b>	<b>1,575,151</b>	<b>210</b>	<b>21</b>	
Income from discontinued operations, net of tax	723	846	135	20
<b>Net income</b>	<b>2,298,236</b>	<b>345</b>	<b>42</b>	

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

## Reconciliation of Operational EBITA margin by division

	Three months ended December 31,			Corporate Other Interseg elimin
(\$ in millions, unless otherwise indicated)	Electrification Products	Industrial Automation	Robotics and Motion	
<b>Total revenues</b>	<b>3,320</b>	<b>1,938</b>	<b>2,341</b>	
Foreign exchange/commodity timing differences in total revenues:				
Unrealized gains and losses on derivatives	(4)	3	(18)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	5	(1)	
Unrealized foreign exchange movements on receivables (and related assets)	8	(1)	2	
<b>Operational revenues</b>	<b>3,324</b>	<b>1,945</b>	<b>2,324</b>	
<b>Income (loss) from operations</b>	<b>221</b>	<b>204</b>	<b>326</b>	
Acquisition-related amortization	35	20	15	
Restructuring and restructuring-related expenses	76	31	8	
Changes in obligations related to divested businesses	–	–	–	
Changes in pre-acquisition estimates	17	(11)	–	
Gains and losses from sale of businesses	–	–	4	
Acquisition- and divestment-related expenses and integration costs	40	1	1	
Certain other non-operational items	–	2	4	
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	–	7	(5)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	6	–	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(1)	(9)	(4)	
<b>Operational EBITA</b>	<b>388</b>	<b>251</b>	<b>349</b>	
<b>Operational EBITA margin (%)</b>	<b>11.7%</b>	<b>12.9%</b>	<b>15.0%</b>	

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

(\$ in millions, unless otherwise indicated)	Three months ended December 31, 2018			
	Electrification Products	Industrial Automation	Robotics and Motion	Corporate and Other Co
<b>Certain other non-operational items:</b>				
Regulatory, compliance and legal costs:	–	2	–	3
Asset write downs/impairments	–	–	–	13
Division transformation costs	–	–	3	7
Losses (recovery) on Korea fraud	–	–	–	(8)
Other non-operational items	–	–	1	4
<b>Total</b>	<b>–</b>	<b>2</b>	<b>4</b>	<b>19</b>

Three months ended December 31,

	Electrification Products	Industrial Automation	Robotics and Motion	Corporate Other Interseg elimin
(\$ in millions, unless otherwise indicated)				
<b>Total revenues</b>	<b>2,696</b>	<b>2,011</b>	<b>2,197</b>	
Foreign exchange/commodity timing differences in total revenues:				
Unrealized gains and losses on derivatives	13	(7)	2	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	4	2	
Unrealized foreign exchange movements on receivables (and related assets)	3	1	2	
<b>Operational revenues</b>	<b>2,712</b>	<b>2,009</b>	<b>2,203</b>	
<b>Income (loss) from operations</b>	<b>318</b>	<b>214</b>	<b>247</b>	
Acquisition-related amortization	22	22	16	
Restructuring and restructuring-related expenses <sup>(1)</sup>	17	36	35	
Changes in pre-acquisition estimates	8	–	–	
Gains and losses from sale of businesses	–	–	–	
Acquisition- and divestment-related expenses and integration costs	12	27	2	
Certain other non-operational items	8	–	–	
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	9	(4)	(1)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(2)	3	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	4	6	1	
<b>Operational EBITA</b>	<b>398</b>	<b>299</b>	<b>303</b>	
<b>Operational EBITA margin (%)</b>	<b>14.7%</b>	<b>14.9%</b>	<b>13.8%</b>	

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

In the three months ended December 31, 2017, Certain other non-operational items in table above includes the following:

—

	<b>Three months ended December 31, 2017</b>			
	<b>Electrification Products</b>	<b>Industrial Automation</b>	<b>Robotics and Motion</b>	<b>Corporate and Other</b>
(\$ in millions, unless otherwise indicated)				
<b>Certain other non-operational items:</b>				
Regulatory, compliance and legal costs	-	-	-	11
Losses (recovery) on Korea fraud	-	-	-	7
Other non-operational items	8	-	-	2
<b>Total</b>	<b>8</b>	<b>-</b>	<b>-</b>	<b>20</b>

