



Q2 2023**First six months
Press Release**

Ad hoc Announcement pursuant to Art. 53 Listing Rules of SIX Swiss Exchange



ZURICH, SWITZERLAND, JULY 20, 2023

Q2 2023 results

Comparable order growth from a high base and record-high Operational EBITA margin¹

- Orders \$8,667 million, -2%; comparable¹ +2%
- Revenues \$8,163 million, +13%; comparable +17%
- Income from operations \$1,298 million; margin 15.9%
- Operational EBITA¹ \$1,425 million; margin¹ 17.5%
- Basic EPS \$0.49; +145%²
- Cash flow from operating activities⁴ \$760 million

KEY FIGURES

(\$ millions, unless otherwise indicated)	CHANGE				CHANGE			
	Q2 2023	Q2 2022	US\$	Comparable ¹	H1 2023	H1 2022	US\$	Comparable ¹
Orders	8,667	8,807	-2%	2%	18,117	18,180	0%	6%
Revenues	8,163	7,251	13%	17%	16,022	14,216	13%	19%
Gross Profit	2,888	2,290	26%		5,604	4,571	23%	
as % of revenues	35.4%	31.6%	+3.8 pts		35.0%	32.2%	+2.8 pts	
Income from operations	1,298	587	121%		2,496	1,444	73%	
Operational EBITA ¹	1,425	1,136	25%	26% ³	2,702	2,133	27%	29% ³
as % of operational revenues ¹	17.5%	15.5%	+2 pts		16.9%	14.9%	+2 pts	
Income from continuing operations, net of tax	932	406	130%		1,997	1,049	90%	
Net income attributable to ABB	906	379	139%		1,942	983	98%	
Basic earnings per share (\$)	0.49	0.20	145% ²		1.04	0.51	104% ²	
Cash flow from operating activities ⁴	760	382	99%		1,042	(191)	n.a.	

¹ For a reconciliation of non-GAAP measures, see "supplemental reconciliations and definitions" in the attached Q2 2023 Financial Information.

² EPS growth rates are computed using unrounded amounts.

³ Constant currency (not adjusted for portfolio changes).

⁴ Amount represents total for both continuing and discontinued operations.

"The positive book-to-bill ratio and new record-high Operational EBITA earnings and margin add to our confidence about ABB's 2023 outcome allowing us to sharpen our margin expectations."

Björn Rosengren, CEO

CEO summary

To summarize the outcome in the second quarter, I would first highlight the 2% comparable order growth which was up from last year's already high level, and the positive book-to-bill. It was good to see that the customer activity remained robust throughout the period. Secondly, the high revenue growth of 13% (17% comparable) supported by backlog execution. Thirdly, the record-high achievements on both absolute Operational EBITA of \$1.4 billion and Operational EBITA margin of 17.5%, up 200 basis points from last year, with all four business areas above 15%. This was supported by a strong price contribution which more than offset labor inflation as well as some limited cost inflation related to commodities, with additional support from operational leverage on increased volumes in production. And lastly, the solid cash flow from operating activities of \$760 million. All the while we executed on portfolio optimization and continued to introduce leading new technology to help our customers become more sustainable and resource efficient. In my view, the quarter is an additional indication that we are establishing ABB's operational performance at a higher level.

Order momentum was strongest in the systems- and project-related businesses, driven predominantly by the medium voltage segment and process-related industries. This offset some softening from last year's high order level in the short-cycle business, mainly evident in the residential construction segment and across the board in discrete manufacturing where customers normalize order patterns in the face of shortening delivery lead times. In total, the book-to-bill ratio was 1.06 driven by three out of four business areas, and we further increased order backlog.

It was good to see our cash flow from operating activities improve by \$378 million from last year and I expect us to improve cash conversion from here onwards. Over the first six months we have generated just over \$1 billion in Cash flow from operating activities, which helps position us well for what I expect to be a good cash delivery this year.

As announced earlier in the quarter, we experienced an IT security incident. I am grateful to our teams for the handling of the challenge and containment of the incident, and as a result we have had no consequential material financial impact in the quarter.

Just after the end of the second quarter, we successfully closed the divestment of the Power Conversion division at around \$500 million. As a result, we expect to record a non-operational book gain estimated at approximately \$50 million in Income from operations in the third quarter of 2023. With this transaction, we have completed all divisional portfolio divestments announced at the end of 2020. That said, we continuously review the product groups within all divisions to optimize the portfolio.

The small acquisition of Eve Systems is another example of our portfolio actions, this time by the Smart Buildings division in business area Electrification. With around 50 employees, Eve generated approximately \$20 million in revenues in 2022. It is a pioneer in the new Matter connectivity standard which enables smart home products to be fully interoperable, irrespective of the manufacturer and user operating system, via Thread wireless technology for consumer-facing products tailored to the retrofit market.

I was pleased to see Process Automation unveil its new revolutionary propulsion concept initially aimed primarily at small- to medium-sized vessels, complementing its current market leading Azipod® offering for larger vessels. This industry-first electric propulsion concept ABB Dynafin™ mimics the movements of a whale tail for ultimate efficiency and emissions avoidance as it is set to reduce propulsion energy consumption by up to 22% compared to conventional shaftlines. The first commercial prototype is expected to be available in 2025.



Björn Rosengren
CEO

Outlook

In the **third quarter of 2023**, we anticipate a low double-digit comparable revenue growth and the Operational EBITA margin to be slightly up from the 16.6% reported in the third quarter last year.

In **full-year 2023**, despite current market uncertainty, we anticipate comparable revenue growth to be at least 10% and we expect Operational EBITA margin to be above 16%.

Orders and revenues

Order intake declined by 2% (up 2% comparable) year-on-year, hampered by changes in exchange rates and in the portfolio, while the comparable orders increased from last year's high base.

The strongest order momentum was recorded in the systems- and project-related business, linked to the medium voltage customer offering. The short-cycle business softened somewhat from last year's high level, impacted by inventory adjustments and normalizing order patterns under the presumption of further shortening delivery lead times. Two out of four business areas recorded single digit order growth, with Process Automation declining due to portfolio changes and Robotics and Discrete Automation down from last year's level which benefited from pre-buys in a period of significant component shortages.

Order intake increased in the Americas by 5% (6% comparable), supported by mid-single digit growth in the United States. Portfolio changes weighed on the year-on-year development in Europe while a low comparable growth was recorded for a total decline of 1% (up 1% comparable) despite declines in key countries like Germany and Italy. Asia, Middle East and Africa declined by 10% (1% comparable) as the positive development in countries like India and Saudi Arabia did not quite offset declines in other countries such as China with a drop of 15% (9% comparable).

Growth

Change year-on-year	Q2 Orders	Q2 Revenues
Comparable	2%	17%
FX	-2%	-1%
Portfolio changes	-2%	-3%
Total	-2%	13%

Orders by region

(\$ in millions, unless otherwise indicated)	Q2 2023	Q2 2022	CHANGE	
			US\$	Comparable
Europe	2,931	2,958	-1%	1%
The Americas	3,209	3,050	5%	6%
Asia, Middle East and Africa	2,527	2,799	-10%	-1%
ABB Group	8,667	8,807	-2%	2%

Revenues by region

(\$ in millions, unless otherwise indicated)	Q2 2023	Q2 2022	CHANGE	
			US\$	Comparable
Europe	2,935	2,508	17%	20%
The Americas	2,815	2,397	17%	19%
Asia, Middle East and Africa	2,413	2,346	3%	13%
ABB Group	8,163	7,251	13%	17%

Automotive remained broadly stable while the general industry and consumer-related robotics segments declined.

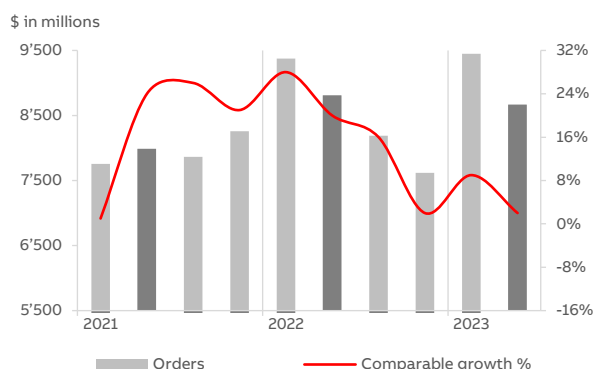
In transport & infrastructure, there were positive developments in marine & ports and renewables.

