

ABB LTD
Form 6-K
July 20, 2017

**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 July 2017

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-

This Form 6-K consists of the following:

1. Press release issued by ABB Ltd dated July 20, 2017 titled “ABB: Building growth momentum”.
2. Q2 2017 Financial Information.
3. 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 incorporated by reference into ABB Ltd's registration statement on Form F-3 (File No. 333-180922) 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.

Zurich, Switzerland, July 20, 2017: Second quarter highlights

ABB: Building growth momentum

- Total and base orders grew 3%¹; higher orders in all regions
- Revenues up 1%
- Operational EBITA margin² 12.4%, dampened this quarter by commodity prices and some overcapacity
- Net income \$525 million
- Cash flow from operating activities \$467 million reflects timing of short-term incentive payments
- Net working capital as a percentage of revenues 14.1%, reduced 90 bps on an annual basis
- Active portfolio management: B&R acquisition closed July 6, KEYMILE's communication business to be acquired Q3

“In Q2, ABB continued to build its growth momentum as our targeted initiatives are delivering. Order growth was broad-based and across all regions,” said ABB CEO Ulrich Spiesshofer. “Our industry-leading digital offering, ABB Ability, is taking off and starting to contribute to growth.”

“Operational performance in the Power Grids and Industrial Automation divisions was solid in the quarter. Electrification Products and Robotics and Motion improved margins sequentially, but were not able to fully compensate commodity price headwinds and overcapacity during the quarter,” he said. “While we are pleased with the growth momentum, especially the double-digit order growth in Robotics and Motion, we remain firmly focused on further improving operational execution and our cost base.”

“The successful completion of the B&R acquisition and the handover of our last legacy off-shore wind project, Dolwin 2, are solid examples of the disciplined execution of our Next Level strategy.”

Key Figures (\$ in millions, unless otherwise indicated)	Q2 2017	Q2 2016	Change US\$ Comparable ¹		H1 2017	H1 2016	Change US\$ Comparable ¹	
Orders	8,349	8,316	0%	+3%	16,752	17,569	-5%	0%

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Revenues	8,454	8,677	-3%	+1%	16,308	16,580	-2%	+2%
Operational EBITA ²	1,042	1,120	-7%	-5% ³	1,985	2,071	-4%	-2% ³
as % of operational revenues	12.4%	12.9%	-0.5pts		12.3%	12.5%	-0.2pts	
Net income	525	406	29%		1,249	906	38%	
Basic EPS (\$)	0.25	0.19	30% ⁴		0.58	0.42	39% ⁴	
Operational EPS ² (\$)	0.30	0.35	-15% ⁴	-11% ⁴	0.58	0.64	-9% ⁴	-6% ⁴
Cash flow from operating activities	467	1,082	-57%		976	1,334	-27%	

Short-term outlook

Macroeconomic and geopolitical developments are signaling a mixed picture with continued uncertainty. Some macroeconomic signs in the US remain positive and growth in China is expected to continue. The overall global market remains impacted by modest growth and increased uncertainties, e.g., Brexit in Europe and geopolitical tensions in various parts of the world. Oil prices and foreign exchange translation effects are expected to continue to influence the company's results. With this and the ongoing transformation of ABB, we expect 2017 to be a transitional year.

¹ Growth rates for orders, base orders, revenues and order backlog are on a comparable basis (local currency adjusted for acquisitions and divestitures). US\$ growth rates are presented in Key Figures table

² For a reconciliation of non-GAAP measures, see "Supplemental Reconciliations and Definitions" in the attached Q2 2017 Financial Information

³ Constant currency (not adjusted for portfolio changes)

⁴ EPS growth rates are computed using unrounded amounts. Comparable operational earnings per share is in constant currency (2014 exchange rates and not adjusted for changes in the business portfolio)

Q2 2017 Group results

Orders

Total orders were 3 percent higher (stable in US dollars) compared with the second quarter a year ago, as the significant increase in Robotics and Motion and Industrial Automation more than offset the decline in Electrification Products and Power Grids. Large orders grew 5 percent (1 percent in US dollars) and represented 8 percent of the total orders, unchanged compared with the same quarter a year ago. A stronger US dollar versus the prior year period resulted in a negative translation impact on reported orders of 3 percent.

Base orders (below \$15 million) increased 3 percent (stable in US dollars), improving in Robotics and Motion, Industrial Automation and Power Grids. Electrification Products decreased 1 percent (4 percent in US dollars), impacted primarily by fewer trading days in the quarter compared with the same period a year ago.

Total service and software orders rose 8 percent (5 percent in US dollars) and increased to 20 percent of total orders compared with 19 percent a year ago.

The order backlog at the end of June 2017 amounted to \$23.6 billion, 1 percent lower (7 percent in US dollars) compared with the end of the second quarter a year ago. The book-to-bill² ratio in the second quarter was 0.99x compared with 0.96x in the second quarter of 2016.

Market overview

Demand patterns in all of ABB's regions were positive in the quarter:

- Europe benefited from positive market developments in industry, transport and infrastructure and timing of large capital investments. Total orders improved 6 percent (1 percent in US dollars) with positive contributions from the United Kingdom, Finland, Turkey and Spain more than offsetting declines in Norway and France. Base orders improved 1 percent (4 percent lower in US dollars) with Spain, Sweden and Turkey as the main contributors.
- The Americas was positive, driven by the need for energy-efficient solutions for industry, transport and infrastructure and increased demand for automation in general. Total orders grew 2 percent in the quarter (2 percent in US dollars) on increased large order awards. Base orders declined 2 percent (2 percent in US dollars) as higher demand in the United States and Brazil could not offset declines in Canada. The United States grew 7 percent overall (6 percent in US dollars) and 1 percent in base orders (stable in US dollars).
- Asia, Middle East and Africa (AMEA) grew due to increased demand in industry, transport and infrastructure for energy-efficient and automation solutions. Utilities made selective investments in the quarter. Total orders increased 2 percent (2 percent lower in US dollars) driven primarily by substantial growth in India, Saudi Arabia and South

Africa. Total orders in China declined, as higher base orders could not offset lower large order awards. Increased demand in India reflects the continuing need for industrial automation and reliable power solutions. Base orders for the region increased 9 percent (6 percent in US dollars) with positive contributions from China and India.

Demand patterns in ABB's three major customer sectors were mixed:

- Utilities continued their selective investments, adding new capacity in emerging markets, upgrading the aging power infrastructure in mature markets and integrating renewable energy globally. They are also investing in automation and control solutions to enhance the stability of the grid.
- In industry, investments in robotics solutions and the automotive and food and beverage sectors remained positive. Investments in process industries, especially offshore oil and gas, remained subdued. Selective investments in mining, exploration and downstream oil and gas are expected to continue.
- Transport & infrastructure demand has been mixed. Demand for building automation solutions as well as solutions involving energy efficiency for rail transport remained strong while the marine sector, except for cruise ships, suffered from a sharp decline due to the subdued oil and gas sector. Electric Vehicle charging remained a highlight in the quarter.

Revenues

Revenues increased 1 percent (3 percent lower in US dollars) in the second quarter and were higher in Electrification Products and Robotics and Motion. Power Grids was stable and Industrial Automation was lower on the reduced order backlog. Total services and software revenues were stable (2 percent lower in US dollars) and represented 17 percent of total revenues, unchanged compared with a year ago.

Operational EBITA

Operational EBITA was \$1,042 million, 5 percent lower in constant currencies (7 percent lower in US dollars). Operational EBITA margin was 12.4 percent, 0.5 percent lower compared with the same period a year ago. Operational EBITA margin improved in Industrial Automation and Power Grids but decreased in the Electrification Products and Robotics and Motion divisions. Operational EBITA was impacted by commodity price increases and overcapacity in some businesses which could not offset the positive net savings effect.

Net income, Basic and Operational earnings per share

Net income increased to \$525 million from \$406 million and basic earnings per share was \$0.25 compared with \$0.19 for the same quarter of 2016. This result was impacted by lower restructuring and restructuring-related expenses and a higher tax rate of 30% versus 25.1% compared with the same period a year ago. Operational EPS was \$0.30 compared to \$0.35 for the same quarter of 2016, a decrease of 11 percent in constant currencies².

Cash flow from operating activities

Cash flow from operating activities was \$467 million compared with \$1,082 million in 2016 due to the change in timing of short-term incentive payments to the second quarter from the first quarter in 2017. It was also impacted by timing of tax payments, delays in payment from Middle Eastern customers and the positive cash contribution in the previous year from the recently divested cables business.

Share cancellation

In July 2017, based on the shareholders' vote at the company's annual general meeting on April 13, 2017, ABB canceled 46.6 million shares. This will be reflected in the third quarter.

Executive Committee changes

Effective April 1, 2017, Timo Ihamuotila joined ABB from Nokia as Chief Financial Officer and a member of the Executive Committee. Effective July 1, 2017, Chunyuan Gu, Managing Director of ABB in China, became President of the Asia, Middle East and Africa (AMEA) region and a member of the Executive Committee. Chunyuan takes over AMEA from Frank Duggan, who was appointed President of the Europe region, succeeding Bernhard Jucker, who retired on June 30 after a long and distinguished career at ABB.

Q2 divisional performance

(\$ in millions, unless otherwise indicated)	Orders		Change US\$ Comparable ¹	Revenues		Change US\$ Comparable ¹	Operational EBITA %	CHANGE
Electrification Products	2,512	-4%	-1%	2,509	-1%	+2%	15.0%	-0.8pts
Robotics and Motion	2,219	+12%	+14%	2,087	+3%	+5%	14.9%	-1.3pts
Industrial Automation	1,499	+6%	+8%	1,608	-9%	-7%	12.7%	+0.3pts
Power Grids	2,484	-6%	-3%	2,647	-3%	0%	9.8%	+0.5pts
Corporate & other (incl. inter-division elimination)	-365			-397				
ABB Group	8,349	0%	+3%	8,454	-3%	+1%	12.4%	-0.5 pts

Electrification Products

Total orders were impacted by fewer trading days in the second quarter versus the second quarter of 2016; total orders for the first half of 2017 were up 1 percent (2 percent lower in US dollars). Revenues grew 2 percent in the quarter (1 percent lower in US dollars). Operational EBITA margin improved sequentially but was lower in the quarter versus a year ago mainly due to higher material costs, which more than offset productivity and cost savings.

Robotics and Motion

Total orders were 14 percent higher (12 percent in US dollars) as all regions and business units contributed to the significant growth. Third-party base orders increased 10 percent (8 percent in US dollars) on continued strong growth in robotics and light industry. Revenues improved 5 percent (3 percent in US dollars). Operational EBITA margin was impacted by product mix, significantly higher commodity prices and under absorption, which more than offset the cost-out measures.

Industrial Automation

Total orders grew 8 percent (6 percent in US dollars) due to selective capital expenditure investments in oil and gas and in mining. Third party base orders continued to be positive. Revenues were 7 percent lower (9 percent in US dollars), reflecting the execution of a lower order backlog. Operational EBITA margin increased slightly as cost and productivity savings offset the lower revenue contribution.

Power Grids

Third party base orders grew 2 percent (stable in US dollars) on investments in emerging markets while total orders were impacted by the timing of large order awards. Revenues were steady (3 percent lower in US dollars) on solid order backlog execution. Operational EBITA margin increased 50 basis points to 9.8 percent, reflecting improved productivity, project execution and continued cost savings. The division's 'Power Up' program to drive transformation and value creation is underway and the company will continue to invest in this initiative in the coming quarters.

Next Level strategy – Stage 3

ABB continued the implementation of its Next Level strategy during the quarter by further shifting its center of gravity to higher growth segments, strengthening its competitiveness and de-risking the portfolio.

On July 6, ABB announced the completion of its acquisition of B&R (Bernecker + Rainer Industrie-Elektronik GmbH), the largest independent provider focused on product- and software-based, open-architecture solutions for machine and factory automation worldwide. This acquisition closes ABB's historic gap in machine and factory automation and will create a uniquely comprehensive automation portfolio for customers globally. This all-cash acquisition is expected to be EPS-accretive in the first year.

ABB successfully launched its new industry-leading digital offering, ABB Ability, at its customer events in Houston, Hanover and Hangzhou. With more than 180 solutions, across all customer segments, ABB Ability has seen very positive customer response and is contributing to sustainable growth.

On July 3, ABB announced that it had agreed to acquire the mission-critical communication network business from the KEYMILE Group to strengthen its portfolio and further enhance ABB Ability. It will add reliable communications technologies that are essential to maintain today's dynamic and complex digital electrical grids. The acquisition will bring with it products, software and service solutions, as well as research and development expertise. It is expected to close during the third quarter of 2017.