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	Year ended December 31, 2018			Corporate Other Intersegment eliminations
	Electrification Products	Industrial Automation	Robotics and Motion	
(\$ in millions, unless otherwise indicated)				
<b>Total revenues</b>	<b>11,686</b>	<b>7,394</b>	<b>9,147</b>	
Foreign exchange/commodity timing differences in total revenues:				
Unrealized gains and losses on derivatives	16	(12)	(10)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	17	–	
Unrealized foreign exchange movements on receivables (and related assets)	(1)	(5)	–	
<b>Operational revenues</b>	<b>11,704</b>	<b>7,394</b>	<b>9,137</b>	
<b>Income (loss) from operations</b>	<b>1,290</b>	<b>887</b>	<b>1,346</b>	<b>(1,000)</b>
Acquisition-related amortization	106	86	63	
Restructuring and restructuring-related expenses	98	35	21	
Changes in obligations related to divested businesses	–	–	–	
Changes in pre-acquisition estimates	19	(11)	–	
Gains and losses from sale of businesses	(81)	3	4	
Acquisition- and divestment-related expenses and integration costs	168	4	2	
Certain other non-operational items	(2)	3	11	
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	27	(12)	(2)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	3	18	–	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(2)	6	2	
<b>Operational EBITA</b>	<b>1,626</b>	<b>1,019</b>	<b>1,447</b>	<b>(1,000)</b>
<b>Operational EBITA margin (%)</b>	<b>13.9%</b>	<b>13.8%</b>	<b>15.8%</b>	

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

(\$ in millions, unless otherwise indicated)	Year ended December 31, 2018			
	Electrification Products	Industrial Automation and	Robotics Motion and	Corporate OtherCo
<b>Certain other non-operational items:</b>				
Regulatory, compliance and legal costs	–	3	–	31
Asset write downs/impairments	–	–	–	25
Division transformation costs	–	–	10	7
Gain on liquidation of a foreign subsidiary	–	–	–	(31)
Losses (recovery) on Korea fraud	–	–	–	(8)
Other non-operational items	(2)	–	1	4
<b>Total</b>	<b>(2)</b>	<b>3</b>	<b>11</b>	<b>28</b>

Year ended December 31, 2017

	Electrification Products	Industrial Automation	Robotics and Motion	Corporate Other Intersegment eliminations
(\$ in millions, unless otherwise indicated)				
<b>Total revenues</b>	<b>10,094</b>	<b>6,879</b>	<b>8,396</b>	
Foreign exchange/commodity timing differences in total revenues:				
Unrealized gains and losses on derivatives	(23)	(42)	(4)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(7)	4	
Unrealized foreign exchange movements on receivables (and related assets)	12	17	3	
<b>Operational revenues</b>	<b>10,083</b>	<b>6,847</b>	<b>8,399</b>	
<b>Income (loss) from operations</b>	<b>1,352</b>	<b>798</b>	<b>1,126</b>	<b>(1,000)</b>
Acquisition-related amortization	98	47	66	
Restructuring and restructuring-related expenses <sup>(1)</sup>	28	85	64	
Changes in obligations related to divested businesses	–	–	–	
Changes in pre-acquisition estimates	8	–	–	
Gains and losses from sale of businesses	–	(2)	–	
Acquisition- and divestment-related expenses and integration costs	23	52	2	
Certain other non-operational items	21	1	–	
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(27)	(40)	(10)	
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	–	(9)	5	
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	7	21	7	
<b>Operational EBITA</b>	<b>1,510</b>	<b>953</b>	<b>1,260</b>	
<b>Operational EBITA margin (%)</b>	<b>15.0%</b>	<b>13.9%</b>	<b>15.0%</b>	

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

In the year ended December 31, 2017, Certain other non-operational items in table above includes the following:

(\$ in millions, unless otherwise indicated)	Year ended December 31, 2017			
	Electrification Products	Industrial Automation	Robotics and Motion	Corporate and Other Co
<b>Certain other non-operational items:</b>				
Regulatory, compliance and legal costs	9	1	–	92
Losses (recovery) on Korea fraud	–	–	–	40
Other non-operational items	12	–	–	7
<b>Total</b>	<b>21</b>	<b>1</b>	<b>–</b>	<b>139</b>

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	Year ended December 31, 2016		
	Electrification Products	Industrial Automation	Robotics and Motion
	9,920	6,654	7,888
(\$ in millions, unless otherwise indicated)			
<b>Total revenues</b>	<b>9,920</b>	<b>6,654</b>	<b>7,888</b>
Foreign exchange/commodity timing differences in total revenues:			
Unrealized gains and losses on derivatives	18	15	3
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(6)	7	3
Unrealized foreign exchange movements on receivables (and related assets)	(10)	5	(1)
<b>Operational revenues</b>	<b>9,922</b>	<b>6,681</b>	<b>7,893</b>
<b>Income (loss) from operations</b>	<b>1,094</b>	<b>772</b>	<b>1,048</b>
Acquisition-related amortization	121	11	94
Restructuring and restructuring-related expenses <sup>(1)</sup>	93	76	69
Changes in obligations related to divested businesses	—	—	—
Changes in pre-acquisition estimates	131	—	—
Gains and losses from sale of businesses	—	—	—
Acquisition- and divestment-related expenses and integration costs	—	4	—
Certain other non-operational items	8	5	18
Foreign exchange/commodity timing differences in income from operations:			
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	21	14	—
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(4)	4	2
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(5)	11	1
<b>Operational EBITA</b>	<b>1,459</b>	<b>897</b>	<b>1,232</b>
<b>Operational EBITA margin (%)</b>	<b>14.7%</b>	<b>13.4%</b>	<b>15.6%</b>

(1) Amounts in 2016 also include the incremental implementation costs in relation to the White Collar Productivity program.