In buildings there was weakness in all three regions in residential-related demand. In the commercial construction segment weakness was noted in China and Germany, while demand was solid in the US.

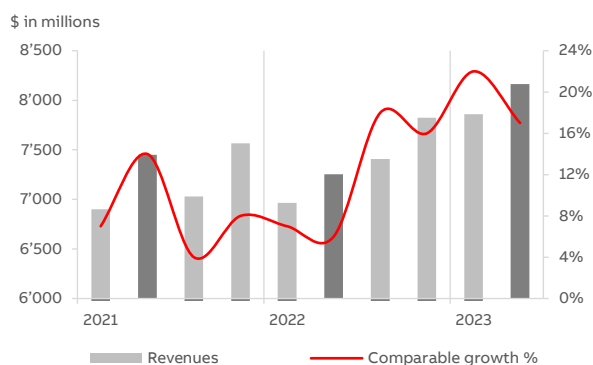
Demand in the process-related business was strong across the board, with particular strength in oil & gas, and it held up well also for ports, refining, petrochemicals and the energy-related low carbon segments.

Revenues increased by 13% (17% comparable) to \$8,163 million and benefitted primarily from increased volumes through execution of the order backlog, combined with a robust price contribution in the mid-single digit range. These benefits more than offset the adverse impacts from changes in exchange rates and portfolio changes. Revenues increased in all business areas, supported by comparable growth in virtually all divisions.

Orders



Revenues



Earnings

Gross profit

Gross profit increased strongly by 26% (28% constant currency) to \$2,888 million, supported by a significant gross margin improvement of 380 basis points to 35.4%. Gross margin improved in all business areas, with three showing significant increases.

Income from operations

Income from operations amounted to \$1,298 million and more than doubled year-on-year, and margin on Income from operations reached 15.9%. Earnings were mainly supported by the improved operational performance as well as by lower adverse impacts from commodity timing differences. Some additional tailwind to the strong year-on-year improvement was due to last year's period being weighed down by non-operational items, including approximately \$250 million triggered by the exits of a legacy project and the Russia business.

Operational EBITA

Operational EBITA increased by 25% (26% constant currency) year-on-year to \$1,425 million and the margin was up by 200 basis points to 17.5%. A key driver for the increased result was the positive price development in all business areas, which

more than offset labor inflation as well as some limited cost inflation related to commodities. Additional support was provided by higher volume output triggered by execution of the order backlog. Selling, general and administrative expenses declined in relation to revenues to 17.0%, from 18.2% last year. Operational EBITA in Corporate and Other amounted to -\$143 million, of which -\$67 million related to the E-mobility business, hampered by some inventory related provisions as well as technology investments triggered by a shift back to a more focused product strategy to secure a continued leading market position.

Net finance expenses

Net finance expense was \$25 million and remained largely stable compared with last year.

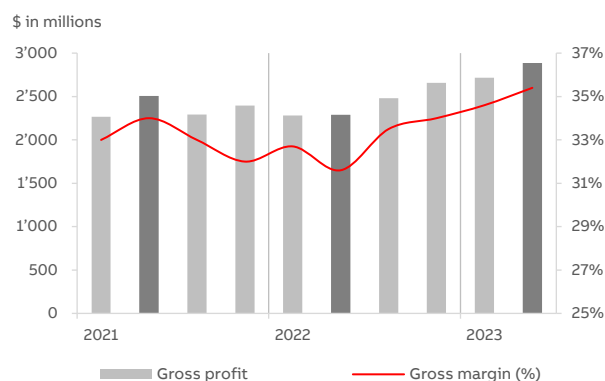
Income tax

Income tax expense was \$349 million with an effective tax rate of 27.2%.

Net income and earnings per share

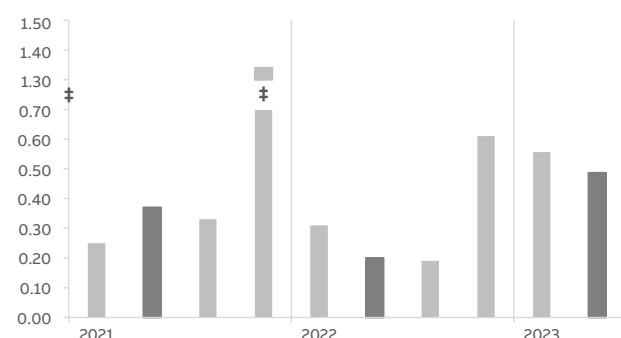
Net income attributable to ABB was \$906 million and more than doubled from last year driven by improved operational performance and lower non-operational items. This resulted in basic earnings per share of \$0.49, up from \$0.20 last year.

Gross profit & Gross margin

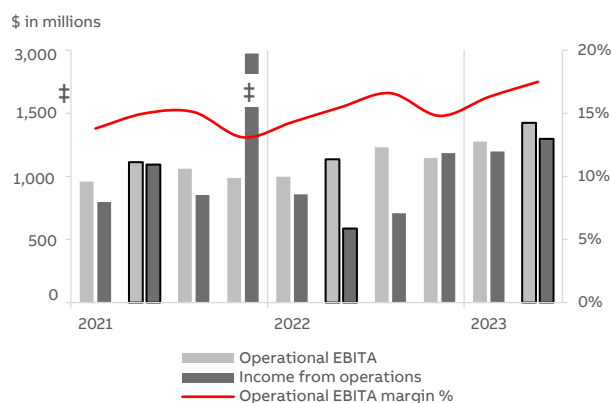


Basic EPS

\$ per share



Income from operations & Operational EBITA



Operational EBITA

(\$ millions)	Q2 2023	Q2 2022
Corporate and Other		
E-mobility	(67)	(6)
Corporate costs, intersegment eliminations and other ¹	(76)	(13)
Total	(143)	(19)

¹ Majority of which relates to underlying corporate

Balance sheet & Cash flow

Net working capital

Net working capital amounted to \$4,585 million, increasing year-on-year from \$3,663 million and sequentially from \$4,164 million. The sequential increase was driven mainly by higher receivables triggered by high revenue growth and higher inventories to support a positive book-to-bill ratio. Net working capital as a percentage of revenues¹ was 14.7%, up sequentially from 13.9%.

Capital expenditures

Purchases of property, plant and equipment and intangible assets amounted to \$180 million.

Net debt

Net debt¹ amounted to \$4,165 million at the end of the quarter and decreased from \$4,235 million year-on-year, and increased from \$3,826 million sequentially. The sequential net increase was mainly driven by cash payments related to the dividend and the ongoing share buyback program.

Cash flows

Cash flow from operating activities was \$760 million and increased year-on-year from \$382 million. This was driven by improvements in the Electrification and Motion business areas on the back of higher earnings and a lower build-up of net working capital, year-on-year, mainly related to inventories.

Share buyback program

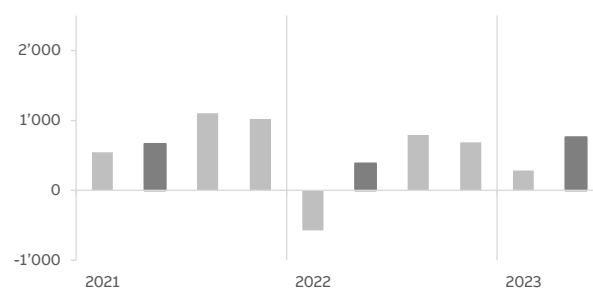
A share buyback program of up to \$1 billion was launched on April 3, 2023. During the second quarter, 5,778,691 shares were repurchased on the second trading line for approximately \$212 million. ABB's total number of issued shares, including shares held in treasury, amounts to 1,882,002,575.

(\$ millions, unless otherwise indicated)	Jun. 30 2023	Jun. 30 2022	Dec. 31 2022
Short term debt and current maturities of long-term debt	3,849	2,830	2,535
Long-term debt	4,451	5,086	5,143
Total debt	8,300	7,916	7,678
Cash & equivalents	2,923	2,412	4,156
Restricted cash - current	19	23	18
Marketable securities and short-term investments	1,193	945	725
Restricted cash - non-current	–	301	–
Cash and marketable securities	4,135	3,681	4,899
Net debt (cash)*	4,165	4,235	2,779
Net debt (cash)* to EBITDA ratio	0.8	0.7	0.7
Net debt (cash)* to Equity ratio	0.31	0.34	0.21

* At Jun. 30, 2023, Jun. 30, 2022 and Dec. 31, 2022, net debt(cash) excludes net pension (assets)/liabilities of \$(328) million \$(71) million and \$(276) million, respectively.