ABB continues to build on its existing momentum and is further accelerating its operational performance.

The company's White-Collar Productivity savings program has exceeded expectations since its launch in 2015. ABB is on track to achieve the program's increased cost reduction target of \$1.3 billion within the initially announced timeframe and approximately \$200 million lower combined restructuring program and implementation costs than initially announced. ABB is continuing its regular cost-savings programs, leveraging operational excellence and world-class supply chain management to achieve savings equivalent to 3-5 percent of cost of sales each year.

ABB reaffirms the target of its Net Working Capital program to free up approximately \$2 billion by the end of 2017. The program is on track; Net Working Capital as a percentage of revenues decreased 90 bps compared with the same period a year ago.

Outlook

Macroeconomic and geopolitical developments are signaling a mixed picture with continued uncertainty. Some macroeconomic signs remain positive in the United States and growth in China is expected to continue. The overall global market remains impacted by modest growth and increased uncertainties, e.g., Brexit in Europe and geopolitical tensions in various parts of the world. Oil prices and foreign exchange translation effects are expected to continue to influence the company's results. With this and the ongoing transformation of ABB, we expect 2017 to be a transitional year.

The attractive long-term demand outlook in ABB's three major customer sectors — utilities, industry and transport & infrastructure — is driven by the Energy and Fourth Industrial Revolutions.

ABB is well-positioned to tap into these opportunities for long-term profitable growth with its strong market presence, broad geographic and business scope, technology leadership and financial strength.

5/6

More information

The Q2 2017 results press release and presentation slides are available on the ABB News Center at www.abb.com/news and on the Investor Relations homepage at www.abb.com/investorrelations.

ABB will host a press conference today starting at 10:00 a.m. Central European Time (CET) (9:00 a.m. BST, 4:00 a.m. EDT). The event will be accessible by conference call. Callers from the UK should dial +44 203 059 58 62. From Sweden, the number to dial is +46 85 051 00 31, and from the rest of Europe, +41 58 310 50 00. Callers from the US and Canada should dial +1 866 291 41 66 (toll-free) or +1 631 570 56 13 (long-distance charges apply). Lines will be open 10-15 minutes before the start of the call.

A conference call and webcast for analysts and investors is scheduled to begin today at 2:00 p.m. CET (1:00 p.m. BST, 8:00 a.m. EDT). Callers from the UK should dial +44 203 059 58 62. From Sweden, the number to dial is +46 85 051 00 31, and from the rest of Europe, +41 58 310 50 00. Callers from the US and Canada should dial +1 866 291 41 66 (toll-free) or +1 631 570 56 13 (long-distance charges apply). Callers are requested to phone in 10 minutes before the start of the call. The call will also be accessible on the ABB website and a recorded session will be available as a podcast one hour after the end of the conference call and can be downloaded from our website. www.abb.com/investorrelations

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing more than a 125-year history of innovation, ABB today is writing the future of industrial digitalization and driving the Energy and Fourth Industrial Revolutions. ABB operates in more than 100 countries with about 132,000 employees. www.abb.com

	Investor calendar 2017
Innovation and Technology Day	September 6, 2017
Third quarter 2017 results	October 26, 2017
Fourth quarter and full year 2017 results	February 8, 2018
Annual General Meeting	March 29, 2018

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”, “Outlook”, and “Next Level strategy – Stage 3”. 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,” “plans,” “is likely” “intends” 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, July 20, 2017

Ulrich Spiesshofer, CEO

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1 Q2 2017 Financial Information

2 Q2 2017 Financial Information

Key Figures

(\$ in millions, unless otherwise indicated)	Q2 2017	Q2 2016	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	8,349	8,316	0%	3%
Order backlog (end June)	23,553	25,338	-7%	-1%
Revenues	8,454	8,677	-3%	1%
Operational EBITA ⁽¹⁾	1,042	1,120	-7%	-5% ⁽²⁾
as % of operational revenues ⁽¹⁾	12.4%	12.9%	-0.5 pts	
Net income	525	406	29%	
Basic earnings per share (\$)	0.25	0.19	30% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	0.30	0.35	-15% ⁽³⁾	-11% ⁽³⁾
Cash flow from operating activities	467	1,082	-57%	

(\$ in millions, unless otherwise indicated)	H1 2017	H1 2016	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	16,752	17,569	-5%	0%
Revenues	16,308	16,580	-2%	2%
Operational EBITA ⁽¹⁾	1,985	2,071	-4%	-2% ⁽²⁾
as % of operational revenues ⁽¹⁾	12.3%	12.5%	-0.2 pts	
Net income	1,249	906	38%	
Basic earnings per share (\$)	0.58	0.42	39% ⁽³⁾	
Operational earnings per share ⁽¹⁾ (\$)	0.58	0.64	-9% ⁽³⁾	-6% ⁽³⁾
Cash flow from operating activities	976	1,334	-27%	

(1) For a reconciliation of non-GAAP measures see “Supplemental Reconciliations and Definitions” on page 33.

(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).

3 Q2 2017 Financial Information

				CHANGE		
(\$ in millions, unless otherwise indicated)		Q2 2017	Q2 2016	US\$	Local	Comparable
Orders	ABB Group	8,349	8,316	0%	3%	3%
	Electrification Products	2,512	2,624	-4%	-1%	-1%
	Robotics and Motion	2,219	1,978	12%	14%	14%
	Industrial Automation	1,499	1,419	6%	8%	8%
	Power Grids	2,484	2,632	-6%	-3%	-3%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(365)	(337)			
Third-party base orders	ABB Group	7,681	7,657	0%	3%	3%
	Electrification Products	2,393	2,494	-4%	-1%	-1%
	Robotics and Motion	1,967	1,826	8%	10%	10%
	Industrial Automation	1,327	1,325	0%	2%	2%
	Power Grids	1,977	1,980	0%	2%	2%
	<i>Corporate and Other</i>	17	32			
Order backlog (end June)	ABB Group	23,553	25,338	-7%	-6%	-1%
	Electrification Products	3,220	3,452	-7%	-5%	-5%
	Robotics and Motion	4,188	4,025	4%	4%	4%
	Industrial Automation	5,710	6,165	-7%	-7%	-7%
	Power Grids	11,860	12,286	-3%	-3%	-2%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(1,425)	(590)			
Revenues	ABB Group	8,454	8,677	-3%	0%	1%
	Electrification Products	2,509	2,536	-1%	2%	2%
	Robotics and Motion	2,087	2,033	3%	5%	5%
	Industrial Automation	1,608	1,770	-9%	-7%	-7%
	Power Grids	2,647	2,717	-3%	0%	0%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(397)	(379)			
Operational EBITA	ABB Group	1,042	1,120	-7%	-5%	
	Electrification Products	373	400	-7%	-4%	
	Robotics and Motion	312	329	-5%	-2%	
	Industrial Automation	205	220	-7%	-5%	
	Power Grids	257	254	1%	4%	
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(105)	(83)			
Operational EBITA %	ABB Group	12.4%	12.9%			
	Electrification Products	15.0%	15.8%			
	Robotics and Motion	14.9%	16.2%			
	Industrial Automation	12.7%	12.4%			
	Power Grids	9.8%	9.3%			
Income from operations	ABB Group	884	647			
	Electrification Products	333	303			
	Robotics and Motion	280	250			
	Industrial Automation	203	123			
	Power Grids	231	149			
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(163)	(178)			
Income from operations %	ABB Group	10.5%	7.5%			

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	Electrification Products	13.3%	11.9%
	Robotics and Motion	13.4%	12.3%
	Industrial Automation	12.6%	6.9%
	Power Grids	8.7%	5.5%
Cash flow from operating activities	ABB Group	467	1,082
	Electrification Products	259	325
	Robotics and Motion	213	289
	Industrial Automation	143	270
	Power Grids	75	241
	<i>Corporate and Other</i>	(223)	(43)

4 Q2 2017 Financial Information

		CHANGE				
(\$ in millions, unless otherwise indicated)		H1 2017	H1 2016	US\$	Local	Comparable
Orders	ABB Group	16,752	17,569	-5%	-2%	0%
	Electrification Products	5,040	5,130	-2%	1%	1%
	Robotics and Motion	4,396	4,066	8%	10%	10%
	Industrial Automation	3,181	3,257	-2%	0%	0%
	Power Grids	4,863	5,597	-13%	-11%	-11%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(728)	(481)			
Third-party base orders	ABB Group	15,279	15,300	0%	2%	2%
	Electrification Products	4,758	4,845	-2%	1%	1%
	Robotics and Motion	3,958	3,629	9%	11%	11%
	Industrial Automation	2,772	2,777	0%	2%	2%
	Power Grids	3,759	3,996	-6%	-4%	-4%
	<i>Corporate and Other</i>	32	53			
Order backlog (end June)	ABB Group	23,553	25,338	-7%	-6%	-1%
	Electrification Products	3,220	3,452	-7%	-5%	-5%
	Robotics and Motion	4,188	4,025	4%	4%	4%
	Industrial Automation	5,710	6,165	-7%	-7%	-7%
	Power Grids	11,860	12,286	-3%	-3%	-2%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(1,425)	(590)			
Revenues	ABB Group	16,308	16,580	-2%	1%	2%
	Electrification Products	4,802	4,825	0%	2%	2%
	Robotics and Motion	4,013	3,906	3%	5%	5%
	Industrial Automation	3,157	3,434	-8%	-6%	-6%
	Power Grids	5,052	5,170	-2%	0%	2%
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(716)	(755)			
Operational EBITA	ABB Group	1,985	2,071	-4%	-2%	
	Electrification Products	695	707	-2%	1%	
	Robotics and Motion	586	615	-5%	-2%	
	Industrial Automation	409	422	-3%	-2%	
	Power Grids	502	437	15%	19%	
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(207)	(110)			
Operational EBITA %	ABB Group	12.3%	12.5%			
	Electrification Products	14.6%	14.7%			
	Robotics and Motion	14.6%	15.8%			
	Industrial Automation	13.0%	12.2%			
	Power Grids	10.0%	8.5%			
Income from operations	ABB Group	1,914	1,431			
	Electrification Products	640	565			
	Robotics and Motion	532	506			
	Industrial Automation	409	300			
	Power Grids	453	322			
	<i>Corporate and Other</i>					
	<i>(incl. inter-division eliminations)</i>	(120)	(262)			
Income from operations %	ABB Group	11.7%	8.6%			

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	Electrification Products	13.3%	11.7%
	Robotics and Motion	13.3%	13.0%
	Industrial Automation	13.0%	8.7%
	Power Grids	9.0%	6.2%
Cash flow from operating activities	ABB Group	976	1,334
	Electrification Products	464	349
	Robotics and Motion	467	407
	Industrial Automation	253	322
	Power Grids	229	267
	<i>Corporate and Other</i>	(437)	(11)
5	Q2 2017 Financial Information		

Operational EBITA

(\$ in millions, unless otherwise indicated)	ABB		Electrification Products		Robotics and Motion		Industrial Automation		Power Grids	
	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16
Revenues	8,454	8,677	2,509	2,536	2,087	2,033	1,608	1,770	2,647	2,717
FX/commodity timing differences in total revenues	(26)	37	(16)	2	4	1	1	6	(13)	17
Operational revenues	8,428	8,714	2,493	2,538	2,091	2,034	1,609	1,776	2,634	2,734
Income from operations	884	647	333	303	280	250	203	123	231	149
Acquisition-related amortization	56	71	26	31	16	24	2	3	9	9
Restructuring and restructuring-related expenses ⁽¹⁾	84	367	13	52	17	52	5	89	18	76
Non-operational pension cost	(7)	—	1	1	(1)	—	—	—	(1)	(1)
Changes in retained obligations of divested businesses	—	—	—	—	—	—	—	—	—	—
Changes in pre-acquisition estimates	—	14	—	14	—	—	—	—	—	—
Gains and losses from sale of businesses	7	—	—	—	—	—	(2)	—	—	—
Acquisition-related expenses and certain non-operational items	58	9	14	—	—	—	5	—	25	2
FX/commodity timing differences in income from operations	(40)	12	(14)	(1)	—	3	(8)	5	(25)	19
Operational EBITA	1,042	1,120	373	400	312	329	205	220	257	254
Operational EBITA margin (%)	12.4%	12.9%	15.0%	15.8%	14.9%	16.2%	12.7%	12.4%	9.8%	9.3%