In the year ended December 31, 2016, Certain other non-operational items in table above includes the following:

(\$ in millions, unless otherwise indicated)	Year ended December 31, 2016			
	Electrification Products	Industrial Automation and	Robotics Motion and	Corporate Other Co
<b>Certain other non-operational items:</b>				
Regulatory, compliance and legal costs	–	–	–	10
Asset write downs/impairments	–	5	–	11
Losses (recovery) on Korea fraud	–	–	–	73
Corporate re-branding and marketing costs	–	–	–	30
Gain on FX derivative relating to a divestment	–	–	–	(22)
Other non-operational items	8	–	18	1
<b>Total</b>	<b>8</b>	<b>5</b>	<b>18</b>	<b>103</b>

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## **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 and restructuring-related expenses,
- (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,
- (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), and
- (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 (viii) above.

#### **Acquisition-related amortization**

Amortization expense on intangibles arising upon acquisitions.

## Adjusted Group effective tax rate

The Adjusted Group effective tax rate is computed by dividing an adjusted provision for taxes by an adjusted income from continuing operations before taxes. Certain amounts recorded in income from continuing operations before taxes and the related provision for taxes (primarily gains and losses from sale of businesses) are excluded from the computation.

## 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

	<b>Year ended</b>		
	<b>December 31,</b>		
	<b>2018</b>	<b>2017</b>	<b>Growth<sup>(3)</sup></b>
(\$ in millions, except per share data in \$)			
<b>Net income (attributable to ABB)</b>	<b>2,173</b>	<b>2,213</b>	
Operational adjustments:			
Acquisition-related amortization	273	229	
Restructuring and restructuring-related expenses <sup>(1)</sup>	172	300	
Non-operational pension cost (credit)	(83)	(33)	
Changes in obligations related to divested businesses	106	94	
Changes in pre-acquisition estimates	8	8	
Gains and losses from sale of businesses	(57)	(252)	
Acquisition- and divestment-related expenses and integration costs	204	81	
Certain other non-operational items	40	161	
FX/commodity timing differences in income from operations	33	(34)	
Operational adjustments in discontinued operations	209	142	
Tax on operational adjustments <sup>(2)</sup>	(240)	(242)	
<b>Operational net income</b>	<b>2,838</b>	<b>2,667</b>	<b>6%</b>
<b>Weighted-average number of shares outstanding (in millions)</b>	<b>2,132</b>		<b>2,138</b>
<b>Operational EPS</b>	<b>1.33</b>	<b>1.25</b>	<b>7%</b>
Constant currency Operational EPS adjustment	0.17	0.14	
<b>Operational EPS (constant currency basis - 2014 exchange rates)</b>	<b>1.50</b>	<b>1.39</b>	<b>8%</b>



	<b>Three months ended</b>		<b>Growth<sup>(3)</sup></b>
	<b>December 31,</b>		
(\$ in millions, except per share data in \$)	<b>2018</b>	<b>2017</b>	
<b>Net income (attributable to ABB)</b>	<b>317</b>	<b>393</b>	
<i>Operational adjustments:</i>			
Acquisition-related amortization	75	65	
Restructuring and restructuring-related expenses <sup>(1)</sup>	129	108	
Non-operational pension cost (credit)	(6)	(4)	
Changes in obligations related to divested businesses	14	—	
Changes in pre-acquisition estimates	6	8	
Gains and losses from sale of businesses	4	78	
Acquisition- and divestment-related expenses and integration costs	56	41	
Certain other non-operational items	25	28	
FX/commodity timing differences in income from operations	—	12	
<i>Operational adjustments in discontinued operations</i>	108	74	
Tax on operational adjustments <sup>(2)</sup>	(96)	(105)	
<b>Operational net income</b>	<b>632</b>	<b>698</b>	<b>-10%</b>
<b>Weighted-average number of shares outstanding (in millions)</b>	<b>2,132</b>		<b>2,136</b>
<b>Operational EPS</b>	<b>0.30</b>	<b>0.33</b>	<b>-9%</b>
Constant currency Operational EPS adjustment	0.03	0.02	
<b>Operational EPS (constant currency basis - 2014 exchange rates)</b>	<b>0.33</b>	<b>0.35</b>	<b>-6%</b>

(1) Amounts in 2017 also include the incremental implementation costs in relation to the White Collar Productivity program.

(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 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)	<b>December 31,</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>
Short-term debt and current maturities of long-term debt	2,031	726	998
Long-term debt	6,587	6,682	5,785
<b>Total debt</b>	<b>8,618</b>	<b>7,408</b>	<b>6,783</b>
Cash and equivalents	3,445	4,526	3,644
Marketable securities and short-term investments	712	1,083	1,953
<b>Cash and marketable securities</b>	<b>4,157</b>	<b>5,609</b>	<b>5,597</b>
<b>Net debt</b>	<b>4,461</b>	<b>1,799</b>	<b>1,186</b>

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## 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, (v) contract liabilities, and (vi) other current liabilities (excluding primarily: (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits, and (d) payables under the share buyback program); and including the amounts related to these accounts which have been presented as either assets or liabilities held for sale.