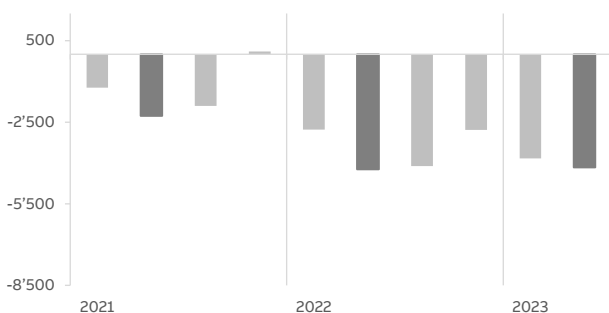
Cash flow from operating activities

\$ in millions

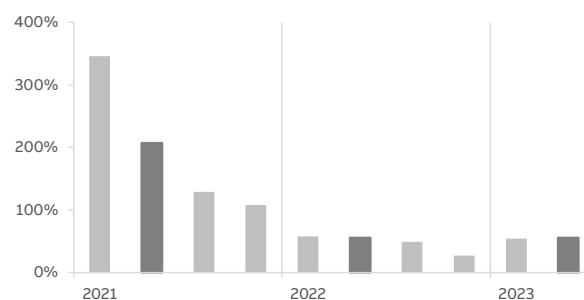


Net Cash (Net Debt) position

\$ in millions



Free cash flow conversion to net income¹, R12M



Electrification



Orders and revenues

Customer activity was yet again at a high level. At \$3,960 million, orders increased by 1% (3% comparable), up from the high base last year.

- Order momentum was strongest in the systems-related offering often linked to the medium voltage segment which supported a strong order growth in the Distribution Solutions division. Overall demand remained firm in most segments and was particularly strong in segments like data centers and oil & gas. Weakness was noted in the buildings segment where residential construction declined in all regions. Some weakness was recorded in commercial construction in China and Germany, while the US remained broadly stable.
- High order activity in the Americas resulted in regional growth of 8% (8% comparable), supported by a strong increase in the United States of 6% (6% comparable), resulting in one of the strongest quarters on record. Orders in Asia, Middle East and Africa declined by 3% (up 5% comparable) with the comparable demand decline in China more than offset by strength in markets such as India. Europe declined by 4% (6% comparable) hampered mainly by a weak residential construction market in Germany.

Growth

Change year-on-year	Q2 Orders	Q2 Revenues
Comparable	3%	11%
FX	-2%	-2%
Portfolio changes	0%	0%
Total	1%	9%

- Revenues improved by 9% (11% comparable) to \$3,735 million with double-digit growth in all divisions except Smart Buildings and Installation Products due mainly to the adverse impact of residential construction. Increased volumes combined with strong price development, contributed more or less equally to comparable growth.

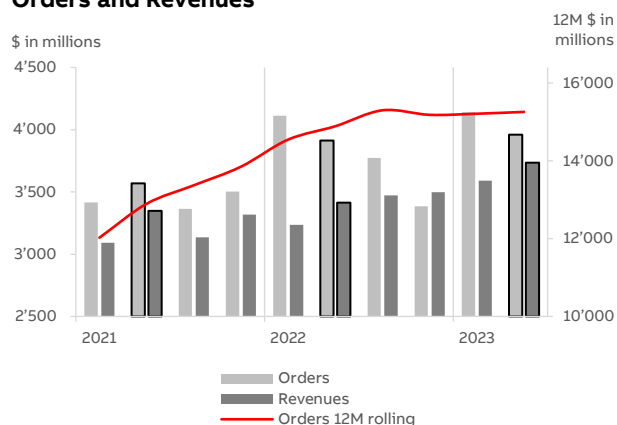
Profit

The second quarter was an all-time-high period for both absolute Operational EBITA of \$787 million and the Operational EBITA margin of 21.1%, supported by a significant gross margin improvement. Profitability improved in all but one division, with the strongest improvement recorded in Distribution Solutions which is reaping the rewards of order backlog execution and structural profitability efforts.

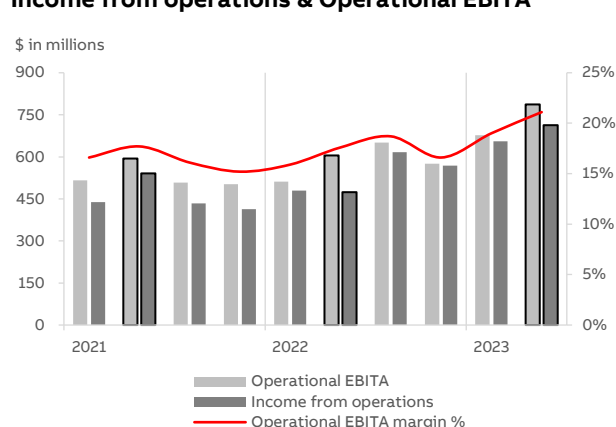
- Positive price impact more than offset labor inflation, and the margin was additionally supported by a reduction in raw materials and freight costs, year-on-year.
- Higher volume output in production supported operational leverage for an improved Operational EBITA margin.

(\$ millions, unless otherwise indicated)	CHANGE				CHANGE			
	Q2 2023	Q2 2022	US\$	Comparable	H1 2023	H1 2022	US\$	Comparable
Orders	3,960	3,913	1%	3%	8,101	8,025	1%	4%
Order backlog	7,298	6,194	18%	19%	7,298	6,194	18%	19%
Revenues	3,735	3,414	9%	11%	7,325	6,650	10%	14%
Operational EBITA	787	605	30%		1,464	1,117	31%	
as % of operational revenues	21.1%	17.6%	+3.5 pts		20.0%	16.8%	+3.2 pts	
Cash flow from operating activities	697	456	53%		1,092	543	101%	
No. of employees (FTE equiv.)	51,800	50,200	3%					

Orders and Revenues



Income from operations & Operational EBITA



Motion



Orders and revenues

Strong momentum in the systems-related operations supported the business area order increase of 3% (3% comparable) to \$2,137 million, up from the high comparable level last year.

- High customer activity in the medium voltage operations triggered a strong order growth in the System Drives and Large Motors and Generators divisions as well as in the tightly linked Service business. This successfully offset softness in the more short-cycle divisions.
- Europe was up by 8% (4% comparable) and the Americas was up by 4% (1% comparable) despite a decline in the United States. Asia, Middle East and Africa decreased by 3% (up 3% comparable) as the slight comparable decline in China was more than offset by strength in markets such as India.
- Execution of the order backlog led to very strong revenue growth of 22% (22% comparable) to \$1,981 million. Higher volumes were the main driver, along with the robust price impact triggered by activities implemented

Growth

Change year-on-year	Q2 Orders	Q2 Revenues
Comparable	3%	22%
FX	-1%	-1%
Portfolio changes	1%	1%
Total	3%	22%

last year. High double-digit comparable revenue growth was recorded in most divisions.

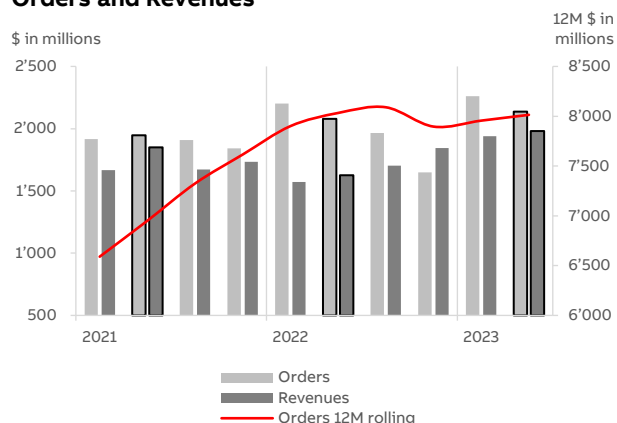
Profit

The 51% year-on-year increase in Operational EBITA to \$401 million, resulted in the first ever quarter with margin surpassing 20% at 20.4%.