(\$ in millions, unless otherwise indicated)	ABB		Electrification Products		Robotics and Motion		Industrial Automation		Power Grids	
	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16
Revenues	16,308	16,580	4,802	4,825	4,013	3,906	3,157	3,434	5,052	5,170
FX/commodity timing differences in total revenues	(105)	18	(27)	(7)	(7)	(2)	(12)	21	(38)	(3)
Operational revenues	16,203	16,598	4,775	4,818	4,006	3,904	3,145	3,455	5,014	5,167
Income from operations	1,914	1,431	640	565	532	506	409	300	453	322
Acquisition-related amortization	115	142	52	62	34	47	4	6	17	18
Restructuring and restructuring-related expenses ⁽¹⁾	132	436	13	57	27	59	9	93	21	94
Non-operational pension cost	(14)	—	1	2	(1)	—	1	—	(2)	(2)
Changes in retained obligations of divested businesses	94	—	—	—	—	—	—	—	—	—
Changes in pre-acquisition estimates	—	22	—	22	—	—	—	—	—	—
Gains and losses from sale of businesses	(331)	—	—	—	—	—	(2)	—	—	—
Acquisition-related expenses and certain non-operational items	166	11	18	—	—	—	7	—	52	4

FX/commodity timing differences in income from operations	(91)	29	(29)	(1)	(6)	3	(19)	23	(39)	1
Operational EBITA	1,985	2,071	695	707	586	615	409	422	502	437
Operational EBITA margin (%)	12.3%	12.5%	14.6%	14.7%	14.6%	15.8%	13.0%	12.2%	10.0%	8.5%

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

6 Q2 2017 Financial Information

Depreciation and Amortization

(\$ in millions)	ABB Electrification Robotics Industrial Power Products and Motion Automation Grids									
	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16	Q2 17	Q2 16
Depreciation	180	194	50	54	34	35	12	15	43	45
Amortization	78	93	29	34	19	27	3	5	15	16
including total acquisition-related amortization of:	56	71	26	31	16	24	2	3	9	9

(\$ in millions)	ABB Electrification Robotics Industrial Power Products and Motion Automation Grids									
	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16	H1 17	H1 16
Depreciation	364	381	100	107	68	70	25	29	86	89
Amortization	157	186	58	68	40	54	6	9	30	32
including total acquisition-related amortization of:	115	142	52	62	34	47	4	6	17	18

Orders received and revenues by region

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	Q2 17	Q2 16	US\$	Com-		Q2 17	Q2 16	US\$	Com-	
				Local	parable				Local	parable
Europe	2,843	2,802	1%	5%	6%	2,813	2,949	-5%	-1%	1%
The Americas	2,441	2,401	2%	2%	2%	2,472	2,519	-2%	-1%	-1%
Asia, Middle East and Africa	3,065	3,113	-2%	2%	2%	3,169	3,209	-1%	1%	1%
ABB Group	8,349	8,316	0%	3%	3%	8,454	8,677	-3%	0%	1%

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	H1 17	H1 16	US\$	Com-		H1 17	H1 16	US\$	Com-	
				Local	parable				Local	parable
Europe	5,970	6,348	-6%	-2%	4%	5,507	5,566	-1%	3%	6%
The Americas	4,803	4,656	3%	3%	3%	4,804	4,816	0%	0%	0%
Asia, Middle East and Africa	5,979	6,565	-9%	-6%	-6%	5,997	6,198	-3%	-1%	-1%
ABB Group	16,752	17,569	-5%	-2%	0%	16,308	16,580	-2%	1%	2%

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Interim Consolidated Financial Information

ABB Ltd Interim Consolidated Income Statements (unaudited)

	Six months ended		Three
(\$ in millions, except per share data in \$)	Jun. 30, 2017	Jun. 30, 2016	Jun. 30, 2015
Sales of products	13,451	13,675	6,141
Sales of services and software	2,857	2,905	1,341
Total revenues	16,308	16,580	8,482
Cost of sales of products	(9,643)	(10,069)	(4,141)
Cost of services and software	(1,693)	(1,738)	(741)
Total cost of sales	(11,336)	(11,807)	(5,882)
Gross profit	4,972	4,773	2,600
Selling, general and administrative expenses	(2,678)	(2,675)	(1,341)
Non-order related research and development expenses	(610)	(648)	(341)
Other income (expense), net	230	(19)	141
Income from operations	1,914	1,431	1,051
Interest and dividend income	35	38	141
Interest and other finance expense	(153)	(146)	(141)
Income from continuing operations before taxes	1,796	1,323	1,051
Provision for taxes	(456)	(350)	(141)
Income from continuing operations, net of tax	1,340	973	910
Income (loss) from discontinued operations, net of tax	(1)	(2)	141
Net income	1,339	971	1,051
Net income attributable to noncontrolling interests	(90)	(65)	141
Net income attributable to ABB	1,249	906	910
Amounts attributable to ABB shareholders:			
Income from continuing operations, net of tax	1,250	908	910
Net income	1,249	906	910
Basic earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.58	0.42	0.42
Net income	0.58	0.42	0.42
Diluted earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.58	0.42	0.42
Net income	0.58	0.42	0.42
Weighted-average number of shares outstanding (in millions) used to compute:			
Basic earnings per share attributable to ABB shareholders	2,140	2,165	2,140
Diluted earnings per share attributable to ABB shareholders	2,149	2,169	2,140

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

See Notes to the Interim Consolidated Financial Information

8 Q2 2017 Financial Information

ABB Ltd Interim Condensed Consolidated Statements of Comprehensive
Income (unaudited)

	Six months ended		Three months ended
(\$ in millions)	Jun. 30, 2017	Jun. 30, 2016	Jun. 30, 2017
Total comprehensive income, net of tax	1,872	1,175	916
Total comprehensive income attributable to noncontrolling interests, net of tax	(103)	(65)	(60)
Total comprehensive income attributable to ABB shareholders, net of tax	1,769	1,110	856

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

See Notes to the Interim Consolidated Financial Information

9 Q2 2017 Financial Information

 ABB Ltd Interim Consolidated Balance Sheets (unaudited)

(\$ in millions, except share data)	Jun. 30, 2017	Dec. 31, 2016
Cash and equivalents	5,018	3,644
Marketable securities and short-term investments	909	1,953
Receivables, net	10,305	9,696
Inventories, net	4,953	4,347
Prepaid expenses	268	176
Other current assets	636	688
Assets held for sale	—	548
Total current assets	22,089	21,052
Property, plant and equipment, net	4,980	4,743
Goodwill	9,708	9,501
Other intangible assets, net	1,930	1,996
Prepaid pension and other employee benefits	97	90
Investments in equity-accounted companies	157	170
Deferred taxes	1,006	1,118
Other non-current assets	511	532
Total assets	40,478	39,202
Accounts payable, trade	4,888	4,446
Billings in excess of sales	1,200	1,241
Short-term debt and current maturities of long-term debt	914	1,003
Advances from customers	1,542	1,398
Provisions for warranties	1,193	1,142
Other provisions	1,759	1,765
Other current liabilities	3,711	3,936
Liabilities held for sale	—	218
Total current liabilities	15,207	15,149
Long-term debt	6,909	5,800
Pension and other employee benefits	1,878	1,834
Deferred taxes	843	918
Other non-current liabilities	1,757	1,604
Total liabilities	26,594	25,305
Commitments and contingencies		
Stockholders' equity:		
Capital stock		
(2,214,743,264 issued shares at June 30, 2017, and December 31, 2016)	192	192
Additional paid-in capital	27	24
Retained earnings	19,552	19,925
Accumulated other comprehensive loss	(4,667)	(5,187)
Treasury stock, at cost		
(80,747,598 and 76,036,429 shares at June 30, 2017, and December 31, 2016, respectively)	(1,701)	(1,559)

Total ABB stockholders' equity	13,403	13,395
Noncontrolling interests	481	502
Total stockholders' equity	13,884	13,897
Total liabilities and stockholders' equity	40,478	39,202
Due to rounding, numbers presented may not add to the totals provided.		

See Notes to the Interim Consolidated Financial Information

10 Q2 2017 Financial Information

 ABB Ltd Interim Consolidated Statements of Cash Flows (unaudited)

	Six months ended		Thru
(\$ in millions)	Jun. 30, 2017	Jun. 30, 2016	Jun. 30, 2015
Operating activities:			
Net income	1,339	971	
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	521	567	
Deferred taxes	43	(127)	
Net loss (gain) from derivatives and foreign exchange	(29)	48	
Net loss (gain) from sale of businesses	(331)	—	
Share-based payment arrangements	27	27	
Other	27	34	
Changes in operating assets and liabilities:			
Trade receivables, net	(254)	(231)	
Inventories, net	(250)	(204)	
Trade payables	229	167	
Accrued liabilities	(133)	(165)	
Billings in excess of sales	(68)	9	
Provisions, net	(21)	107	
Advances from customers	86	(22)	
Income taxes payable and receivable	(7)	121	
Other assets and liabilities, net	(203)	32	
Net cash provided by operating activities	976	1,334	
Investing activities:			
Purchases of marketable securities (available-for-sale)	(274)	(411)	
Purchases of short-term investments	(74)	(1,369)	
Purchases of property, plant and equipment and intangible assets	(417)	(348)	
Acquisition of businesses (net of cash acquired)			
and increases in cost- and equity-accounted companies	(18)	(19)	
Proceeds from sales of marketable securities (available-for-sale)	490	38	
Proceeds from maturity of marketable securities (available-for-sale)	100	539	
Proceeds from short-term investments	874	533	
Proceeds from sales of property, plant and equipment	30	28	
Proceeds from sales of businesses (net of transaction costs			
and cash disposed) and cost- and equity-accounted companies	673	—	
Net cash from settlement of foreign currency derivatives	33	(21)	
Other investing activities	22	10	
Net cash provided by (used in) investing activities	1,439	(1,020)	
Financing activities:			
Net changes in debt with original maturities of 90 days or less	410	291	
Increase in debt	890	852	
Repayment of debt	(590)	(664)	
Delivery of shares	86	1	
Purchase of treasury stock	(251)	(1,197)	
Dividends paid	(1,635)	—	

Dividends paid to noncontrolling shareholders	(116)	(107)
Other financing activities	(15)	(12)
Net cash used in financing activities	(1,221)	(836)
Effects of exchange rate changes on cash and equivalents	180	42
Net change in cash and equivalents – continuing operations	1,374	(480)
Cash and equivalents, beginning of period	3,644	4,565
Cash and equivalents, end of period	5,018	4,085
Supplementary disclosure of cash flow information:		
Interest paid	115	123
Taxes paid	443	361
Due to rounding, numbers presented may not add to the totals provided.		

See Notes to the Interim Consolidated Financial Information

11 Q2 2017 Financial Information

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

(\$ in millions)	Capital stock	Additional paid-in capital	Retained earnings	Total accumulated other comprehensive loss	Treasury stock	Total ABB stockholders' equity	Non-controlling interests	Total stockholders' equity
Balance at January 1, 2016	1,440	4	20,476	(4,858)	(2,581)	14,481	507	15,000
Comprehensive income:								
Net income			906			906	65	971
Foreign currency translation adjustments, net of tax of \$10				129		129		129
Effect of change in fair value of available-for-sale securities, net of tax of \$1				9		9		9
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$18				63		63		63
Change in derivatives qualifying as cash flow hedges, net of tax of \$2				3		3		3
Total comprehensive income						1,110	65	1,175
Dividends to noncontrolling shareholders							—	(132)
Reduction in nominal value of common shares payable to shareholders	(1,224)		(396)			(1,620)		(1,620)
Purchase of treasury stock					(1,280)	(1,280)		(1,280)
Delivery of shares		(13)			14	1		1
Share-based payment arrangements		27				27		27
Balance at June 30, 2016	216	18	20,986	(4,654)	(3,847)	12,719	440	13,159
Balance at January 1, 2017	192	24	19,925	(5,187)	(1,559)	13,395	502	13,897
Comprehensive income:								
Net income			1,249			1,249	90	1,339
Foreign currency translation adjustments, net of tax of \$(1)				564		564	13	577
Effect of change in fair value of available-for-sale securities, net of tax of \$0				2		2		2
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$(13)				(51)		(51)		(51)
Change in derivatives qualifying as cash flow hedges, net of tax of \$2				5		5		5

Total comprehensive income						1,769	103	
Changes in noncontrolling interests						–	3	
Dividends to noncontrolling shareholders						–	(127)	
Dividends paid to shareholders		(1,622)				(1,622)		
Purchase of treasury stock					(251)	(251)		
Delivery of shares		(23)			109	86		
Share-based payment arrangements		27				27		
Balance at June 30, 2017	192	27	19,552	(4,667)	(1,701)	13,403	481	1
Due to rounding, numbers presented may not add to the totals provided.								

See Notes to the Interim Consolidated Financial Information

12 Q2 2017 Financial Information

Notes to the Interim Consolidated Financial Information (unaudited)

Note 1

The Company and basis of presentation

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

The Company's Interim 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 Interim 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, 2016.