#### 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,		
	2018	2017	2016
<b>Net working capital:</b>			
Receivables, net	6,386	5,861	5,291
Contract assets	1,082	1,141	1,222
Inventories, net	4,284	3,737	3,172
Prepaid expenses	176	159	141
Accounts payable, trade	(4,424)	(3,736)	(3,045)
Contract liabilities	(1,707)	(1,792)	(1,690)
Other current liabilities <sup>(1)</sup>	(3,213)	(2,880)	(2,475)
<b>Net working capital</b>	<b>2,584</b>	<b>2,490</b>	<b>2,616</b>
Total revenues for the twelve months ended	27,662	25,196	24,929
Adjustment to annualize/eliminate revenues of certain acquisitions/divestments	1,030	178	—

<b>Adjusted revenues for the trailing twelve months</b>	<b>28,692</b>	<b>25,374</b>	<b>24,929</b>
<b>Net working capital as a percentage of revenues (%)</b>	<b>9.0%</b>	<b>9.8%</b>	<b>10.5%</b>

(1) Amounts exclude \$567 million, \$629 million and \$660 million at December 31, 2018, 2017 and 2016, respectively, related primarily to (a) income taxes payable, (b) current derivative liabilities, and (c) pension and other employee benefits.

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## 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).

### Reconciliation

	<b>Year ended December 31,</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>
(\$ in millions, unless otherwise indicated)			
<b>Net cash provided by operating activities</b>	<b>2,924</b>	<b>3,799</b>	<b>3,843</b>
Adjusted for the effects of:			
<i>Continuing operations</i>			
Purchases of property, plant and equipment and intangible assets	(772)	(752)	(632)
Proceeds from sale of property, plant and equipment	72	61	59
Changes in financing receivables and other non-current receivables	(8)	8	(13)
<i>Discontinued operations</i>			
Purchases of property, plant and equipment and intangible assets	(201)	(197)	(199)
Proceeds from sale of property, plant and equipment	8	5	2
Changes in financing receivables and other non-current receivables	1	2	5
<b>Adjusted free cash flow</b>	<b>2,024</b>	<b>2,926</b>	<b>3,065</b>
<b>Net income attributable to ABB</b>	<b>2,173</b>	<b>2,213</b>	<b>1,899</b>
<b>Free cash flow conversion to net income</b>	<b>93%</b>	<b>132%</b>	<b>161%</b>

### Finance net

### Definition

Finance net 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,	
	2018	2017	2018	2017
Interest and dividend income	72	73	11	20
Interest and other finance expense	(262)	(234)	(66)	(45)
<b>Finance net</b>	<b>(190)</b>	<b>(161)</b>	<b>(55)</b>	<b>(25)</b>

## 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,	
	2018	2017
Orders received	6,985	6,328
Total revenues	7,395	6,804
<b>Book-to-bill ratio</b>	<b>0.94</b>	<b>0.93</b>

(\$ in millions, unless otherwise indicated)	Year ended December 31,		
	2018	2017	2016
Orders received	28,590	25,034	23,658
Total revenues	27,662	25,196	24,929
<b>Book-to-bill ratio</b>	<b>1.03</b>	<b>0.99</b>	<b>0.95</b>

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## **Cash return on invested capital (CROI)**

### **Definition**

#### **Cash return on invested capital (CROI)**

Cash return on invested capital is calculated as Adjusted cash return divided by Capital invested.

#### **Adjusted cash return**

Adjusted cash return is calculated as the sum of (i) net cash provided by operating activities, (ii) interest paid and (iii) estimate to annualize/eliminate the net cash provided by operating activities of certain acquisitions / (divestments).

#### **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, and (iv) investments in equity-accounted companies less (v) deferred tax liabilities recognized in certain acquisitions.

#### **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, (v) contract liabilities, and (vi) other current liabilities (excluding primarily: (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits, and (d) payables under the share buyback program); and including the amounts related to these accounts which have been presented as either assets or liabilities held for sale.

#### **Capital invested**

Capital invested is the sum of (i) Adjusted total fixed assets, (ii) Net working capital and (iii) Accumulated depreciation and amortization.