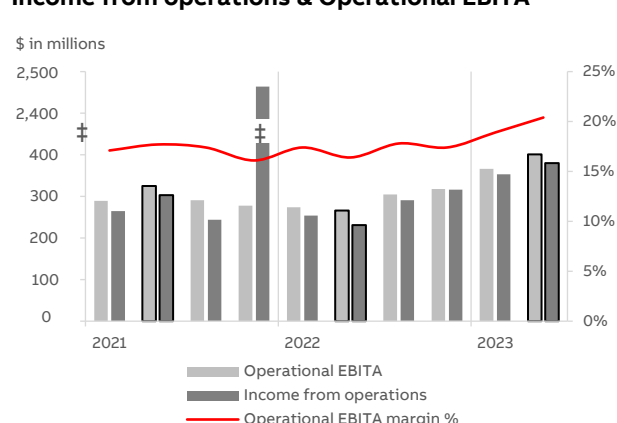
- Earnings and margins improved from last year in most divisions, including Large Motors and Generators that benefitted from ongoing focused self-help measures. As a result, all divisions but one recorded double-digit margins in the quarter.
- Strong price contribution more than offset cost inflation related to labor, commodities and freight and was the main driver of the profitability increase from last year.
- The backlog execution increased volume output in production which improved the fixed cost coverage.
- A positive divisional mix contributed to the margin improvement, supported by a higher share of revenues generated in the drives-related operations.

(\$ millions, unless otherwise indicated)	CHANGE				CHANGE			
	Q2 2023	Q2 2022	US\$	Comparable	H1 2023	H1 2022	US\$	Comparable
Orders	2,137	2,079	3%	3%	4,399	4,281	3%	5%
Order backlog	5,322	4,568	17%	14%	5,322	4,568	17%	14%
Revenues	1,981	1,626	22%	22%	3,921	3,198	23%	25%
Operational EBITA	401	266	51%		767	540	42%	
as % of operational revenues	20.4%	16.4%	+4 pts		19.6%	16.9%	+2.7 pts	
Cash flow from operating activities	320	241	33%		469	239	96%	
No. of employees (FTE equiv.)	22,200	20,800	7%					

Orders and Revenues



Income from operations & Operational EBITA



Process Automation



Orders and revenues

Customer activity remained at a high level across the segments, although some hampering timing-related effects were noted. The project pipeline in the market remained robust. Primarily the spin-off of Accelleron weighed on total growth year-on-year, which declined by 8% (up 6% comparable) to \$1,669 million.

- Market momentum was positive across customer segments and especially strong in the oil & gas segment where the United States stood out on the positive side. Good developments were also noted in the ports, refining, petrochemicals and the energy-related low carbon segments.
- Both Europe and Asia, Middle East and Africa recorded a positive comparable order growth which more than offset a small decline in the Americas, while total growth was weighed down primarily by the portfolio change of Accelleron.
- All divisions contributed strongly to the revenue growth of 2% (19% comparable) to \$1,553 million, with increased

Growth

Change year-on-year	Q2 Orders	Q2 Revenues
Comparable	6%	19%
FX	-2%	-2%
Portfolio changes	-12%	-15%
Total	-8%	2%

volumes being the main contributor along with additional support from price.

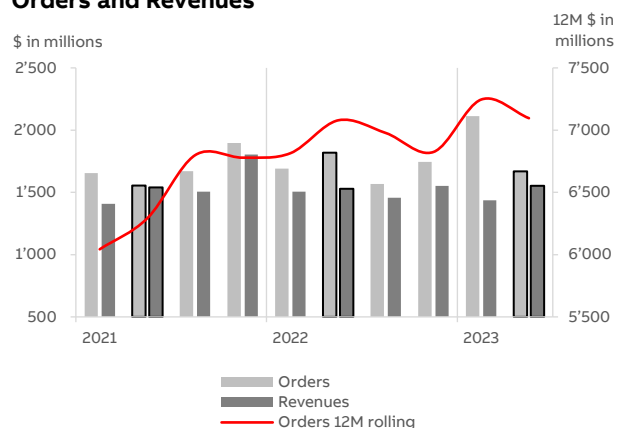
Profit

Executing the order backlog with a higher gross margin supported earnings growth of 7% from the same quarter last year, to Operational EBITA of \$239 million. The Operational EBITA margin improved by 110 basis points to 15.4%, just exceeding the previous recent high.

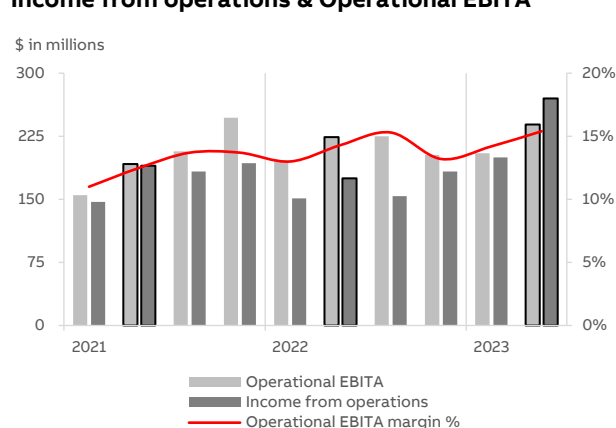
- Improved operational performance in business area Process Automation helped to more than offset the impact of the divestment of the Accelleron business which supported last year's margin by 190 basis points.
- Profitability improved in all divisions except for Marine & Ports where the mix weighed on performance due to the absence of the arctic marine propulsion business. The Measurement & Analytics division recorded the strongest margin improvement to clearly above the business area average on the back of good mix, successful business segmentation for improved transparency and performance actions, including price.

(\$ millions, unless otherwise indicated)	Q2 2023	Q2 2022	CHANGE		H1 2023	H1 2022	CHANGE	
			US\$	Comparable			US\$	Comparable
Orders	1,669	1,819	-8%	6%	3,782	3,511	8%	29%
Order backlog	6,821	6,170	11%	17%	6,821	6,170	11%	17%
Revenues	1,553	1,529	2%	19%	2,989	3,035	-2%	17%
Operational EBITA	239	224	7%		444	420	6%	
as % of operational revenues	15.4%	14.3%	+1.1 pts		14.8%	13.7%	+1.1 pts	
Cash flow from operating activities	188	193	-3%		300	253	19%	
No. of employees (FTE equiv.)	20,600	22,200	-7%					

Orders and Revenues



Income from operations & Operational EBITA



Robotics & Discrete Automation



Orders and revenues

Orders declined by 23% (22% comparable) year-on-year, to \$850 million. Consistent with the previous quarter, customers normalized order patterns, adjusting to an environment with shorter delivery lead times as supply chain constraints eased compared with last year. Some inventory adjustments among customers put additional sequential pressure on orders, mainly in China. These impacts are expected to persist into the third quarter.

- Orders declined at a double-digit rate in both divisions on the back of stable development in the automotive segment against declines in the other segments, particularly in the machine automation and electronics segments.
- Customer inventory adjustments were most prominent in Asia, Middle East and Africa where orders declined by 33% (29% comparable), weighed down by a significant decline in China. Europe also dropped by 23% (24% comparable) while the Americas recorded an increase of 4% (4% comparable), supported by good momentum in Canada and Mexico.

Growth

Change year-on-year	Q2 Orders	Q2 Revenues
Comparable	-22%	27%
FX	-1%	-1%
Portfolio changes	0%	0%
Total	-23%	26%

- Execution of the high order backlog drove the strong revenue growth of 26% (27% comparable), with a similar pattern in both divisions. While higher volumes were the main driver for growth, pricing also contributed materially on the back of last year's implemented actions.

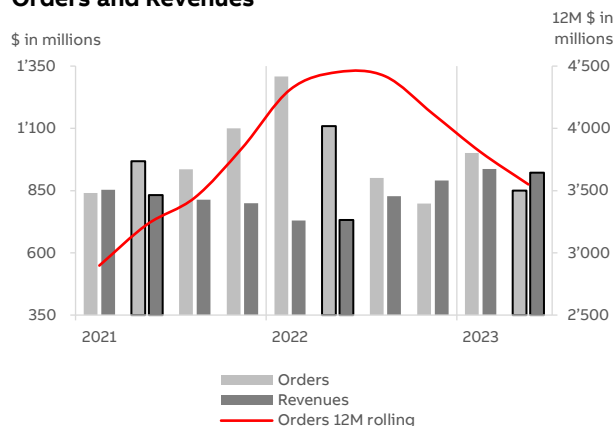
Profit

Operational EBITA more than doubled to \$141 million from last year's low level when earnings were impacted by Covid-related shut-downs and strained supply chains. Improved operational performance supported the 710 basis points increase in Operational EBITA margin, to 15.3%, the highest level in several years.