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 Interim Consolidated Financial Information. The most significant, difficult and subjective of such accounting assumptions and estimates include:

- estimates used to record expected costs for employee severance in connection with restructuring programs,
- estimates used to record warranty obligations,
- 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,
- assumptions used in determining inventory obsolescence and net realizable value,
- estimates and assumptions used in determining the fair values of assets and liabilities assumed in business combinations, 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, inventories and provisions related to these contracts which will not be realized within one year that have been classified as current.

In the opinion of management, the unaudited Interim Consolidated Financial Information contains all necessary adjustments to present fairly the financial position, results of operations and cash flows for the reported interim periods. Management considers all such adjustments to be of a normal recurring nature.

The Interim Consolidated Financial Information is presented in United States dollars (\$) unless otherwise stated. Due to rounding, numbers presented in the Interim Consolidated Financial Information may not add to the totals provided. Certain amounts reported in the Interim Consolidated Financial Information for prior periods have been reclassified to conform to the current year's presentation. These changes primarily relate to the reorganization of the Company's operating segments (see Note 14) and to the reclassification and netting of deferred tax assets and liabilities, as a result of the adoption of an accounting standard update on the classification of deferred taxes (see Note 2).

Note 2

Recent accounting pronouncements

Applicable for current periods

Balance sheet classification of deferred taxes

As of January 1, 2017, the Company adopted an accounting standard update removing the requirement to separate deferred tax liabilities and assets into current and noncurrent amounts and instead requiring all such amounts, as well as any related valuation allowance, to be classified as noncurrent in the consolidated balance sheets. This update was applied retrospectively and resulted in a decrease of \$297 million in both the total deferred tax assets and total deferred tax liabilities at December 31, 2016, due to additional netting impacts.

Simplifying the transition to the equity method of accounting

As of January 1, 2017, the Company adopted an accounting standard update eliminating the retroactive adjustments to an investment upon it qualifying for the equity method of accounting as a result of an increase in the level of ownership interest or degree of influence by the investor. It requires that the equity method investor add the cost of acquiring the additional interest in the investee to the current basis of the investor's previously held interest and adopt the equity method of accounting as of the date the investment qualifies for equity method accounting. This update was applied prospectively and did not have a significant impact on the consolidated financial statements.

Improvements to employee share-based payment accounting

As of January 1, 2017, the Company adopted an accounting standard update which changed the accounting for certain aspects of share-based payment awards to employees, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as the classification in the statement of cash flows. This update did not have a significant impact on the consolidated financial statements.

Simplifying the test for goodwill impairment

As of January 1, 2017, the Company early-adopted an accounting standard update eliminating the requirement to calculate the implied fair value of goodwill when measuring a goodwill impairment loss. Instead the Company is now required to record an impairment loss based on the excess of a reporting unit's carrying amount over its fair value provided that the loss recognized does not exceed the total amount of goodwill allocated to that reporting unit. This update was applied prospectively and did not have a significant impact on the consolidated financial statements.

Applicable for future periods

Revenue from contracts with customers

In May 2014, an accounting standard update was issued to clarify the principles for recognizing revenues from contracts with customers. The update, which supersedes substantially all existing revenue recognition guidance, provides a single comprehensive model for recognizing revenues on the transfer of promised goods or services to customers in an amount that reflects the consideration that is expected to be received for those goods or services. Under the standard it is possible that more judgments and estimates would be required than under existing standards, including identifying the separate performance obligations in a contract, estimating any variable consideration elements, and allocating the transaction price to each separate performance obligation. The update also requires additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. Further updates were issued in 2016 to clarify the guidance on identifying performance obligations, licensing and contract costs, to enhance the implementation guidance on principal versus agent considerations and to add other practical expedients.

In August 2015, the effective date for the update was deferred and the update is now effective for the Company for annual and interim periods beginning January 1, 2018, and is to be applied either (i) retrospectively to each prior reporting period presented, with the option to elect certain defined practical expedients, or (ii) retrospectively with the cumulative effect of initially applying the update recognized at the date of adoption in retained earnings (with additional disclosure as to the impact on individual financial statement lines affected). Early adoption of the standard is permitted for annual reporting periods beginning after December 15, 2016, including interim reporting periods within that reporting period.

The Company will adopt these updates as of January 1, 2018, pursuant to the aforementioned adoption method (ii) and, apart from additional disclosures, currently does not anticipate these updates will have a significant impact on its consolidated financial statements. The Company's analysis of contracts performed in 2016 resulted in immaterial differences in the identification of performance obligations compared to the current unit of accounting determination. Except for a limited number of contracts where the required criteria are not met, the analysis supports the recognition of revenue over time following the cost-to-cost method under the new revenue recognition standard for those contracts which are following the cost-to-cost method under the current revenue recognition model. The Company continues to evaluate the expected impacts of the adoption of these updates and the expected impacts are subject to change.

Recognition and measurement of financial assets and financial liabilities

In January 2016, an accounting standard update was issued to enhance the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. For example, the Company would be 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 and to present separately financial assets and financial liabilities by measurement category and form of financial asset. This update is effective for the Company for annual and interim periods beginning January 1, 2018, with early adoption permitted for certain provisions. The Company is currently evaluating the impact of this update on its consolidated financial statements.

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 12 months. 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. This update is effective for the Company for annual and interim periods beginning January 1, 2019, with early adoption permitted, and is applicable on a modified retrospective basis with various optional practical expedients. The Company is currently evaluating the impact of this update on its consolidated financial statements.

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.

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

In August 2016, an accounting standard update was issued 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 is effective for the Company for annual and interim periods beginning January 1, 2018 on a retrospective basis, with early adoption permitted. The Company does not believe that this update will have a significant impact on its consolidated financial statements.

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

In October 2016, an accounting standard update was issued that requires the Company 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 is effective for the Company for annual and interim periods beginning January 1, 2018, with early adoption permitted, and is applicable on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The Company is currently evaluating the impact of this update on its consolidated financial statements.

Statement of cash flows - Restricted cash

In November 2016, an accounting standard update was issued 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 is effective for the Company for annual and interim periods beginning January 1, 2018 on a retrospective basis, with early adoption permitted. The Company does not believe that this update will have a significant impact on its consolidated financial statements.

Clarifying the definition of a business

In January 2017, an accounting standard update was issued 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 is effective for the Company for annual and interim periods beginning January 1, 2018 on a prospective basis, with early adoption permitted. The Company does not believe that this update will have a significant impact on its consolidated financial statements.

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

In February 2017, an accounting standard update was issued 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. The Company plans to adopt this update retrospectively as of January 1, 2018, with the cumulative effect of initially applying the update recognized at the date of adoption in retained earnings. The Company does not believe that this update will have a significant impact on its consolidated financial statements.

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

In March 2017, an accounting standard update was issued 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 will be 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 benefit will be 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 service cost component is allowed to be capitalized. This update is effective for the Company for annual and interim periods beginning January 1, 2018 on a retrospective basis for the presentation requirements and on a prospective basis for the capitalization of the service cost component requirements. The Company will adopt this update as of January 1, 2018, and does not believe that this update will have a significant impact on its consolidated financial statements.

Compensation—Stock Compensation

In May 2017, an accounting standard update was issued 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 is effective prospectively and will apply to awards modified on or after January 1, 2018. The Company does not believe that this update will have a significant impact on its consolidated financial statements.

Note 3

Acquisitions and Divestments

Divestment of the high-voltage cable system business

For the six and three months ended June 30, 2017, the Company recorded net gains (including transaction costs) of \$331 million and net losses (including transaction costs) of \$7 million, respectively, in “Other income (expense), net”. For the six months ended June 30, 2017, an associated tax expense of \$28 million relating to the divestment of consolidated businesses was recorded in “Provision for taxes”. These are primarily due to the divestment in March 2017, of the Company’s high-voltage cable system business (the Cables business).

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, 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).

There were no significant gains or losses recognized relating to divestments in the six and three months ended June 30, 2016.

Acquisition of B&R

On July 6, 2017, the Company acquired the shares of Bernecker + Rainer Industrie-Elektronik GmbH (B&R). B&R is a worldwide provider of product- and software-based, open-architecture solutions for machine and factory automation. To complete the transaction, the Company’s cash outflows amounted to approximately \$2 billion. This acquisition closes a gap in the Company’s industrial automation portfolio. The initial accounting and disclosures for this acquisition are incomplete as B&R was only recently acquired.

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

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

June 30, 2017

		Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents	Marketable securities and short-term investments
(\$ in millions)	Cost basis					
Cash	1,597			1,597	1,597	—
Time deposits	3,463			3,463	3,421	42
Other short-term investments	294			294	—	294
Debt securities available-for-sale:						
U.S. government obligations	206	1	(2)	205	—	205
European government obligations	20	—	—	20	—	20
Other government obligations	2	—	—	2	—	2
Corporate	208	2	(1)	209	—	209
Equity securities available-for-sale	125	12	—	137	—	137
Total	5,915	15	(3)	5,927	5,018	909

December 31, 2016

		Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents	Marketable securities and short-term investments
(\$ in millions)	Cost basis					
Cash	1,704			1,704	1,704	—
Time deposits	2,764			2,764	1,940	824
Other short-term investments	271			271	—	271
Debt securities available-for-sale:						
U.S. government obligations	221	1	(2)	220	—	220
Other government obligations	2	—	—	2	—	2
Corporate	95	1	(1)	95	—	95
Equity securities available-for-sale	530	11	—	541	—	541
Total	5,587	13	(3)	5,597	3,644	1,953

Included in Other short-term investments at June 30, 2017, and December 31, 2016, are receivables of \$291 million and \$268 million, respectively, representing reverse repurchase agreements. These collateralized lendings, made to a financial institution, have maturity dates of less than one year.

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

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

Foreign exchange and interest rate derivatives

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

Type of derivative (\$ in millions)	Total notional amounts at		
	June 30, 2017	December 31, 2016	June 30, 2016
Foreign exchange contracts	16,387	15,353	17,110
Embedded foreign exchange derivatives	2,089	2,162	3,066
Interest rate contracts	5,197	3,021	3,913

Derivative commodity contracts

The following table shows the notional amounts of outstanding commodity derivatives (whether designated as hedges or not), on a net basis, to reflect the Company's requirements in the various commodities:

Type of derivative	Unit	Total notional amounts at		
		June 30, 2017	December 31, 2016	June 30, 2016
Copper swaps	metric tonnes	39,292	47,425	55,506
Aluminum swaps	metric tonnes	5,550	4,650	5,025
Nickel swaps	metric tonnes	12	—	6
Lead swaps	metric tonnes	175	15,100	17,200
Zinc swaps	metric tonnes	275	150	200
Silver swaps	ounces	1,604,444	1,586,395	1,796,109
Crude oil swaps	barrels	153,067	121,000	121,000

Equity derivatives

At June 30, 2017, December 31, 2016, and June 30, 2016, the Company held 37 million, 47 million and 44 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$32 million, \$23 million and \$12 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 June 30, 2017, and December 31, 2016, “Accumulated other comprehensive loss” included net unrealized gains of \$4 million and net unrealized losses of \$1 million, respectively, net of tax, on derivatives designated as cash flow hedges. Of the amount at June 30, 2017, net gains of \$6 million are expected to be reclassified to earnings in the following 12 months. At June 30, 2017, the longest maturity of a derivative classified as a cash flow hedge was 33 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 six and three months ended June 30, 2017 and 2016.

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)		Gains (losses) reclassified from OCI into income (effective portion)	
	2017	2016	2017	2016
Six months ended June 30,				
Type of derivative		Location		
Foreign exchange contracts	10	– Total revenues	(3)	(6)
		Total cost of sales	3	7
Commodity contracts	2	1 Total cost of sales	4	(3)
Cash-settled call options	12	3 SG&A expenses ⁽¹⁾	9	1
Total	24	4	13	(1)

(\$ in millions)	Gains (losses) recognized in OCI on derivatives (effective portion)		Gains (losses) reclassified from OCI into income (effective portion)	
	2017	2016	2017	2016
Three months ended June 30,				
Type of derivative				
Foreign exchange contracts	8	(4)	(1)	(3)
Commodity contracts	—	—	—	3
Cash-settled call options	4	3	2	(1)
Total	12	(1)	4	1

(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 six and three months ended June 30, 2017 and 2016.