### **Reconciliation**

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	<b>Year ended</b>		
	<b>December 31</b>		
	<b>2018</b>	<b>2017</b>	<b>2016</b>
(\$ in millions, unless otherwise indicated)			
<b>Adjusted cash return:</b>			
Net cash provided by operating activities	2,924	3,799	3,804
Interest paid	243	205	205
Estimate to annualize/eliminate the net cash provided by operating activities of certain acquisitions/(divestments) <sup>(1)</sup>	40	67	67
<b>Adjusted cash return</b>	<b>3,207</b>	<b>4,071</b>	<b>4,039</b>
(\$ in millions, unless otherwise indicated)			
<b>Adjusted total fixed assets:</b>			
Property, plant and equipment, net	4,133	3,804	3,804
Goodwill	10,764	9,536	7,700
Other intangible assets, net	2,607	2,425	1,900
Investments in equity-accounted companies	87	72	72
Fixed assets included in assets held for sale <sup>(2)</sup>	3,362	3,505	3,505
<b>Total fixed assets</b>	<b>20,953</b>	<b>19,342</b>	<b>16,986</b>
Less: deferred taxes recognized in certain acquisitions <sup>(3)</sup>	(2,234)	(2,157)	(1,900)
<b>Adjusted total fixed assets</b>	<b>18,719</b>	<b>17,185</b>	<b>15,086</b>
<b>Net working capital - continuing operations (as defined above)</b>	<b>2,584</b>	<b>2,490</b>	<b>2,490</b>
<b>Net working capital - discontinued operations</b>	<b>1,698</b>	<b>1,420</b>	<b>1,420</b>
<b>Accumulated depreciation and amortization:</b>			
Accumulated depreciation of property, plant and equipment	5,528	5,547	5,547
Accumulated amortization of intangible assets including goodwill <sup>(4)</sup>	3,229	3,018	2,900
Accumulated depreciation and amortization of assets held for sale <sup>(2)</sup>	3,332	3,303	3,303
<b>Accumulated depreciation and amortization</b>	<b>12,089</b>	<b>11,868</b>	<b>11,750</b>
<b>Capital invested</b>	<b>35,090</b>	<b>32,963</b>	<b>32,963</b>
<b>Cash return on invested capital (CROI)</b>	<b>9.1%</b>	<b>12.4%</b>	<b>13.1%</b>

(1) Divestments: In 2017 High-voltage cable and cables accessories businesses, Oil & Gas EPC business. Acquisitions: In 2018 GEIS, in 2017 B&R.

(2) Held for sale: In 2018, 2017, 2016 the Power Grids business is reported as a discontinued operation. Additionally, 2016 also includes amounts relating to the global high-voltage cable system business which was sold in March 2017.

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

(4) Includes accumulated goodwill amortization up to December 31, 2001. Thereafter goodwill is not amortized (under U.S. GAAP) but subject to annual testing for impairment.

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ZURICH, SWITZERLAND, FEBRUARY 28, 2019

## **Strategy update: Shaping a leader focused in digital industries**

Global software partnership with Dassault Systèmes and targets for New ABB's four leading businesses announced

- New ABB: focus, simplify, lead
- Focused portfolio: Divestment of Power Grids to Hitachi well on track
- Simplified structure: New operating model “ABB-OS™” for enhanced customer focus, agility and profitability; ~\$500 million annual savings
- Four new leading businesses, #1 or #2 in their respective markets, effective April 1, 2019 with new medium-term business operational EBITA margin target corridors of:
  - **Electrification:** 15-19 percent
  - **Industrial Automation:** 12-16 percent
  - **Motion:** 14-18 percent
  - **Robotics & Discrete Automation:** 13-17 percent
- Medium-term group targets confirmed:
  - 3-6 percent annual comparable revenue growth
  - Operational EBITA margin of 13-16 percent
  - Return on Capital Employed (ROCE) of 15-20 percent
  - Cash conversion to net income of approximately 100 percent
  - Basic EPS growth above revenue growth
- ABB and Dassault Systèmes enter global software partnership for digital industries

On December 17, 2018, ABB announced fundamental actions to focus, simplify and lead in digital industries for enhanced customer value and shareholder returns. These actions are: focusing the portfolio on digital industries through the divestment of the Power Grids division, the simplification of the business model through the discontinuation of the legacy matrix structure, as well as the shaping of four leading businesses aligned with customer patterns.

At its strategy update to media and investors today, ABB presents details on and a roadmap for the future of its four new businesses, their leadership and customer value proposition for digital industries. As part of this, ABB is publishing the profit margin target corridors of the businesses.

ABB is announcing a new global software partnership with Dassault Systèmes, a unique end-to-end digital value proposition in combination with its leading digital solutions offering ABB Ability™ to support the planning, building and operations of industrial customers' operations.

“The new ABB will be a pioneering technology leader in digital industries, operating in attractive markets, with a unique offering of innovative solutions in electrification, automation, robotization and digitalization. We are shaping four customer-focused, entrepreneurial businesses that are already the global #1 or #2 player in their respective markets today. With ABB Ability™, our digital solutions offering, we will continue to drive profitable growth, whilst managing the transformation of our ABB into a more agile, streamlined and customer-focused group. The partnership with Dassault Systèmes will further strengthen our position as leader in digital industries and provide our customers an end-to-end offering of advanced open digital solutions, enhancing their competitiveness and innovation patterns,” said ABB CEO, Ulrich Spiesshofer.

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“This path will position us well for the future and will materially enhance value for all stakeholders. I would like to thank our employees worldwide for their outstanding commitment shown during this period of change as we look forward to the next chapter in this company’s proud history spanning more than 130 years,” added Spiesshofer.