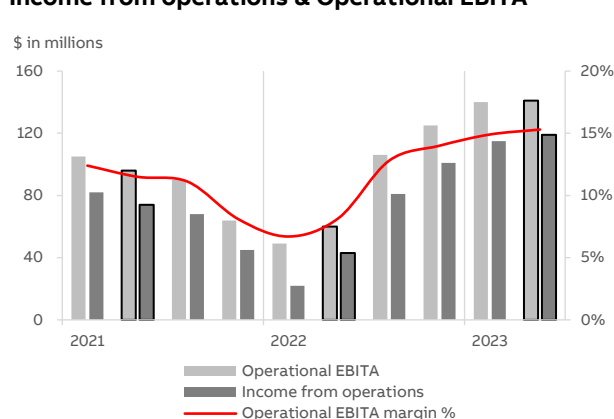
- Operational leverage on higher volumes in production was the main driver for higher earnings and margin.
- Positive impact from earlier implemented price actions significantly contributed to the improved profitability. Pricing more than offset inflation in labor with additional support from lower input and freight costs.
- Both divisions recorded margins of above 15% in the period.

(\$ millions, unless otherwise indicated)	CHANGE				CHANGE			
	Q2 2023	Q2 2022	US\$	Comparable	H1 2023	H1 2022	US\$	Comparable
Orders	850	1,109	-23%	-22%	1,851	2,417	-23%	-21%
Order backlog	2,657	2,728	-3%	-2%	2,657	2,728	-3%	-2%
Revenues	922	732	26%	27%	1,859	1,462	27%	31%
Operational EBITA	141	60	135%		281	109	158%	
as % of operational revenues	15.3%	8.2%	+7.1 pts		15.1%	7.4%	+7.7 pts	
Cash flow from operating activities	44	56	-21%		174	27	544%	
No. of employees (FTE equiv.)	10,900	10,800	1%					

Orders and Revenues



Income from operations & Operational EBITA



Sustainability



Quarterly highlights

- ABB is collaborating with Lhyfe, a world pioneer in the production of renewable hydrogen, and Skyborn, a global leader in renewable energy, to jointly realize and optimize one of Europe's most ambitious renewable hydrogen projects ever, South2Port. Powered by Skyborn's planned offshore wind farm, the plant in Söderhamn, Sweden, will produce around 240 tons of hydrogen per day, equivalent to around 1.8 million barrels of oil per annum. ABB will apply critical expertise to optimize the integration of the hydrogen and electricity production across the entire ecosystem including automation, electrical and digital technologies.
- From June 17 to 25, the Special Olympics World Games took place in Berlin and for the first time in Germany where 7,000 athletes with diverse abilities from more than 190 countries competed in 26 sports with the motto #Unbeatabletogether. Around 150 ABB employees volunteered to support the athletes during the exciting and inspiring competitions. ABB Germany has been a supporting partner of the Special Olympics at the local and state levels games for 23 years.
- A pilot project between ABB Robotics and US non-profit organization Junglekeepers demonstrated the role Cloud technology can play in making reforestation faster, more efficient and scalable. ABB's cobot YuMi automated planting tasks in a jungle laboratory in the Amazon, speeding the process

Q2 outcome

- 28% reduction of CO₂e emissions in own operations mainly driven by shifting to green electricity in our operations.
- 32% decrease in LTIFR due to a decrease in incidents in absolute numbers.
- 3.4%-points increase in share of women in senior management, demonstrating strong progress towards our target.

and allowing Junglekeepers' volunteers to focus on more impactful work. Through ABB RobotStudio Cloud technology, ABB experts simulated, refined and deployed the programming required for YuMi's tasks in the jungle from 12,000 kms away in Sweden – enabling the world's most remote robot.

- ABB has won a 2023 Global Water Award in the category "Smart Water Project of the Year" for its collaboration with Wellington Water, the water services provider for the Wellington region of New Zealand. ABB's state-of-the-art instrumentation technology and variable frequency drives enables Wellington Water to measure and store data about the water flow in real time and delivers up to 10% in energy savings per month.
- In May 2023, ABB E-mobility and Scania successfully undertook a first test for the development of a megawatt charging system, representing the next milestone in the development of an efficient, high power charging solution for heavy duty vehicles. The technology will enable half the charging time for heavy duty vehicles. Developing a solution to fast charge these commercial electric vehicles, which will also deliver significant range, is a major step towards increasing sales of heavy-duty vehicles that can be driven fossil-free.

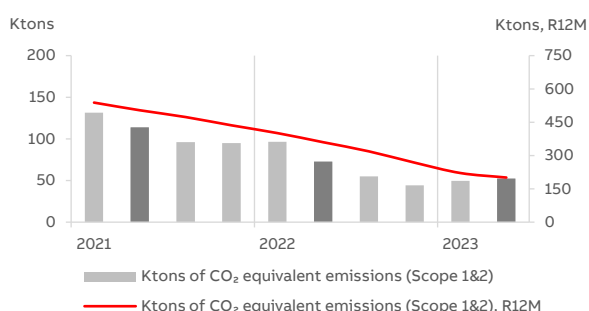
	Q2 2023	Q2 2022	CHANGE	12M ROLLING
CO ₂ e own operations emissions, Ktons scope 1 and 2 ^{1,3}	52	73	-28%	201
Lost Time Injury Frequency Rate (LTIFR), frequency / 200,000 working hours ²	0.12	0.17	-32%	0.13
Share of females in senior management positions, %	20.2	16.8	+3.4 pts	18.6

¹ CO₂ equivalent emissions from site, energy use, SF₆ and fleet, previous quarter

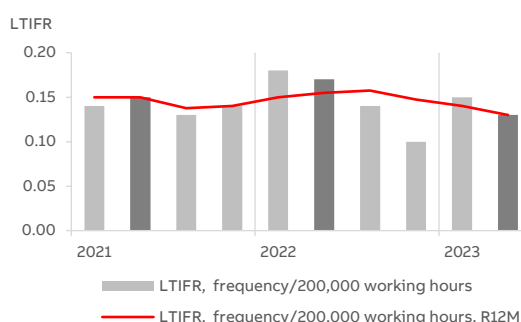
² Current quarter Includes all incidents reported until July 10, 2023

³ Q2 2022 emission data was restated from 88.8 to 72.6 Ktons of CO₂e to reflect the application of green energy certificates retrospectively.

CO₂e Scope 1&2



Lost Time Injury Frequency Rate



Significant events

During Q2 2023

- On April 3, ABB launched its previously announced new share buyback program of up to \$1 billion. The maximum number of shares that may be repurchased under this new program on any given trading day is 762,196.
- On April 25, ABB announced its plans to delist its American Depositary Receipts (ADRs) from the New York Stock Exchange (NYSE), and ultimately to seek to deregister its ADRs and the underlying shares under the US Securities Act of 1934 (The Securities Exchange Act). The delisting became effective on May 23 and the ADR program was converted into a sponsored Level I ADR program, trading on the US over-the-counter (OTC) market.
- On June 7, ABB announced that following the completion of the cancellation of 82,742,500 of its shares, ABB held 20,845,438 of its own shares, which corresponds to 1.1 percent of total share capital and voting rights in the company. This includes 4,269,700 shares purchased for capital reduction. ABB's total number of issued shares, including shares held in treasury, amounts to 1,882,002,575.

After Q2 2023

- On July 3, ABB announced the closing of the divestment of Power Conversion division at around \$500 million. As a result, ABB expects to record a non-operational book gain estimated at approximately \$50 million in Income from operations in the third quarter of 2023. With this transaction, ABB has completed all divisional portfolio divestments announced at the end of 2020.

First six months 2023

The demand for ABB's offering remained strong in the first six months of 2023. Weakness in the residential construction market and some softening in the short-cycle business from last year's high level was offset by strong momentum in the long-cycle business driven predominantly by the medium voltage segment and process related industries. Orders increased in three out of four business areas and remained stable (up 6% comparable) for ABB at \$18,117 million. Revenues supported by strong backlog execution amounted to \$16,022 million, up by 13% (19% comparable), overall implying a book-to-bill of 1.13.

Income from operations amounted to \$2,496 million, up from \$1,444 million in the first half 2022, mostly reflecting improved operational performance. Additionally, the result in the same period last year included charges totalling approximately \$250 million triggered by the exit of a legacy project in non-core and the decision to exit Russian operations.

Operational EBITA improved by 27% year-on-year to \$2,702 million and the Operational EBITA margin increased by 200 basis points to 16.9%, significantly higher in all business areas compared to the same period last year. Performance was driven by operating leverage from backlog execution as well as benefits from successful price management, which more than offset cost inflation mainly related to labor. Corporate and Other Operational EBITA amounted to -\$254 million, out of which -\$95 million related to the E-mobility business, which was hampered by some inventory

related provisions as well as technology investments triggered by a shift back to a more focused product strategy to secure a continued leading market position.