Net derivative gains of \$10 million, net of tax, were reclassified from “Accumulated other comprehensive loss” to earnings during the six months ended June 30, 2017. During the six months ended June 30, 2016, the amounts reclassified were not significant. During the three months ended June 30, 2017 and 2016, net derivative gains of \$3 million and \$1 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 six and three months ended June 30, 2017 and 2016, 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)	Six months ended June 30,		Three months ended June 30,	
	2017	2016	2017	2016
Gains (losses) recognized in Interest and other finance expense:				

- on derivatives designated as fair value hedges	—	48	(1)	11
- on hedged item	3	(47)	3	(10)

Derivatives not designated in hedge relationships

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

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

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

Type of derivative not designated as a hedge (\$ in millions)		Gains (losses) recognized in income			
		Six months ended June		Three months ended	
		30, 2017	2016	June 30, 2017	2016
Foreign exchange contracts	Location				
	Total revenues	167	23	60	(110)
	Total cost of sales	(26)	(59)	34	2
	SG&A expenses ⁽¹⁾	(10)	(5)	(7)	7
	Non-order related research and development	—	(1)	2	(1)
	Other income (expense), net	(1)	—	—	—
Embedded foreign exchange contracts	Interest and other finance expense	13	(48)	19	(1)
	Total revenues	(23)	(49)	(2)	3
	Total cost of sales	—	6	(1)	—
Commodity contracts	SG&A expenses ⁽¹⁾	5	1	3	(2)
	Total cost of sales	18	10	(8)	8
Other	Interest and other finance expense	(3)	(1)	2	(1)
Total		140	(123)	102	(95)

(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)	June 30, 2017			
	Derivative assets		Derivative liabilities	
	Current in “Other current assets”	Non-current in “Other non-current assets”	Current in “Other current liabilities”	Non-current “Other non-curr liabiliti
Derivatives designated as hedging instruments:				
Foreign exchange contracts	6	1	3	
Commodity contracts	2	—	—	
Interest rate contracts	2	65	—	
Cash-settled call options	15	16	—	
Total	25	82	3	
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	172	23	140	
Commodity contracts	23	1	5	
Cross-currency interest rate swaps	—	—	—	
Cash-settled call options	—	1	—	
Embedded foreign exchange derivatives	38	16	35	
Total	233	41	180	
Total fair value	258	123	183	

(\$ in millions)	December 31, 2016			
	Derivative assets		Derivative liabilities	
	Current in “Other current assets”	Non-current in “Other non-current assets”	Current in “Other current liabilities”	Non-current “Other non-curr liabiliti
Derivatives designated as hedging instruments:				
Foreign exchange contracts	5	—	6	
Commodity contracts	2	—	—	
Interest rate contracts	2	62	—	
Cash-settled call options	13	9	—	
Total	22	71	6	
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	169	29	257	
Commodity contracts	29	2	6	
Cross-currency interest rate swaps	—	2	—	
Cash-settled call options	—	1	—	
Embedded foreign exchange derivatives	58	21	35	
Total	256	55	298	
Total fair value	278	126	304	

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 June 30, 2017, and December 31, 2016, have been presented on a gross basis.

The Company's netting agreements and other similar arrangements allow net settlements under certain conditions. At June 30, 2017, and December 31, 2016, information related to these offsetting arrangements was as follows:

(\$ in millions)		June 30, 2017			
Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	327	(159)	—	—	168
Reverse repurchase agreements	291	—	—	(291)	—
Total	618	(159)	—	(291)	168

(\$ in millions)

June 30, 2017

Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	197	(159)	—	—	38
Total	197	(159)	—	—	38

(\$ in millions)

December 31, 2016

Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	325	(190)	—	—	135
Reverse repurchase agreements	268	—	—	(268)	—
Total	593	(190)	—	(268)	135

(\$ in millions)

December 31, 2016

Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	352	(190)	—	—	162
Total	352	(190)	—	—	162

Note 6**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 reliability 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:

	June 30, 2017			
(\$ in millions)	Level 1	Level 2	Level 3	Total fair value
Assets				
Available-for-sale securities in “Marketable securities and short-term investments”:				
Equity securities	—	137	—	137
Debt securities—U.S. government obligations	205	—	—	205
Debt securities—European government obligations	20	—	—	20
Debt securities—Other government obligations	—	2	—	2
Debt securities—Corporate	—	209	—	209
Derivative assets—current in “Other current assets”	—	258	—	258
Derivative assets—non-current in “Other non-current assets”	—	123	—	123
Total	225	729	—	954
Liabilities				
Derivative liabilities—current in “Other current liabilities”	—	183	—	183
Derivative liabilities—non-current in “Other non-current liabilities”	—	59	—	59
Total	—	242	—	242

	December 31, 2016			
(\$ in millions)	Level 1	Level 2	Level 3	Total fair value
Assets				
Available-for-sale securities in “Marketable securities and short-term investments”:				
Equity securities	—	541	—	541
Debt securities—U.S. government obligations	220	—	—	220
Debt securities—Other government obligations	—	2	—	2
Debt securities—Corporate	—	95	—	95
Derivative assets—current in “Other current assets”	—	278	—	278
Derivative assets—non-current in “Other non-current assets”	—	126	—	126
Total	220	1,042	—	1,262
Liabilities				
Derivative liabilities—current in “Other current liabilities”	—	304	—	304
Derivative liabilities—non-current in “Other non-current liabilities”	—	101	—	101
Total	—	405	—	405

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”: If quoted market prices in active markets for identical assets are available, these are considered Level 1 inputs; however, when markets are not active, these inputs are considered Level 2. If such quoted market prices are not available, fair value is determined using market prices for similar assets or present value techniques, applying an appropriate risk-free interest rate adjusted for nonperformance risk. The inputs used in present value techniques are observable and fall into the Level 2 category.

- Derivatives: The fair values of derivative instruments are determined using quoted prices of identical instruments from an active market, if available (Level 1). 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 six and three months ended June 30, 2017 and 2016.

Disclosure about financial instruments carried on a cost basis

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

	June 30, 2017				
(\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding available-for-sale securities with original maturities up to 3 months):					
Cash	1,597	1,597	—	—	1,597
Time deposits	3,421	—	3,421	—	3,421
Marketable securities and short-term investments (excluding available-for-sale securities):					
Time deposits	42	—	42	—	42
Receivables under reverse repurchase agreements	291	—	291	—	291
Other short-term investments	3	3	—	—	3
Other non-current assets:					
Loans granted	31	—	33	—	33
Restricted cash deposits	43	43	—	—	43
Liabilities					
Short-term debt and current maturities of long-term debt (excluding capital lease obligations)	891	387	504	—	891
Long-term debt (excluding capital lease obligations)	6,784	6,300	753	—	7,053

	December 31, 2016				
(\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding available-for-sale securities with original maturities up to 3 months):					
Cash	1,704	1,704	—	—	1,704
Time deposits	1,940	—	1,940	—	1,940
Marketable securities and short-term investments (excluding available-for-sale securities):					
Time deposits	824	—	824	—	824
Receivables under reverse repurchase agreements	268	—	268	—	268
Other short-term investments	3	3	—	—	3
Other non-current assets:					
Loans granted	30	—	31	—	31
Restricted cash deposits	59	59	—	—	59
Liabilities					
Short-term debt and current maturities of long-term debt (excluding capital lease obligations)	980	856	124	—	980

Long-term debt (excluding capital lease obligations)	5,709	5,208	784	—	5,992
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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 cash 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).

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 the European Commission's leniency program. In December 2013, the Company agreed with the Brazilian Antitrust Authority (CADE) to settle its ongoing investigation into the Company's involvement in anticompetitive practices in the cables industry and the Company agreed to pay a fine of approximately 1.5 million Brazilian reais (equivalent to approximately \$1 million on date of payment).

In Brazil, the Company's Gas Insulated Switchgear business is under investigation by the CADE for alleged anticompetitive practices. In addition, the CADE has opened an investigation into certain other power businesses of the Company, including flexible alternating current transmission systems (FACTS) and power transformers. With respect to these matters, management is cooperating fully with the authorities. An informed judgment about the outcome of these investigations or the amount of potential loss or range of loss for the Company, if any, relating to these investigations cannot be made at this stage.

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 various legal proceedings, investigations, and claims that have not yet been resolved. With respect to the above mentioned regulatory matters and commercial litigation contingencies, the Company will bear the costs of the continuing investigations and any related legal proceedings.

Liabilities recognized

At June 30, 2017, and December 31, 2016, the Company had aggregate liabilities of \$208 million and \$150 million, 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 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)	June 30, 2017	December 31, 2016
Performance guarantees	1,878	193
Financial guarantees	58	69
Indemnification guarantees	71	71
Total	2,007	333

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 June 30, 2017, and December 31, 2016, 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 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 system business, the Company has entered into various performance guarantees with other parties with respect to certain liabilities of the divested business. The maximum potential payable under these guarantees amounts to \$1,328 million 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 June 30, 2017, and December 31, 2016, the total outstanding performance bonds aggregated to \$8.0 billion and \$7.9 billion, respectively. There have been no significant amounts reimbursed to financial institutions under these types of arrangements in the six and three months ended June 30, 2017 and 2016.

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)	2017	2016
Balance at January 1,	1,142	1,089
Claims paid in cash or in kind	(165)	(155)
Net increase in provision for changes in estimates, warranties issued and warranties expired	148	171
Exchange rate differences	68	14
Balance at June 30,	1,193	1,119

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 previously estimated product warranty provision was increased during the six and three months ended June 30, 2016 by \$23 million and \$15 million, respectively. As \$22 million and \$14 million of these warranty costs for the six and three months ended June 30, 2016, respectively, relate to products which were sold prior to the acquisition date, these costs have been excluded from the Company's primary measure of segment performance, Operational EBITA (See Note 14).

The information for 2016 contained in the table above has been adjusted to correct a classification difference between Claims paid in cash and kind and Net effect of changes in estimates, warranties issued and warranties expired.

Note 8

Debt

The Company's total debt at June 30, 2017, and December 31, 2016, amounted to \$7,823 million and \$6,803 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)	June 30, 2017	December 31, 2016
Short-term debt	538	135
Current maturities of long-term debt	376	868
Total	914	1,003

Short-term debt primarily represented issued commercial paper and short-term loans from various banks. At June 30, 2017, and December 31, 2016, \$452 million and \$57 million, respectively, was outstanding under the \$2 billion commercial paper program in the United States.

In May 2017, the Company repaid at maturity the USD 500 million 1.625% Notes.

Long-term debt

The Company's long-term debt at June 30, 2017, and December 31, 2016, amounted to \$6,909 million and \$5,800 million, respectively.

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

(in millions)	June 30, 2017			December 31, 2016		
	Nominal outstanding		Carrying value ⁽¹⁾	Nominal outstanding		Carrying value ⁽¹⁾
Bonds:						
1.625% USD Notes, due 2017				– USD	500	\$ 500
4.25% AUD Notes, due 2017	AUD	400	\$ 309	AUD	400	\$ 291
1.50% CHF Bonds, due 2018	CHF	350	\$ 364	CHF	350	\$ 342
2.625% EUR Instruments, due 2019	EUR	1,250	\$ 1,424	EUR	1,250	\$ 1,311
4.0% USD Notes, due 2021	USD	650	\$ 644	USD	650	\$ 643
2.25% CHF Bonds, due 2021	CHF	350	\$ 389	CHF	350	\$ 368
5.625% USD Notes, due 2021	USD	250	\$ 272	USD	250	\$ 274
2.875% USD Notes, due 2022	USD	1,250	\$ 1,264	USD	1,250	\$ 1,261
0.625% EUR Notes, due 2023	EUR	700	\$ 796	EUR	700	\$ 732
0.75% EUR Notes, due 2024	EUR	750	\$ 848			–
4.375% USD Notes, due 2042	USD	750	\$ 723	USD	750	\$ 722
Total			\$ 7,033			\$ 6,444

(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 May 2017, the Company issued notes with an aggregate principal of EUR 750 million, due 2024. The notes pay interest annually in arrears at a fixed rate of 0.75 percent per annum. The Company recorded net proceeds (after underwriting fees) of EUR 745 million (equivalent to approximately \$824 million on date of issuance).

Note 9**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.

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	
Six months ended June 30,	2017	2016	2017	2016
Service cost	122	126	—	—
Interest cost	125	142	2	3
Expected return on plan assets	(202)	(204)	—	—
Amortization of prior service cost (credit)	18	21	(2)	(6)
Amortization of net actuarial loss	44	43	—	—
Curtailments, settlements and special termination benefits	1	1	—	—
Net periodic benefit cost	108	129	—	(3)

(\$ in millions)	Defined pension benefits		Other postretirement benefits	
Three months ended June 30,	2017	2016	2017	2016
Service cost	63	63	—	—
Interest cost	64	71	1	1
Expected return on plan assets	(103)	(102)	—	—
Amortization of prior service cost (credit)	9	11	(1)	(3)
Amortization of net actuarial loss	22	21	—	—
Curtailments, settlements and special termination benefits	1	1	—	—
Net periodic benefit cost	56	65	—	(2)

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits		Other postretirement benefits	
	2017	2016	2017	2016
Six months ended June 30,				
Total contributions to defined benefit pension and other postretirement benefit plans	95	140	4	6

(\$ in millions)	Defined pension benefits		Other postretirement benefits	
	2017	2016	2017	2016
Three months ended June 30,				
Total contributions to defined benefit pension and other postretirement benefit plans	48	88	2	3

During the six and three months ended June 30, 2016, total contributions included available-for-sale debt securities, having a fair value at the contribution date of \$40 million, contributed to certain of the Company's pension plans in Germany.