Timo Ihamuotila, CFO of ABB: “Our healthy improved order backlog at the end of the year makes us confident about our new set up. We expect solid operating cash generation of the new ABB, positioning us well to continue investing in R&D and sales in a disciplined way. At the same time, we will relentlessly look for efficiency improvement potential to lower our cost base. We expect to deliver \$500 million in net cost savings from our simplification program in the medium term.”

### **The new ABB: lower risk, less volatile, more growth**

The new ABB will have in total \$29 billion in annualized revenues and around 110,000 employees. Its four customer-focused, entrepreneurial businesses are either the global #1 or #2 player in their respective markets, influencing the future of how we power, produce, work, live and move. ABB’s addressable market is expected to grow by 3.5-4 percent per annum, adding \$140 billion in size to reach \$550 billion by 2025. Driving this demand will be growing influence of electric mobility, data centers and robotics.

### **Transformational milestone: Global Partnership with Dassault Systèmes**

Following on from its proven track record of digital partnerships with Microsoft, HPE and IBM, ABB has today announced a wide spanning global partnership with Dassault Systèmes to offer customers in digital industries a unique software solutions portfolio ranging from product life cycle management to asset health solutions. The two companies will provide customers an end-to-end offering of advanced open digital solutions, enhancing competitiveness of industrial companies, while increasing flexibility, speed and productivity of their products' lifecycles, manufacturing and operations.

The partnership will combine the strengths of ABB Ability™ digital solutions and Dassault Systèmes' 3DEXPERIENCE platform, and build on both companies' strong installed base, deep domain expertise and global customer access. ABB has already adopted the 3DEXPERIENCE platform to model and simulate its solutions before delivering them to its customers. With this partnership, ABB will develop and provide customers with advanced digital twins, enabling customers to run ABB’s solutions and their operations with improved overall efficiency, flexibility and sustainability.

The companies will, in a staged approach, focus on smart factories and robotics, process industry automation, as well as electrification solutions for smart buildings. The first joint solutions will be showcased at the upcoming industrial Hannover Messe trade fair in Germany, April 1-5, 2019.

Launched two years ago, ABB Ability™ represents the globally leading digital offering in Industry 4.0, from device to edge to cloud. Some 45 percent of ABB's new orders are generated from digital solutions, while the order pipeline for ABB Ability™ has increased by more than 20

percent since October 2018.

The platform of ABB Ability™ runs as an open architecture and cloud infrastructure, which allows customers to use other software from partners, suppliers and developers. ABB offers approximately 180 digital solutions, which enable enterprises to increase productivity, efficiency and safety at lower costs.

### **Simplification of business model and structure**

During the first quarter of 2019, ABB is preparing for the new business structure and a new operating system – “ABB-OS™” – to be implemented in stages by mid-2020. ABB will discontinue the legacy matrix structure, thereby empowering its four leading businesses to serve customers even better, while further sharpening responsibilities and increasing efficiency.

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ABB's new organization will provide each business with full entrepreneurial ownership of operations, functions, R&D and territories. The businesses will be the single interface to customers, maximizing proximity and speed. The corporate center will be further streamlined, while existing country and regional structures including regional Executive Committee roles will be discontinued after the closing of the Power Grids transaction. Existing resources from country level will strengthen the new businesses.

ABB expects a total of ~\$500 million annual run-rate cost reductions across the group with \$150-200 million run-rate targeted during 2019 and the full run-rate targeted during 2021. Clear actions to deliver the ~\$500 million have been identified, with approximately \$300 million of savings to be realized from the businesses, for example through fewer P&Ls and management layers and optimizing ABB's manufacturing footprint. Approximately \$200 million savings are planned to come from Group functions and a leaner corporate center.

#### **Four new leading businesses**

The four new businesses are: Electrification, Industrial Automation, Motion and Robotics & Discrete Automation. ABB will report according to the new business structure as of April 1, 2019.

#### **Electrification – writing the future of safe, smart and sustainable electrification**

- FY 2018 ~\$13 billion revenues
- FY 2018 ~13% operational EBITA margin<sup>1</sup>
- Medium-term operational EBITA margin target corridor of 15-19%
- \$160 billion addressable market, forecast to grow at 3% p.a.
- Above market revenue growth and significant margin growth potential

The Electrification business is the Global #2 providing one of the largest and most comprehensive portfolios with a complete offering from source to socket. The business delivers clear customer benefits including speed and uptime, contributing to significant investment payback.

It provides a complete portfolio of innovative products, digital solutions and services with some 1.7 million products shipped every day. Products range from critical power and building products to electric vehicle charging infrastructure. The business has 55,000 employees and will be led by Tarak Mehta.

The business expects to deliver above market growth through a combination of geographic growth in the US and China, focus on higher growth segments such as data centers, smart buildings and services for e-Mobility, along with portfolio benefits with modular, scalable, pre-configured solutions. Margin improvement will be delivered through volume leverage, focus on higher margin segments, the turnaround of GEIS and operational improvements.