Net finance expenses increased \$17 million to \$46 million, while non-operational pension credits declined by \$53 million to \$15 million compared to the same period last year, mainly due to higher interest rates. Income tax expense was \$468 million with a tax rate of 19.0%, including a net benefit from the favorable resolution of a prior year tax matter relating to the divestment of the Power Grids business.

Net income attributable to ABB was \$1,942 million, up from \$983 million year-on-year. Basic earnings per share was \$1.04 more than doubling from the same period last year.

Acquisitions and divestments, last twelve months

Acquisitions	Company/unit	Closing date	Revenues, \$ million ¹	No. of employees
2023				
Electrification	Eve Systems	1-Jun	~20	50
Motion	Siemens low voltage NEMA Motors	2-May	~60	600
2022				
Motion	PowerTech Converter business	1-Dec	~60	300
Electrification	ASKI Industrie Elektronik GmbH	3-Oct	~2	16
Electrification	Numocity Technologies Private Ltd. (majority stake)	22-Jul	<1	20
Divestments	Company/unit	Closing date	Revenues, \$ million ¹	No. of employees
2023				
Process Automation	UK technical engineering consultancy business	1-May	~20	160
2022				
	Hitachi Energy JV (Power Grids, 19.9% stake)	28-Dec		

Note: comparable growth calculation includes acquisitions and divestments with revenues of greater than \$50 million.

¹ Represents the estimated revenues for the last fiscal year prior to the announcement of the respective acquisition/divestment unless otherwise stated.

Additional figures

ABB Group	Q1 2022	Q2 2022	Q3 2022	Q4 2022	FY 2022	Q1 2023	Q2 2023
EBITDA, \$ in million	1,067	794	906	1,384	4,151	1,389	1,494
Return on Capital Employed, %	n.a.	n.a.	n.a.	n.a.	16.50	n.a.	n.a.
Net debt/Equity	0.20	0.34	0.34	0.21	0.21	0.30	0.31
Net debt/ EBITDA 12M rolling	0.4	0.7	0.7	0.7	0.7	0.9	0.8
Net working capital, % of 12M rolling revenues	12.1%	12.8%	11.7%	11.1%	11.1%	13.9%	14.7%
Earnings per share, basic, \$	0.31	0.20	0.19	0.61	1.30	0.56	0.49
Earnings per share, diluted, \$	0.31	0.20	0.19	0.60	1.30	0.55	0.48
Dividend per share, CHF	n.a.	n.a.	n.a.	n.a.	0.84	n.a.	n.a.
Share price at the end of period, CHF ¹	29.12	24.57	24.90	28.06	28.06	31.37	35.18
Share price at the end of period, \$ ¹	30.76	25.43	24.41	30.46	30.46	34.30	39.32
Number of employees (FTE equivalents)	104,720	106,380	106,830	105,130	105,130	106,170	108,320
No. of shares outstanding at end of period (in millions)	1,929	1,892	1,875	1,865	1,865	1,862	1,860

¹ Data prior to October 3, 2022, has been adjusted for the Accelleron spin-off (Source: FactSet).

Additional 2023 guidance

(\$ in millions, unless otherwise stated)	FY 2023 ¹	Q3 2023
Corporate and Other Operational EBITA ²	~(300) unchanged	~(75)
Non-operating items		
Acquisition-related amortization	~(220) unchanged	~(55)
Restructuring and related ³	~(150) unchanged	~(40)
ABB Way transformation	~(180) unchanged	~(50)

(\$ in millions, unless otherwise stated)	FY 2023
Net finance expenses	~(130) from ~(150)
Effective tax rate	~21% ⁴ unchanged
Capital Expenditures	~(800) unchanged

¹ Excludes one project estimated to a total of ~\$100 million, that is ongoing in the non-core business. Exact exit timing is difficult to assess due to legal proceedings etc.

² Excludes Operational EBITA from E-mobility business.

³ Includes restructuring and restructuring-related as well as separation costs.

⁴ Includes net positive tax impact of \$206 million linked to a favorable resolution of certain prior year tax matters in Q1 2023 but excludes the impact of acquisitions or divestments or any significant non-operational items.

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 “CEO summary,” “Outlook,” “Earnings,” “Balance sheet & cash flow,” “Sustainability” and “Significant events”. These statements are based on current expectations, estimates and projections about the factors that may affect our future performance, including global economic conditions, the economic conditions of the regions and industries that are major markets for ABB. These expectations, estimates and projections are generally identifiable by statements containing words such as “anticipates,” “expects,” “estimates,” “plans,” “targets,” “likely” 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. Some 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.

Q2 results presentation on July 20, 2023

The Q2 2023 results press release and presentation slides are available on the ABB News Center at www.abb.com/news and on the Investor Relations homepage at www.abb.com/investorrelations.

A conference call and webcast for analysts and investors is scheduled to begin today at 10:00 a.m. CET.

To pre-register for the conference call or to join the webcast, please refer to the ABB website: www.abb.com/investorrelations.

The recorded session will be available after the event on ABB’s website.

Financial calendar

2023

October 18	Q3 2023 results
November 30	Capital Markets Day in Frosinone, Italy

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ABB (ABBN: SIX Swiss Ex) is a technology leader in electrification and automation, enabling a more sustainable and resource-efficient future. The company’s solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated. Building on more than 130 years of excellence, ABB’s ~105,000 employees are committed to driving innovations that accelerate industrial transformation.



July 20, 2023

Q2 2023

Financial information

Financial Information

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08 – 33	Consolidated Financial Information (unaudited)
34 – 46	Supplemental Reconciliations and Definitions



Key Figures

(\$ in millions, unless otherwise indicated)	Q2 2023	Q2 2022	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	8,667	8,807	-2%	2%
Order backlog (end June)	21,938	19,477	13%	14%
Revenues	8,163	7,251	13%	17%
Gross Profit	2,888	2,290	26%	
as % of revenues	35.4%	31.6%	+3.8 pts	
Income from operations	1,298	587	121%	
Operational EBITA ⁽¹⁾	1,425	1,136	25%	26% ⁽²⁾
as % of operational revenues ⁽¹⁾	17.5%	15.5%	+2 pts	
Income from continuing operations, net of tax	932	406	130%	
Net income attributable to ABB	906	379	139%	
Basic earnings per share (\$)	0.49	0.20	145% ⁽³⁾	
Cash flow from operating activities ⁽⁴⁾	760	382	99%	
Cash flow from operating activities in continuing operations	759	385	97%	

(\$ in millions, unless otherwise indicated)	H1 2023	H1 2022	CHANGE	
			US\$	Comparable ⁽¹⁾
Orders	18,117	18,180	0%	6%
Revenues	16,022	14,216	13%	19%
Gross Profit	5,604	4,571	23%	
as % of revenues	35.0%	32.2%	+2.8 pts	
Income from operations	2,496	1,444	73%	
Operational EBITA ⁽¹⁾	2,702	2,133	27%	29% ⁽²⁾
as % of operational revenues ⁽¹⁾	16.9%	14.9%	+2 pts	
Income from continuing operations, net of tax	1,997	1,049	90%	
Net income attributable to ABB	1,942	983	98%	
Basic earnings per share (\$)	1.04	0.51	104% ⁽³⁾	
Cash flow from operating activities ⁽⁴⁾	1,042	(191)	n.a.	
Cash flow from operating activities in continuing operations	1,043	(179)	n.a.	

(1) For a reconciliation of non-GAAP measures see "Supplemental Reconciliations and Definitions" on page 34.

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

(3) EPS growth rates are computed using unrounded amounts.