The Company expects to make contributions totaling approximately \$220 million and \$13 million to its defined benefit pension plans and other postretirement benefit plans, respectively, for the full year 2017.

Note 10

Stockholders' equity

Between September 2014 and September 2016, the Company executed a share buyback program for the purchase of up to \$4 billion of its own shares and on September 30, 2016, announced that it had completed this program. Over the period of the share buyback, the Company purchased a total of 146.595 million shares (for approximately \$3 billion) for cancellation and 24.740 million shares (for approximately \$0.5 billion) to support its employee share programs.

In October 2016, the Company announced it planned a new share buyback program for the purchase of up to \$3 billion of its own shares from 2017 to 2019. As of June 30, 2017, no shares had been bought under this new program.

In the second quarter of 2017, the Company purchased on the open market an aggregate of 10 million of its own shares. These shares were purchased outside of any share buyback program and are for use in connection with employee share programs. These transactions resulted in an increase in Treasury stock of \$251 million.

In the six months ended June 30, 2017, the Company delivered, out of treasury stock, 5.1 million shares for options exercised in connection with its Management Incentive Plan.

At the Annual General Meeting of Shareholders on April 13, 2017, shareholders approved the proposal of the Board of Directors to distribute 0.76 Swiss francs per share to shareholders. The declared dividend amounted to \$1,622 million and was paid in the second quarter of 2017. At the meeting, the shareholders also approved the proposal of the Board of Directors to reduce the share capital of the Company by cancelling 46,595,000 shares which were bought back under the share buyback program announced in September 2014. The cancellation was completed in July 2017.

Note 11

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

	Six months ended		Three months ended	
	June 30,		June 30,	
	2017	2016	2017	2016
(\$ in millions, except per share data in \$)				
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,250	908	524	407
Income (loss) from discontinued operations, net of tax	(1)	(2)	1	(1)
Net income	1,249	906	525	406
Weighted-average number of shares outstanding (in millions)	2,140	2,165	2,140	2,149
Basic earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.58	0.42	0.24	0.19
Income (loss) from discontinued operations, net of tax	—	—	0.01	—
Net income	0.58	0.42	0.25	0.19

Diluted earnings per share

	Six months ended		Three months ended	
	June 30,		June 30,	
	2017	2016	2017	2016
(\$ in millions, except per share data in \$)				
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,250	908	524	407
Income (loss) from discontinued operations, net of tax	(1)	(2)	1	(1)
Net income	1,249	906	525	406
Weighted-average number of shares outstanding (in millions)	2,140	2,165	2,140	2,149
Effect of dilutive securities:				
Call options and shares	9	4	11	5
Adjusted weighted-average number of shares outstanding (in millions)	2,149	2,169	2,151	2,154
Diluted earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	0.58	0.42	0.24	0.19
Income (loss) from discontinued operations, net of tax	—	—	—	—
Net income	0.58	0.42	0.24	0.19

Note 12

Reclassifications out of accumulated other comprehensive loss

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

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total
Balance at January 1, 2016	(3,135)	7	(1,719)	(11)	(4,857)
Other comprehensive (loss) income before reclassifications	136	9	18	3	166
Amounts reclassified from OCI	—	—	45	—	45
Changes attributable to divestments	(7)	—	—	—	(7)
Total other comprehensive (loss) income	129	9	63	3	204
Less:					
Amounts attributable to noncontrolling interests	—	—	—	—	—
Balance at June 30, 2016	(3,006)	16	(1,656)	(8)	(4,654)

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Total
Balance at January 1, 2017	(3,592)	7	(1,601)	(1)	(5,187)
Other comprehensive (loss) income before reclassifications	582	2	(103)	18	499
Amounts reclassified from OCI	—	—	46	(10)	36
Changes attributable to divestments ⁽¹⁾	(5)	—	6	(3)	(2)
Total other comprehensive (loss) income	577	2	(51)	5	533
Less:					
Amounts attributable to noncontrolling interests	13	—	—	—	13
Balance at June 30, 2017	(3,028)	9	(1,652)	4	(4,667)

(1) Amounts relate to the divestment of the high-voltage cable system business and are included in the net gain from sale of the business (see Note 3).

The following table reflects amounts reclassified out of OCI in respect of pension and other postretirement plan:

(\$ in millions) Details about OCI components	Location of (gains) losses reclassified from OCI	Six months ended		Three months ended	
		June 30, 2017	2016	June 30, 2017	2016
Pension and other postretirement plan adjustments:					
Amortization of prior service cost	Net periodic benefit cost ⁽¹⁾	16	15	8	8
Amortization of net actuarial loss	Net periodic benefit cost ⁽¹⁾	44	43	22	21
Total before tax		60	58	30	29
Tax	Provision for taxes	(14)	(13)	(7)	(7)
Amounts reclassified from OCI		46	45	23	22

(1) These components are included in the computation of net periodic benefit cost (see Note 9).

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 six and three months ended June 30, 2017 and 2016.

Note 13**Restructuring and related expenses****White Collar Productivity program**

In September 2015, the Company announced a two-year program aimed at making the Company leaner, faster and more customer-focused. Productivity improvements include the rapid expansion and use of regional shared service centers as well as the streamlining of global operations and head office functions, with business units moving closer to their respective key markets. In the course of this program, the Company is implementing and executing various restructuring initiatives across all operating segments and regions.

Total expected program costs were originally estimated to be \$852 million. During 2016 and the six months ended June 30, 2017, the total expected program costs were reduced by \$332 million and \$46 million, respectively, to \$474 million. This was primarily due to the realization of significantly higher than originally expected attrition and internal re-deployment rates. The reductions were made across all operating segments as well as for corporate functions.

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 June 30, 2017, by expense type.

(\$ in millions)	Employee severance costs	Contract settlement, loss order and other costs	Total
Liability at January 1, 2015	—	—	—
Expenses	364	5	369
Cash payments	(34)	(1)	(35)
Liability at December 31, 2015	330	4	334
Expenses	232	3	235
Cash payments	(106)	(3)	(109)
Change in estimates	(102)	(1)	(103)
Exchange rate differences	(23)	—	(23)
Liability at December 31, 2016	331	3	334
Expenses	14	1	15
Cash payments	(56)	(2)	(58)
Change in estimates	(60)	—	(60)
Exchange rate differences	18	—	18
Liability at June 30, 2017	247	2	249

The change in estimates during 2016 of \$103 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. During the six months ended June 30, 2016, the change in estimate related to restructurings initiated in 2015 of \$28 million was recorded in income from operations, primarily as reductions in Cost of sales of \$13 million and in Selling, general and administrative expenses of \$12 million. During the three months ended June 30, 2016, the change in estimate of \$23 million, related to restructurings initiated in 2015, was recorded primarily as reductions in Cost of sales of \$12 million and in Selling, general and administrative expenses of \$9 million.

The change in estimates for both the six months and three months ended June 30, 2016, of \$28 million and \$23 million, respectively, resulted in an increase in earnings per share (basic and diluted) of \$0.01 in the respective periods.

The change in estimate during the six months ended June 30, 2017, is due to higher than expected rates of attrition and internal re-deployment and a lower than expected severance cost per employee. The decrease in the liability was recorded in income from operations, primarily as reductions in Cost of sales of \$29 million and in Selling, general and administrative expenses of \$24 million for the six months ended June 30, 2017. During the three months ended June 30, 2017, the change in estimate of \$29 million, related to restructurings initiated in both 2015 and 2016, was recorded primarily as reductions in Cost of sales of \$13 million and in Selling, general and administrative expenses of \$14 million.

The change in estimates for the six months and three months ended June 30, 2017, of \$60 million and \$29 million, respectively, resulted in an increase in earnings per share (basic and diluted) of \$0.02 and \$0.01, in the respective periods.

The following table outlines the net costs incurred in the six and three months ended June 30, 2017 and 2016, the cumulative net costs incurred to date and the total amount of costs expected to be incurred under the program per operating segment:

	Net costs incurred ⁽¹⁾				Cumulative net cost incurred up to June 30, 2017 ⁽¹⁾	Total expected costs ⁽¹⁾
	Six months ended June 30, 2017	2016	Three months ended June 30, 2017	2016		
(\$ in millions)						
Electrification Products	(6)	33	(2)	32	83	85
Robotics and Motion	(3)	42	(3)	42	67	68
Industrial Automation	(8)	82	(4)	82	124	126
Power Grids	(11)	60	(4)	61	92	94
Corporate and Other	(17)	52	(10)	53	99	101
Total	(45)	269	(23)	270	465	474

(1) Net costs incurred in 2016, Cumulative net costs incurred up to June 30, 2017 and Total expected costs have been recast to reflect the reorganization of the Company's operating segments as outlined in Note 14.

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

	Six months ended		Three months ended		Cumulative costs
(\$ in millions)	June 30, 2017	2016	June 30, 2017	2016	incurred up to June 30, 2017
Employee severance costs	(46)	268	(24)	270	448
Estimated contract settlement, loss order and other costs	1	1	1	—	8
Inventory and long-lived asset impairments	—	—	—	—	9
Total	(45)	269	(23)	270	465

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

	Six months ended June 30,		Three months ended June 30,	
(\$ in millions)	2017	2016	2017	2016
Total cost of sales	(23)	159	(9)	160
Selling, general and administrative expenses	(17)	90	(13)	90
Non-order related research and development expenses	(4)	10	(2)	10
Other income (expense), net	(1)	10	1	10
Total	(45)	269	(23)	270

Other restructuring-related activities

In the six months ended June 30, 2017 and 2016, the Company executed various other restructuring related activities and incurred expenses of \$58 million and \$67 million, respectively. In the three months ended June 30, 2017 and 2016, these expenses amounted to \$45 million and \$40 million, respectively. These expenses mainly relate to employee severance costs, primarily recorded in “Total cost of sales”, and long-lived asset impairments, recorded in “Other income (expense), net”.

Note 14

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's operating segments consist of Electrification Products, Robotics and Motion, Industrial Automation and Power Grids. The remaining operations of the Company are included in Corporate and Other.

Effective January 1, 2017, the Company re-allocated the management responsibilities for certain businesses among the four reported operating segments. The primary change was the transfer to the Electrification Products segment of the electric vehicle charging, solar, and power quality businesses from the Discrete Automation and Motion segment. In addition, the Discrete Automation and Motion segment was renamed the Robotics and Motion segment while the Process Automation segment was renamed the Industrial Automation segment.

The segment information for the six and three months ended June 30, 2016 and at December 31, 2016, has been recast to reflect these organizational changes. In addition, total assets at December 31, 2016, has been adjusted to reflect the additional netting of deferred tax assets and liabilities which resulted from the adoption of an accounting standard update on the classification of deferred taxes.

Furthermore, the results for the Company's high-voltage cable system business which, prior to its divestment in March, were included with the Power Grids operating segment, have been reclassified within Corporate and Other for all periods presented.

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

- **Electrification Products:** manufactures and sells products and services including electric vehicle charging, solar inverters, modular substation packages, switchgear, UPS solutions, circuit breakers, control products, wiring accessories, enclosures and cabling systems, and intelligent home and building solutions designed to integrate and automate the lighting, heating and ventilation, and security and data communication networks.
- **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.
- **Industrial Automation:** develops and sells integrated automation and electrification systems and solutions, a comprehensive range of services ranging from repair to advanced services such as remote monitoring and preventive maintenance and cybersecurity services, process and discrete control solutions, advanced process control software and manufacturing execution systems, sensing, measurement and analytics, electric ship propulsion systems and large turbochargers.

- **Power Grids:** offers a range of products, systems, service and software solutions across the power value chain of generation, transmission and distribution, to utility, industry, transportation and infrastructure customers. These offerings address existing and evolving grid needs such as the integration of renewables, network control, digital substations, microgrids and asset management. The division portfolio includes turnkey grid integration, transmission systems and substation solutions as well as a wide range of power, distribution and traction transformers, and an array of high-voltage products, such as circuit breakers, switchgear, capacitors.
- **Corporate and Other:** includes headquarters, central research and development, the Company's real estate activities, Group Treasury Operations, 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,
- non-operational pension cost comprising: (a) interest cost, (b) expected return on plan assets, (c) amortization of prior service cost (credit), (d) amortization of net actuarial loss, and (e) curtailments, settlements and special termination benefits,
- changes in the amount recorded for retained obligations of divested businesses occurring after the divestment date (changes in retained obligations of 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-related expenses and certain 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).