ABB successfully launched in the USA last year its Terra HP 350kW electric vehicle charger, which recharges a vehicle for 200 kilometers in just eight minutes.

“There are good opportunities for Electrification as urban populations grow and the world forges ahead to create a lower-carbon future. We are expanding our operations in rapidly digitalizing markets, offering modular, scalable, preconfigured solutions with ABB Ability™-enabled products and services to ensure our customers realize safer, smarter and sustainable operations,” said Tarak Mehta, President of the Electrification business.

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<sup>1</sup> Electrification result adjusted to include GEIS on an annualized basis, based on H2 2018 contribution

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## **Industrial Automation – writing the future of safe and smart operations**

- FY 2018 ~\$6.5 billion revenues
- FY 2018 ~14% operational EBITA margin
- Medium-term operational EBITA margin target corridor of 12-16%
- \$90 billion addressable market, forecast to grow at 3% p.a.
- Above market growth and good margin profitability with low capital requirement

The newly-shaped Industrial Automation business, without B&R, is the Global #2 focused on writing the future of safe and smart operations. Industrial Automation will address customer needs with a unique portfolio of integrated solutions based on its leading technologies, including its #1 DCS (distributed control systems), its deep industry expertise, the largest installed base with over 35 million connected devices and vast global footprint.

It is focused on providing integrated automation solutions across process, electrical and motion, measurement and analytics, as well as marine and turbo charging solutions for customers in the Oil & Gas, Chemicals, Utilities, Mining & Minerals, Pulp & Paper, and Marine & Ports industries. The business has 21,000 employees and will be led by Peter Terwiesch.

The business expects to drive above market growth through industry-specific, differentiated automation solutions across process, electrical and motion that build on its leading DCS and comprehensive ABB offering, as well as tailored growth initiatives for key verticals. It expects to accelerate revenues from ABB Ability™ solutions and new service business models leveraging its unique installed base and unrivalled service footprint to support customer during their assets' lifecycle.

“With our deep industry knowledge and automation expertise, we understand the needs of our customers and enable them to lead through safer, more productive and energy efficient operations. Moreover, with our portfolio of integrated automation solutions, combined with our offering of ABB Ability™ digital applications, lifecycle services and artificial intelligence, we are driving the evolution towards more autonomous operations,” said Peter Terwiesch, President of the Industrial Automation business.

## **Motion – writing the future of smart motion**

- FY 2018 ~\$6.5 billion revenues
- FY 2018 ~16% operational EBITA margin
- Medium-term operational EBITA margin target corridor of 14-18%
- \$80 billion addressable market, forecast to grow at 3% p.a.

- Above market growth and continued strong profitability

ABB's newly created Motion business is the Global #1 in motion industries is set to capture the benefits of the world going electric. Motion will build on its pioneering technology leadership, its domain expertise and its global scale and coverage. Already today, a third of the world's electricity is converted by electrical motors into motion, driven by a growing population, urbanization and digitalization. ABB expects the number of electric motors to double by 2040, which is the equivalent of the energy consumed by the whole of China annually.

Motion provides customers with a comprehensive range-energy efficient, reliable and safe electrical motors, generators, drives and services. Its ABB Ability™ Digital Powertrain solution sets the standards for digitalization in motion industries. The business has 20,000 employees and will be led by Morten Wierod, who will also become a member of the Executive Committee, effective April 1, 2019.

The business expects to deliver above market growth by building on its leading local market positions in motors and drives. It will grow by dedicated geographic initiatives, its segment specific portfolio and using ABB Ability™ services to deliver the future of smart motion. Motion's ability to sustain and improve its EBITA margin, against a backdrop of cost inflationary and pricing pressure, will come from being able to scale benefits, from ABB Ability™, from its innovation along with the simplified operating system.

“As the world goes electric, Motion has an excellent growth outlook. We will bring even more value to our customers and partners with ABB Ability™-based offering and services,” said Morten Wierod, President of the Motion business.

### **Robotics & Discrete Automation – writing the future of flexible manufacturing and smart machines**

- FY 2018 ~\$3.6 billion revenues
- FY 2018 ~15% operational EBITA margin
- Medium-term operational EBITA margin target corridor of 13-17%
- \$80 billion addressable market, forecast to grow at 6% p.a.
- Strong top-line and margin growth potential

The Robotics & Discrete Automation business will combine ABB’s machine and factory automation Business (mainly B&R) with the Group’s superior robotics platform. It will be uniquely positioned to capture the opportunities associated with the “Factory of the Future” by writing the future of flexible manufacturing and smart machinery.

It provides a unique offering for flexible automation, combining control, motion, robotics, software and services – providing integrated solutions from machine to factory level. The business, which is already number two globally by size and number one by growth, has 11,000 employees and will be led by Sami Atiya.

The business expects to deliver above market growth driven through the portfolio and geographical expansion, driving synergies from unique portfolio and expansion in factory automation, including a greater role for ABB Ability™, artificial intelligence and partnering with Dassault Systèmes. Margin benefits will come from continued growth, scale benefits and performance initiatives whilst continuing to fund investments for future growth.