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

		CHANGE				
(\$ in millions, unless otherwise indicated)		Q2 2023	Q2 2022	US\$	Local	Comparable
Orders	ABB Group	8,667	8,807	-2%	0%	2%
	Electrification	3,960	3,913	1%	3%	3%
	Motion	2,137	2,079	3%	4%	3%
	Process Automation	1,669	1,819	-8%	-6%	6%
	Robotics & Discrete Automation	850	1,109	-23%	-22%	-22%
	Corporate and Other	264	77			
	Intersegment eliminations	(213)	(190)			
Order backlog (end June)	ABB Group	21,938	19,477	13%	13%	14%
	Electrification	7,298	6,194	18%	19%	19%
	Motion	5,322	4,568	17%	16%	14%
	Process Automation	6,821	6,170	11%	12%	17%
	Robotics & Discrete Automation	2,657	2,728	-3%	-2%	-2%
	Corporate and Other					
	(incl. intersegment eliminations)	(160)	(183)			
Revenues	ABB Group	8,163	7,251	13%	14%	17%
	Electrification	3,735	3,414	9%	11%	11%
	Motion	1,981	1,626	22%	23%	22%
	Process Automation	1,553	1,529	2%	4%	19%
	Robotics & Discrete Automation	922	732	26%	27%	27%
	Corporate and Other	177	140			
	Intersegment eliminations	(205)	(190)			
Income from operations	ABB Group	1,298	587			
	Electrification	713	474			
	Motion	380	231			
	Process Automation	270	175			
	Robotics & Discrete Automation	119	43			
	Corporate and Other					
	(incl. intersegment eliminations)	(184)	(336)			
Income from operations %	ABB Group	15.9%	8.1%			
	Electrification	19.1%	13.9%			
	Motion	19.2%	14.2%			
	Process Automation	17.4%	11.4%			
	Robotics & Discrete Automation	12.9%	5.9%			
Operational EBITA	ABB Group	1,425	1,136	25%	26%	
	Electrification	787	605	30%	33%	
	Motion	401	266	51%	51%	
	Process Automation	239	224	7%	9%	
	Robotics & Discrete Automation	141	60	135%	141%	
	Corporate and Other ⁽¹⁾					
	(incl. intersegment eliminations)	(143)	(19)			
Operational EBITA %	ABB Group	17.5%	15.5%			
	Electrification	21.1%	17.6%			
	Motion	20.4%	16.4%			
	Process Automation	15.4%	14.3%			
	Robotics & Discrete Automation	15.3%	8.2%			
Cash flow from operating activities	ABB Group	760	382			
	Electrification	697	456			
	Motion	320	241			
	Process Automation	188	193			
	Robotics & Discrete Automation	44	56			
	Corporate and Other					
	(incl. intersegment eliminations)	(490)	(561)			
	Discontinued operations	1	(3)			

(1) Corporate and Other at Q2 2023 and Q2 2022 includes losses of \$67 million and \$6 million, respectively, relating to E-mobility.

		CHANGE				
(\$ in millions, unless otherwise indicated)		H1 2023	H1 2022	US\$	Local	Comparable
Orders	ABB Group	18,117	18,180	0%	3%	6%
	Electrification	8,101	8,025	1%	4%	4%
	Motion	4,399	4,281	3%	6%	5%
	Process Automation	3,782	3,511	8%	12%	29%
	Robotics & Discrete Automation	1,851	2,417	-23%	-21%	-21%
	Corporate and Other	460	382			
	Intersegment eliminations	(476)	(436)			
Order backlog (end June)	ABB Group	21,938	19,477	13%	13%	14%
	Electrification	7,298	6,194	18%	19%	19%
	Motion	5,322	4,568	17%	16%	14%
	Process Automation	6,821	6,170	11%	12%	17%
	Robotics & Discrete Automation	2,657	2,728	-3%	-2%	-2%
	Corporate and Other					
	Intersegment eliminations	(160)	(183)			
Revenues	ABB Group	16,022	14,216	13%	16%	19%
	Electrification	7,325	6,650	10%	14%	14%
	Motion	3,921	3,198	23%	26%	25%
	Process Automation	2,989	3,035	-2%	2%	17%
	Robotics & Discrete Automation	1,859	1,462	27%	31%	31%
	Corporate and Other	346	254			
	Intersegment eliminations	(418)	(383)			
Income from operations	ABB Group	2,496	1,444			
	Electrification	1,368	955			
	Motion	733	485			
	Process Automation	470	326			
	Robotics & Discrete Automation	234	65			
	Corporate and Other					
	(incl. intersegment eliminations)	(309)	(387)			
Income from operations %	ABB Group	15.6%	10.2%			
	Electrification	18.7%	14.4%			
	Motion	18.7%	15.2%			
	Process Automation	15.7%	10.7%			
	Robotics & Discrete Automation	12.6%	4.4%			
Operational EBITA	ABB Group	2,702	2,133	27%	29%	
	Electrification	1,464	1,117	31%	35%	
	Motion	767	540	42%	46%	
	Process Automation	444	420	6%	10%	
	Robotics & Discrete Automation	281	109	158%	172%	
	Corporate and Other ⁽¹⁾					
	(incl. intersegment eliminations)	(254)	(53)			
Operational EBITA %	ABB Group	16.9%	14.9%			
	Electrification	20.0%	16.8%			
	Motion	19.6%	16.9%			
	Process Automation	14.8%	13.7%			
	Robotics & Discrete Automation	15.1%	7.4%			
Cash flow from operating activities	ABB Group	1,042	(191)			
	Electrification	1,092	543			
	Motion	469	239			
	Process Automation	300	253			
	Robotics & Discrete Automation	174	27			
	Corporate and Other					
	(incl. intersegment eliminations)	(992)	(1,241)			
	Discontinued operations	(1)	(12)			

(1) Corporate and Other at H1 2023 and H1 2022 includes losses of \$95 million and \$8 million, respectively, relating to E-mobility.

Operational EBITA

	ABB		Electrification		Motion		Process Automation		Robotics & Discrete Automation	
(\$ in millions, unless otherwise indicated)	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22
Revenues	8,163	7,251	3,735	3,414	1,981	1,626	1,553	1,529	922	732
Foreign exchange/commodity timing differences in total revenues	(10)	70	2	18	(11)	(4)	–	32	(1)	1
Operational revenues	8,153	7,321	3,737	3,432	1,970	1,622	1,553	1,561	921	733
Income from operations	1,298	587	713	474	380	231	270	175	119	43
Acquisition-related amortization	55	59	22	28	9	7	2	1	19	19
Restructuring, related and implementation costs ⁽¹⁾	13	264	4	8	1	–	2	–	–	2
Changes in obligations related to divested businesses	(8)	(3)	1	–	–	–	–	–	–	–
Gains and losses from sale of businesses	(26)	4	–	–	–	4	(26)	–	–	–
Acquisition- and divestment-related expenses and integration costs	26	50	12	10	8	3	(2)	36	2	2
Certain other non-operational items	41	65	6	20	1	–	–	–	1	(1)
Foreign exchange/commodity timing differences in income from operations	26	110	29	65	2	21	(7)	12	–	(5)
Operational EBITA	1,425	1,136	787	605	401	266	239	224	141	60
Operational EBITA margin (%)	17.5%	15.5%	21.1%	17.6%	20.4%	16.4%	15.4%	14.3%	15.3%	8.2%

	ABB		Electrification		Motion		Process Automation		Robotics & Discrete Automation	
(\$ in millions, unless otherwise indicated)	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22
Revenues	16,022	14,216	7,325	6,650	3,921	3,198	2,989	3,035	1,859	1,462
Foreign exchange/commodity timing differences in total revenues	(26)	67	(20)	8	(11)	(1)	10	31	–	6
Operational revenues	15,996	14,283	7,305	6,658	3,910	3,197	2,999	3,066	1,859	1,468
Income from operations	2,496	1,444	1,368	955	733	485	470	326	234	65
Acquisition-related amortization	109	119	44	56	17	15	3	2	39	40
Restructuring, related and implementation costs ⁽¹⁾	41	280	12	10	2	8	4	5	–	3
Changes in obligations related to divested businesses	(5)	(17)	1	–	–	–	–	–	–	–
Gains and losses from sale of businesses	(26)	4	–	–	–	4	(26)	–	–	–
Acquisition- and divestment-related expenses and integration costs	45	109	19	28	12	8	1	69	4	3
Certain other non-operational items	40	99	9	23	3	–	–	–	3	(1)
Foreign exchange/commodity timing differences in income from operations	2	95	11	45	–	20	(8)	18	1	(1)
Operational EBITA	2,702	2,133	1,464	1,117	767	540	444	420	281	109
Operational EBITA margin (%)	16.9%	14.9%	20.0%	16.8%	19.6%	16.9%	14.8%	13.7%	15.1%	7.4%

(1) Includes impairment of certain assets.