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 segment revenues, Operational EBITA, and the reconciliations of consolidated Operational EBITA to Income from continuing operations before taxes for the six and three months ended June 30, 2017 and 2016, as well as total assets at June 30, 2017, and December 31, 2016.

(\$ in millions)	Six months ended June 30, 2017			Six months ended June 30, 2016		
	Third-party revenues	Intersegment revenues	Total revenues	Third-party revenues	Intersegment revenues	Total revenues
Electrification Products	4,567	235	4,802	4,539	286	4,825
Robotics and Motion	3,769	244	4,013	3,639	267	3,906
Industrial Automation	3,084	73	3,157	3,344	90	3,434
Power Grids	4,807	245	5,052	4,906	264	5,170
Corporate and Other	81	713	794	152	904	1,056

Intersegment elimination	–	(1,510)	(1,510)	–	(1,811)	(1,811)
Consolidated	16,308	–	16,308	16,580	–	16,580

	Three months ended June 30, 2017			Three months ended June 30, 2016		
(\$ in millions)	Third-party revenues	Intersegment revenues	Total revenues	Third-party revenues	Intersegment revenues	Total revenues
Electrification Products	2,385	124	2,509	2,395	141	2,536
Robotics and Motion	1,960	127	2,087	1,895	138	2,033
Industrial Automation	1,568	40	1,608	1,726	44	1,770
Power Grids	2,525	122	2,647	2,586	131	2,717
Corporate and Other	16	387	403	75	465	540
Intersegment elimination	–	(800)	(800)	–	(919)	(919)
Consolidated	8,454	–	8,454	8,677	–	8,677

	Six months ended June 30,		Three months ended June 30,	
(\$ in millions)	2017	2016	2017	2016
<i>Operational EBITA:</i>				
Electrification Products	695	707	373	400
Robotics and Motion	586	615	312	329
Industrial Automation	409	422	205	220
Power Grids	502	437	257	254
Corporate and Other and Intersegment elimination	(207)	(110)	(105)	(83)
Consolidated Operational EBITA	1,985	2,071	1,042	1,120
Acquisition-related amortization	(115)	(142)	(56)	(71)
Restructuring and restructuring-related expenses ⁽¹⁾	(132)	(436)	(84)	(367)
Non-operational pension cost	14	—	7	—
Changes in retained obligations of divested businesses	(94)	—	—	—
Changes in pre-acquisition estimates	—	(22)	—	(14)
Gains and losses from sale of businesses	331	—	(7)	—
Acquisition-related expenses and certain non-operational items	(166)	(11)	(58)	(9)
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	169	(35)	93	(62)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	18	14	8	10
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(96)	(8)	(61)	40
Income from operations	1,914	1,431	884	647
Interest and dividend income	35	38	18	20
Interest and other finance expense	(153)	(146)	(74)	(74)
Income from continuing operations before taxes	1,796	1,323	828	593

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

	Total assets ⁽¹⁾	
(\$ in millions)	June 30, 2017	December 31, 2016
Electrification Products	10,175	9,881
Robotics and Motion	8,153	7,943
Industrial Automation	4,465	4,310
Power Grids	8,892	8,728
Corporate and Other	8,793	8,340
Consolidated	40,478	39,202

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

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Supplemental Reconciliations and Definitions

The following reconciliations and definitions include measures which ABB uses to supplement its Interim 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 Interim Consolidated Financial Information (unaudited) prepared in accordance with U.S. GAAP as of and for the six and three months ended June 30, 2017.

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

Q2 2017 compared to Q2 2016

Division	Order growth rate				Revenue growth rate			
	US\$		Foreign		US\$		Foreign	
	(as exchange reported)	impact	Portfolio changes	Comparable	(as exchange reported)	impact	Portfolio changes	Comparable
Electrification Products	-4%	3%	0%	-1%	-1%	3%	0%	2%
Robotics and Motion	12%	2%	0%	14%	3%	2%	0%	5%
Industrial Automation	6%	2%	0%	8%	-9%	2%	0%	-7%
Power Grids	-6%	3%	0%	-3%	-3%	3%	0%	0%
ABB Group	0%	3%	0%	3%	-3%	3%	1%	1%

H1 2017 compared to H1 2016

Division	Order growth rate				Revenue growth rate			
	US\$		Foreign		US\$		Foreign	
	(as exchange reported)	impact	Portfolio changes	Comparable	(as exchange reported)	impact	Portfolio changes	Comparable
Electrification Products	-2%	3%	0%	1%	0%	2%	0%	2%
Robotics and Motion	8%	2%	0%	10%	3%	2%	0%	5%
Industrial Automation	-2%	2%	0%	0%	-8%	2%	0%	-6%
Power Grids	-13%	2%	0%	-11%	-2%	2%	2%	2%
ABB Group	-5%	3%	2%	0%	-2%	3%	1%	2%

Regional comparable growth rate reconciliation**Q2 2017 compared to Q2 2016**

Region	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	1%	4%	1%	6%	-5%	4%	2%	1%
The Americas	2%	0%	0%	2%	-2%	1%	0%	-1%
Asia, Middle East and Africa	-2%	4%	0%	2%	-1%	2%	0%	1%
ABB Group	0%	3%	0%	3%	-3%	3%	1%	1%

H1 2017 compared to H1 2016

Region	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	-6%	4%	6%	4%	-1%	4%	3%	6%
The Americas	3%	0%	0%	3%	0%	0%	0%	0%
Asia, Middle East and Africa	-9%	3%	0%	-6%	-3%	2%	0%	-1%
ABB Group	-5%	3%	2%	0%	-2%	3%	1%	2%

Order backlog growth rate reconciliation**June 30, 2017 compared to June 30, 2016**

Division	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification Products	-7%	2%	0%	-5%
Robotics and Motion	4%	0%	0%	4%
Industrial Automation	-7%	0%	0%	-7%
Power Grids	-3%	0%	1%	-2%
ABB Group	-7%	1%	5%	-1%

Other growth rate reconciliations**Q2 2017 compared to Q2 2016****H1 2017 compared to H1 2016**

	Q2 2017 compared to Q2 2016				H1 2017 compared to H1 2016			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Large orders	1%	4%	0%	5%	-35%	2%	12%	-21%
Base orders	0%	3%	0%	3%	0%	2%	0%	2%

Services and software orders	5%	2%	1%	8%	5%	2%	1%	8%
Services and software revenues	-2%	2%	0%	0%	-2%	2%	0%	0%
34 Q2 2017 Financial Information								

Division realignment

Effective January 1, 2017, we changed the composition of the business portfolio of our four divisions. The scope of the Electrification Products division was expanded to include the electric vehicle charging, solar, and power quality businesses from the Discrete Automation and Motion division. In addition, the Discrete Automation and Motion division was renamed the Robotics and Motion division while the Process Automation division was renamed the Industrial Automation division. Furthermore the operations of certain divested businesses have been excluded from the results of the Power Grids division (but are included in the total ABB Group as part of Corporate and other) for the periods prior to their respective divestment. See Note 14 to the Interim Consolidated Financial Information (unaudited) for further details on the realignment.

The following information presents a reconciliation of growth rates of orders and revenues for 2016 compared with 2015 to reflect these organizational changes:

Divisional comparable growth rate reconciliation

Q2 2016 compared to Q2 2015								
Division	Order growth rate				Revenue growth rate			
	US\$	Foreign			US\$	Foreign		
	(as exchange reported)	Portfolio impact	changes	Comparable	(as exchange reported)	Portfolio impact	changes	Comparable
Electrification Products	-5%	3%	0%	-2%	-5%	2%	0%	-3%
Robotics and Motion	-9%	2%	0%	-7%	-4%	2%	0%	-2%
Industrial Automation	-21%	2%	0%	-19%	-9%	3%	0%	-6%
Power Grids	-3%	3%	1%	1%	-4%	3%	4%	3%
ABB Group	-8%	3%	1%	-4%	-5%	2%	2%	-1%

H1 2016 compared to H1 2015								
Division	Order growth rate				Revenue growth rate			
	US\$	Foreign			US\$	Foreign		
	(as exchange reported)	Portfolio impact	changes	Comparable	(as exchange reported)	Portfolio impact	changes	Comparable
Electrification Products	-7%	4%	0%	-3%	-5%	4%	0%	-1%
Robotics and Motion	-10%	3%	0%	-7%	-6%	3%	0%	-3%
Industrial Automation	-21%	4%	0%	-17%	-8%	3%	0%	-5%
Power Grids	-4%	3%	1%	0%	-7%	4%	4%	1%
ABB Group	-9%	3%	2%	-4%	-6%	3%	1%	-2%

35 Q2 2017 Financial Information

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,
- non-operational pension cost (as defined below),
- changes in the amount recorded for retained obligations of divested businesses occurring after the divestment date (changes in retained obligations of divested businesses),
- changes in pre-acquisition estimates,
- gains and losses from sale of businesses,
- acquisition-related expenses and certain 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).

Amounts relating to changes in retained obligations of divested businesses (as defined above), were previously included within acquisition-related expenses and certain non-operational items. In periods prior to 2017, there were no significant amounts to warrant separate presentation.

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.

Non-operational pension cost

Non-operational pension cost comprises the total net periodic benefit cost of defined pension benefits and other postretirement benefits but excludes the current service cost of both components. A breakdown of the components of non-operational pension cost is provided below.

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)	Six months ended		Three months ended	
	June 30,	June 30,	June 30,	June 30,
	2017	2016	2017	2016
Operational EBITA	1,985	2,071	1,042	1,120
Acquisition-related amortization	(115)	(142)	(56)	(71)
Restructuring and restructuring-related expenses ⁽¹⁾	(132)	(436)	(84)	(367)
Non-operational pension cost	14	—	7	—
Changes in retained obligations of divested businesses	(94)	—	—	—
Changes in pre-acquisition estimates	—	(22)	—	(14)
Gains and losses from sale of businesses	331	—	(7)	—
Acquisition-related expenses and certain non-operational items	(166)	(11)	(58)	(9)
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	169	(35)	93	(62)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	18	14	8	10
Unrealized foreign exchange movements on receivables/payables (and				

related assets/liabilities)	(96)	(8)	(61)	40
Income from operations	1,914	1,431	884	647
Interest and dividend income	35	38	18	20
Interest and other finance expense	(153)	(146)	(74)	(74)
Income from continuing operations before taxes	1,796	1,323	828	593
Provision for taxes	(456)	(350)	(248)	(149)
Income from continuing operations, net of tax	1,340	973	580	444
Income (loss) from discontinued operations, net of tax	(1)	(2)	1	(1)
Net income	1,339	971	581	443

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

Reconciliation of Operational EBITA margin by division

Six months ended June 30, 2017

	Electrification	Robotics	Industrial Power	Corporate and Other and Intersegment	Consolidated	
(\$ in millions, unless otherwise indicated)	Products	Motion	Automation	Grids	elimination	
Total revenues	4,802	4,013	3,157	5,052	(716)	16,308
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(42)	(16)	(24)	(76)	(21)	(179)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	—	1	(2)	(13)	1	(13)
Unrealized foreign exchange movements on receivables (and related assets)	15	8	14	51	(1)	87
Operational revenues	4,775	4,006	3,145	5,014	(737)	16,203
Income (loss) from operations	640	532	409	453	(120)	1,914
Acquisition-related amortization	52	34	4	17	8	115
Restructuring and restructuring-related expenses ⁽¹⁾	13	27	9	21	62	132
Non-operational pension cost	1	(1)	1	(2)	(13)	(14)
Changes in retained obligations of divested businesses	—	—	—	—	94	94
Changes in pre-acquisition estimates	—	—	—	—	—	—
Gains and losses from sale of businesses	—	—	(2)	—	(329)	(331)
Acquisition-related expenses and certain non-operational items	18	—	7	52	89	166
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(39)	(15)	(34)	(88)	7	(169)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	—	—	(2)	(13)	(3)	(18)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	10	9	17	62	(2)	96
Operational EBITA	695	586	409	502	(207)	1,985
Operational EBITA margin (%)	14.6%	14.6%	13.0%	10.0%	n.a.	12.3%