“In combining B&R’s machine and factory automation business with our superior Robotics solutions, we are driving an unmatched, comprehensive offering to help our customers create the flexible Factory of the Future,” said Sami Atiya, President of the Robotics & Discrete Automation business. “Our unique product portfolio, deep application expertise and advanced engineering and simulation tools, including ABB Ability™, ensure we help our customers improve quality and increase productivity and manufacturing flexibility, while maximizing uptime – all in a faster time-to-market solution.”

### **Value Creation in the new ABB**

ABB will demonstrate improved commercial quality of business, enhanced exposure to faster growing markets, with a greater emphasis on high value-add solutions, less risk and large order volatility and more recurrent revenues through digital solutions, software and services.

ABB's investment proposition is reflected in a new medium-term group target framework for the Group:

- 3-6 percent annual comparable revenue growth
- Operational EBITA margin of 13-16 percent
- Return on Capital Employed (ROCE) of 15-20 percent
- Cash conversion to net income of approximately 100 percent
- Basic EPS growth above revenue growth

ABB's sustained capital allocation priorities are unchanged:

- Fund organic growth in R&D and digital
- Rising sustainable dividend
- Value-creating acquisitions
- Returning additional cash to shareholders

The divestment of an 80.1% shareholding in Power Grids to Hitachi for an enterprise value of \$11 billion is well on track. Following completion of the transaction in the first half of 2020, ABB intends to return 100 percent of the net cash proceeds of \$7.6-7.8 billion to shareholders in an expeditious and efficient manner and execute a policy of a rising sustainable dividend. ABB intends to maintain the level of dividend per share post close and aims to maintain its “single A” credit rating long term.

### **More information**

The strategy update results press release and financial information documents are available on the ABB News Center at [www.abb.com/news](http://www.abb.com/news) and on the Investor Relations homepage at [www.abb.com/investorrelations](http://www.abb.com/investorrelations).

ABB will host a press conference today starting at 09:00 a.m. Central European Time (CET) (08:00 a.m. BST, 03:00 a.m. EST). The event will be accessible by webcast on <https://new.abb.com/media/media-event---strategy-update-2019>.

ABB will host an analyst and investor conference today starting at 12:00 p.m. CET (11:00 a.m. GMT, 6:00 a.m. EST). The event will be webcast for approximately 90 minutes, covering Q4 and FY18 results and the group’s Strategy update presentation. The webcast and related materials will be accessible from 11:00 a.m. CET at: <https://new.abb.com/investorrelations/strategy/strategy-update-2019>

A recorded session will be available as a webcast following the end of the conference call.

**ABB** (ABBN: SIX Swiss Ex) is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner in ABB Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 147,000 employees. [www.abb.com](http://www.abb.com)

### **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 2018 Group Results”, “2018 Highlights” and “Short- and long-term outlook”. 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 Ltd. These expectations, estimates and projections are generally identifiable by statements containing words such as “expects,” “believes,” “estimates,” “targets,” “intends”, “air” 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 28, 2019

Ulrich Spiesshofer, CEO

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**For more information, please contact:**

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**October — December 2018 — Q4**

ABB Ltd announces that the following members of the Executive Committee or Board of Directors of ABB have purchased, sold or been granted ABB's registered shares, call options and warrant appreciation rights ("WARs"), in the following amounts:

<b>Name</b>	<b>Date</b>	<b>Description</b>	<b>Received *</b>	<b>Purchased</b>	<b>Sold</b>	<b>Price</b>
Jean-Christophe Deslarzes	November 15, 2018	Share	46,073			CHF 19.76
Peter Voser	November 13, 2018	Share	24,777			CHF 23.04
Matti Alahuhta	November 13, 2018	Share	2,657			CHF 23.04
Gunnar Brock	November 13, 2018	Share	2,740			CHF 23.04
David Constable	November 13, 2018	Share	2,906			CHF 23.04
Frederico Curado	November 13, 2018	Share	2,457			CHF 23.04
Lars Förberg	November 13, 2018	Share	6,590			CHF 23.04
Jennifer Xin-Zhe Li	November 13, 2018	Share	2,454			CHF 23.04
Geraldine Matchett	November 13, 2018	Share	3,380			CHF 23.04
David Meline	November 13, 2018	Share	3,321			CHF 23.04
Satish Pai	November 13, 2018	Share	2,535			CHF 23.04
Jacob Wallenberg	November 13, 2018	Share	3,737			CHF 23.04

Key:

\* Received instruments were delivered as part of the ABB Ltd Director's or Executive Committee Member's compensation

**SIGNATURES**

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

**ABB LTD**

Date: February 28, 2019.

By: /s/ Jessica Mitchell  
Name: Jessica Mitchell  
Title: Group Senior Vice President and  
Head of Investor Relations

Date: February 28, 2019.

By: /s/ Richard A. Brown  
Name: Richard A. Brown  
Title: Group Senior Vice President and  
Chief Counsel Corporate & Finance

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