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

Six months ended June 30, 2016

	Electrification	Robotics	Industrial	Power	Corporate and Other and Intersegment elimination	Consolidated
(\$ in millions, unless otherwise indicated)	Products	Motion	Automation	Grids		
Total revenues	4,825	3,906	3,434	5,170	(755)	16,580
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(5)	(2)	3	5	7	8
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(3)	—	8	(11)	1	(5)
Unrealized foreign exchange movements on receivables (and related assets)	1	—	10	3	1	15
Operational revenues	4,818	3,904	3,455	5,167	(746)	16,598
Income (loss) from operations	565	506	300	322	(262)	1,431
Acquisition-related amortization	62	47	6	18	9	142
Restructuring and restructuring-related expenses ⁽¹⁾	57	59	93	94	133	436
Non-operational pension cost	2	—	—	(2)	—	—
Changes in retained obligations of divested businesses	—	—	—	—	—	—
Changes in pre-acquisition estimates	22	—	—	—	—	22
Gains and losses from sale of businesses	—	—	—	—	—	—
Acquisition-related expenses and certain non-operational items	—	—	—	4	7	11
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	6	1	16	9	3	35
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(2)	—	(3)	(10)	1	(14)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(5)	2	10	2	(1)	8
Operational EBITA	707	615	422	437	(110)	2,071
Operational EBITA margin (%)	14.7%	15.8%	12.2%	8.5%	n.a.	12.5%

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

Three months ended June 30, 2017

	Electrification	Robotics	Industrial	Power	Corporate and Other and Intersegment elimination	Consolidated
(\$ in millions, unless otherwise indicated)	Products	and Motion	Automation	Grids		
Total revenues	2,509	2,087	1,608	2,647	(397)	8,454
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(19)	1	(6)	(29)	1	(52)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	—	1	(2)	(8)	(1)	(10)
Unrealized foreign exchange movements on receivables (and related assets)	3	2	9	24	(2)	36
Operational revenues	2,493	2,091	1,609	2,634	(399)	8,428
Income (loss) from operations	333	280	203	231	(163)	884
Acquisition-related amortization	26	16	2	9	3	56
Restructuring and restructuring-related expenses ⁽¹⁾	13	17	5	18	31	84
Non-operational pension cost	1	(1)	—	(1)	(6)	(7)
Changes in retained obligations of divested businesses	—	—	—	—	—	—
Changes in pre-acquisition estimates	—	—	—	—	—	—
Gains and losses from sale of businesses	—	—	(2)	—	9	7
Acquisition-related expenses and certain non-operational items	14	—	5	25	14	58
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(23)	(6)	(18)	(53)	7	(93)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	—	—	(2)	(8)	2	(8)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	9	6	12	36	(2)	61
Operational EBITA	373	312	205	257	(105)	1,042
Operational EBITA margin (%)	15.0%	14.9%	12.7%	9.8%	n.a.	12.4%

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

Three months ended June 30, 2016

	Electrification	Robotics	Industrial	Power	Corporate and Other and Intersegment elimination	Consolidated
(\$ in millions, unless otherwise indicated)	Products	Motion	Automation	Grids		
Total revenues	2,536	2,033	1,770	2,717	(379)	8,677
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	16	9	13	52	9	99
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(3)	(1)	3	(6)	1	(6)
Unrealized foreign exchange movements on receivables (and related assets)	(11)	(7)	(10)	(29)	1	(56)
Operational revenues	2,538	2,034	1,776	2,734	(368)	8,714
Income (loss) from operations	303	250	123	149	(178)	647
Acquisition-related amortization	31	24	3	9	4	71
Restructuring and restructuring-related expenses ⁽¹⁾	52	52	89	76	98	367
Non-operational pension cost	1	—	—	(1)	—	—
Changes in retained obligations of divested businesses	—	—	—	—	—	—
Changes in pre-acquisition estimates	14	—	—	—	—	14
Gains and losses from sale of businesses	—	—	—	—	—	—
Acquisition-related expenses and certain non-operational items	—	—	—	2	7	9
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	7	5	15	50	(15)	62
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(2)	—	(3)	(6)	1	(10)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(6)	(2)	(7)	(25)	—	(40)
Operational EBITA	400	329	220	254	(83)	1,120
Operational EBITA margin (%)	15.8%	16.2%	12.4%	9.3%	n.a.	12.9%

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

Operational and non-operational pension cost

The operational pension cost reflects the ongoing service cost of providing employee benefits to the company's employees.

The non-operational pension cost comprises: (i) interest cost, (ii) expected return on plan assets, (iii) amortization of prior service cost (credit), (iv) amortization of net actuarial loss, and (v) curtailments, settlements and special termination benefits.

The operational and non-operational pension costs together comprise the net periodic benefit cost as disclosed in Note 9 to the Interim Consolidated Financial Information (unaudited).

Reconciliation

Defined pension benefits (\$ in millions, unless otherwise indicated)	Six months ended June 30,		Three months ended June 30,	
	2017	2016	2017	2016
Service cost	122	126	63	63
Operational pension cost	122	126	63	63
Interest cost	125	142	64	71
Expected return on plan assets	(202)	(204)	(103)	(102)
Amortization of prior service cost (credit)	18	21	9	11
Amortization of net actuarial loss	44	43	22	21
Curtailments, settlements and special termination benefits	1	1	1	1
Non-operational pension cost	(14)	3	(7)	2
Net periodic benefit cost	108	129	56	65

Other postretirement benefits (\$ in millions, unless otherwise indicated)	Six months ended June 30,		Three months ended June 30,	
	2017	2016	2017	2016
Interest cost	2	3	1	1
Amortization of prior service cost (credit)	(2)	(6)	(1)	(3)
Non-operational pension cost	–	(3)	–	(2)
Net periodic benefit cost	–	(3)	–	(2)
Total operational pension cost	122	126	63	63
Total non-operational pension cost	(14)	–	(7)	–

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,
- (iv) changes in retained obligations of divested businesses,
- (v) changes in pre-acquisition estimates,
- (vi) gains and losses from sale of businesses,
- (vii) acquisition-related expenses and certain non-operational items,
- (viii) 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
- (ix) 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 (vii) 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

(\$ in millions, except per share data in \$)	Six months ended June 30,		Growth ⁽³⁾
	2017	2016	
Net income (attributable to ABB)	1,249	906	
Operational adjustments:			
Acquisition-related amortization	115	142	
Restructuring and restructuring-related expenses ⁽¹⁾	132	436	
Non-operational pension cost	(14)	—	
Changes in retained obligations of divested businesses	94	—	
Changes in pre-acquisition estimates	—	22	
Gains and losses from sale of businesses	(331)	—	
Acquisition-related expenses and certain non-operational items	166	11	
FX/commodity timing differences in income from operations	(91)	29	
Tax on operational adjustments ⁽²⁾	(76)	(169)	
Operational net income	1,244	1,377	-10%
Weighted-average number of shares outstanding (in millions)	2,140	2,165	
Operational EPS	0.58	0.64	-9%
Constant currency Operational EPS adjustment	0.09	0.07	
Operational EPS (constant currency basis - 2014 exchange rates)	0.67	0.71	-6%

Three months ended June

(\$ in millions, except per share data in \$)	30, 2017	2016	Growth ⁽³⁾
Net income (attributable to ABB)	525	406	
Operational adjustments:			
Acquisition-related amortization	56	71	
Restructuring and restructuring-related expenses ⁽¹⁾	84	367	
Non-operational pension cost	(7)	—	
Changes in pre-acquisition estimates	—	14	
Gains and losses from sale of businesses	7	—	
Acquisition-related expenses and certain non-operational items	58	9	
FX/commodity timing differences in income from operations	(40)	12	
Tax on operational adjustments ⁽²⁾	(46)	(123)	
Operational net income	637	756	-16%
Weighted-average number of shares outstanding (in millions)	2,140	2,149	
Operational EPS	0.30	0.35	-15%
Constant currency Operational EPS adjustment	0.04	0.04	
Operational EPS (constant currency basis - 2014 exchange rates)	0.34	0.39	-11%

(1) Amounts 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)	June 30, 2017	December 31, 2016
Short-term debt and current maturities of long-term debt	914	1,003
Long-term debt	6,909	5,800
Total debt	7,823	6,803
Cash and equivalents	5,018	3,644
Marketable securities and short-term investments	909	1,953
Cash and marketable securities	5,927	5,597
Net debt	1,896	1,206

43 Q2 2017 Financial Information

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) inventories, net, and (iii) prepaid expenses; less (iv) accounts payable, trade, (v) billings in excess of sales, (vi) advances from customers, and (vii) 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)

	June 30, 2017	June 30, 2016
Net working capital:		
Receivables, net	10,305	10,384
Inventories, net	4,953	5,045
Prepaid expenses	268	246
Accounts payable, trade	(4,888)	(4,536)
Billings in excess of sales	(1,200)	(1,377)
Advances from customers	(1,542)	(1,612)
Other current liabilities ⁽¹⁾	(3,197)	(3,002)
Net working capital	4,699	5,148
Total revenues for the three months ended:		
June 30, 2017 / 2016	8,454	8,677
March 31, 2017 / 2016	7,854	7,903
December 31, 2016 / 2015	8,993	9,242
September 30, 2016 / 2015	8,255	8,519

Adjustment to annualize/eliminate revenues of certain acquisitions/divestments	(228)	
Adjusted revenues for the trailing twelve months	33,328	34,341
Net working capital as a percentage of revenues (%)	14.1%	15.0%

(1) Amounts exclude \$514 million and \$2,505 million at June 30, 2017 and 2016, respectively, related primarily to (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits, and (d) payables under the share buyback program.

Free cash flow conversion to net income**Definition****Free cash flow conversion to net income**

Free cash flow conversion to net income is calculated as Free cash flow divided by Net income attributable to ABB.

Free cash flow (FCF)

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

Free cash flow for the trailing twelve months

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

Net income for the trailing twelve months

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

Free cash flow conversion to net income

(\$ in millions, unless otherwise indicated)

	Twelve months to	
	June 30, 2017	December 31, 2016
Net cash provided by operating activities	3,485	3,843
Adjusted for the effects of:		
Purchases of property, plant and equipment and intangible assets	(900)	(831)
Proceeds from sale of property, plant and equipment	63	61
Changes in financing receivables and other non-current receivables	—	(8)
Free cash flow	2,648	3,065
Net income attributable to ABB	2,242	1,899
Free cash flow conversion to net income	118%	161%

Reconciliation of the trailing twelve months to June 30, 2017

	Net cash	Purchases of property, plant and equipment	Proceeds from sale of property, plant and equipment	Changes in financing receivables and other non-current receivables	Net income attributable to ABB
(\$ in millions)	provided by operating activities	assets			
Q3 2016	1,081	(184)	24	(3)	568
Q4 2016	1,428	(299)	9	(4)	425
Q1 2017	509	(192)	20	8	724
Q2 2017	467	(225)	10	(1)	525
Total for the trailing twelve months					
to June 30, 2017	3,485	(900)	63	–	2,242
45 Q2 2017 Financial Information					

Finance net**Definition**

Finance net is calculated as Interest and dividend income less Interest and other finance expense.

Reconciliation

	Six months ended June 30,		Three months ended June 30,	
(\$ in millions)	2017	2016	2017	2016
Interest and dividend income	35	38	18	20
Interest and other finance expense	(153)	(146)	(74)	(74)
Finance net	(118)	(108)	(56)	(54)

Book-to-bill ratio**Definition**

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

Reconciliation

	Six months ended June 30,		Three months ended June 30,	
(\$ in millions, unless otherwise indicated)	2017	2016	2017	2016
Orders received	16,752	17,569	8,349	8,316
Total revenues	16,308	16,580	8,454	8,677
Book-to-bill ratio	1.03	1.06	0.99	0.96

46 Q2 2017 Financial Information

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April — June 2017 — Q2

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:

Name	Date	Description	Received *	Purchased	Sold	Price
Matti Alahuhta	May 11, 2017	Shares	2,637			CHF 23.21
David Constable	May 11, 2017	Shares	2,637			CHF 23.21
Frederico Curado	May 11, 2017	Shares	2,443			CHF 23.21
Louis R. Hughes	May 11, 2017	Shares	3,297			CHF 23.21
David Meline	May 11, 2017	Shares	2,720			CHF 23.21
Satish Pai	May 11, 2017	Shares	2,519			CHF 23.21
Peter Voser	May 11, 2017	Shares	24,602			CHF 23.21
Jacob Wallenberg	May 11, 2017	Shares	3,709			CHF 23.21
Ying Yeh	May 11, 2017	Shares	2,475			CHF 23.21
Louis R. Hughes	June 2, 2017	Shares			6,000	CHF 24.71

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: July 20, 2017.

By: /s/ Alanna Abrahamson - Haka
Name: Alanna Abrahamson - Haka
Title: Group Senior Vice President and
Head of Investor Relations

Date: July 20, 2017.

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