Depreciation and Amortization

	ABB		Electrification		Motion		Process Automation		Robotics & Discrete Automation	
(\$ in millions)	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22	Q2 23	Q2 22
Depreciation	129	136	64	65	27	26	12	16	14	15
Amortization	67	71	27	34	10	9	3	3	20	20
including total acquisition-related amortization of:	55	59	22	28	9	7	2	1	19	19

	ABB		Electrification		Motion		Process Automation		Robotics & Discrete Automation	
(\$ in millions)	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22	H1 23	H1 22
Depreciation	254	272	126	129	53	53	23	34	29	30
Amortization	133	145	54	68	20	18	5	6	40	41
including total acquisition-related amortization of:	109	119	44	56	17	15	3	2	39	40

Orders received and revenues by region

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	Q2 23	Q2 22	US\$	Local	Com-parable	Q2 23	Q2 22	US\$	Local	Com-parable
Europe	2,931	2,958	-1%	-1%	1%	2,935	2,508	17%	16%	20%
The Americas	3,209	3,050	5%	5%	6%	2,815	2,397	17%	17%	19%
of which United States	2,319	2,234	4%	4%	4%	2,092	1,746	20%	20%	21%
Asia, Middle East and Africa	2,527	2,799	-10%	-4%	-1%	2,413	2,346	3%	9%	13%
of which China	1,194	1,409	-15%	-10%	-9%	1,174	1,163	1%	6%	9%
ABB Group	8,667	8,807	-2%	0%	2%	8,163	7,251	13%	14%	17%

(\$ in millions, unless otherwise indicated)	Orders received		CHANGE			Revenues		CHANGE		
	H1 23	H1 22	US\$	Local	Com-parable	H1 23	H1 22	US\$	Local	Com-parable
Europe	6,513	6,492	0%	3%	6%	5,807	5,026	16%	18%	21%
The Americas	6,194	5,947	4%	4%	6%	5,468	4,566	20%	20%	22%
of which United States	4,449	4,459	0%	0%	1%	4,076	3,328	22%	23%	24%
Asia, Middle East and Africa	5,410	5,741	-6%	2%	5%	4,747	4,624	3%	11%	15%
of which China	2,549	2,946	-13%	-8%	-6%	2,328	2,263	3%	10%	12%
ABB Group	18,117	18,180	0%	3%	6%	16,022	14,216	13%	16%	19%

Consolidated Financial Information

ABB Ltd Consolidated Income Statements (unaudited)

(\$ in millions, except per share data in \$)	Six months ended		Three months ended	
	Jun. 30, 2023	Jun. 30, 2022	Jun. 30, 2023	Jun. 30, 2022
Sales of products	13,530	11,762	6,886	6,013
Sales of services and other	2,492	2,454	1,277	1,238
Total revenues	16,022	14,216	8,163	7,251
Cost of sales of products	(8,946)	(8,222)	(4,528)	(4,254)
Cost of services and other	(1,472)	(1,423)	(747)	(707)
Total cost of sales	(10,418)	(9,645)	(5,275)	(4,961)
Gross profit	5,604	4,571	2,888	2,290
Selling, general and administrative expenses	(2,727)	(2,556)	(1,388)	(1,317)
Non-order related research and development expenses	(637)	(572)	(333)	(295)
Other income (expense), net	256	1	131	(91)
Income from operations	2,496	1,444	1,298	587
Interest and dividend income	78	33	38	20
Interest and other finance expense	(124)	(62)	(63)	(40)
Non-operational pension (cost) credit	15	68	8	32
Income from continuing operations before taxes	2,465	1,483	1,281	599
Income tax expense	(468)	(434)	(349)	(193)
Income from continuing operations, net of tax	1,997	1,049	932	406
Loss from discontinued operations, net of tax	(9)	(20)	(4)	(9)
Net income	1,988	1,029	928	397
Net income attributable to noncontrolling interests and redeemable noncontrolling interests	(46)	(46)	(22)	(18)
Net income attributable to ABB	1,942	983	906	379
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,951	1,003	910	388
Loss from discontinued operations, net of tax	(9)	(20)	(4)	(9)
Net income	1,942	983	906	379
Basic earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	1.05	0.52	0.49	0.20
Loss from discontinued operations, net of tax	0.00	(0.01)	0.00	0.00
Net income	1.04	0.51	0.49	0.20
Diluted earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	1.04	0.52	0.49	0.20
Loss from discontinued operations, net of tax	0.00	(0.01)	0.00	0.00
Net income	1.04	0.51	0.48	0.20
Weighted-average number of shares outstanding (in millions) used to compute:				
Basic earnings per share attributable to ABB shareholders	1,861	1,922	1,862	1,909
Diluted earnings per share attributable to ABB shareholders	1,873	1,935	1,873	1,918

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

See Notes to the Consolidated Financial Information

ABB Ltd Condensed Consolidated Statements of Comprehensive Income (unaudited)

(\$ in millions)	Six months ended		Three months ended	
	Jun. 30, 2023	Jun. 30, 2022	Jun. 30, 2023	Jun. 30, 2022
Total comprehensive income, net of tax	1,914	708	761	131
Total comprehensive income attributable to noncontrolling interests and redeemable noncontrolling interests, net of tax	(43)	(26)	(13)	(3)
Total comprehensive income attributable to ABB shareholders, net of tax	1,871	682	748	128

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

See Notes to the Consolidated Financial Information

ABB Ltd Consolidated Balance Sheets (unaudited)

(\$ in millions)	Jun. 30, 2023	Dec. 31, 2022
Cash and equivalents	2,923	4,156
Restricted cash	19	18
Marketable securities and short-term investments	1,193	725
Receivables, net	7,481	6,858
Contract assets	1,010	954
Inventories, net	6,448	6,028
Prepaid expenses	290	230
Other current assets	500	505
Current assets held for sale and in discontinued operations	628	96
Total current assets	20,492	19,570
Property, plant and equipment, net	3,923	3,911
Operating lease right-of-use assets	852	841
Investments in equity-accounted companies	154	130
Prepaid pension and other employee benefits	964	916
Intangible assets, net	1,257	1,406
Goodwill	10,420	10,511
Deferred taxes	1,320	1,396
Other non-current assets	474	467
Total assets	39,856	39,148
Accounts payable, trade	4,881	4,904
Contract liabilities	2,394	2,216
Short-term debt and current maturities of long-term debt	3,849	2,535
Current operating leases	223	220
Provisions for warranties	1,076	1,028
Other provisions	1,124	1,171
Other current liabilities	4,277	4,323
Current liabilities held for sale and in discontinued operations	207	132
Total current liabilities	18,031	16,529
Long-term debt	4,451	5,143
Non-current operating leases	652	651
Pension and other employee benefits	721	719
Deferred taxes	699	729
Other non-current liabilities	1,853	2,085
Non-current liabilities held for sale and in discontinued operations	20	20
Total liabilities	26,427	25,876
<i>Commitments and contingencies</i>		
Redeemable noncontrolling interest	89	85
Stockholders' equity:		
Common stock, CHF 0.12 par value (1,882 million and 1,965 million shares issued at June 30, 2023, and December 31, 2022, respectively)	163	171
Additional paid-in capital	11	141
Retained earnings	17,958	20,082
Accumulated other comprehensive loss	(4,627)	(4,556)
Treasury stock, at cost (22 million and 100 million shares at June 30, 2023, and December 31, 2022, respectively)	(709)	(3,061)
Total ABB stockholders' equity	12,796	12,777
Noncontrolling interests	544	410
Total stockholders' equity	13,340	13,187
Total liabilities and stockholders' equity	39,856	39,148

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

See Notes to the Consolidated Financial Information

ABB Ltd Consolidated Statements of Cash Flows (unaudited)

(\$ in millions)	Six months ended		Three months ended	
	Jun. 30, 2023	Jun. 30, 2022	Jun. 30, 2023	Jun. 30, 2022
Operating activities:				
Net income	1,988	1,029	928	397
Loss from discontinued operations, net of tax	9	20	4	9
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:				
Depreciation and amortization	387	417	196	207
Changes in fair values of investments	(24)	(15)	(11)	9
Pension and other employee benefits	(12)	(83)	(13)	(37)
Deferred taxes	37	(148)	11	(32)
Loss (income) from equity-accounted companies	7	62	–	14
Net loss (gain) from derivatives and foreign exchange	(54)	77	(17)	105
Net gain from sale of property, plant and equipment	(33)	(55)	(7)	(23)
Net loss (gain) from sale of businesses	(26)	4	(26)	4
Other	92	63	65	27
Changes in operating assets and liabilities:				
Trade receivables, net	(667)	(621)	(301)	(304)
Contract assets and liabilities	79	252	69	145
Inventories, net	(450)	(1,083)	(186)	(541)
Accounts payable, trade	(2)	213	(29)	206
Accrued liabilities	(202)	(255)	122	135
Provisions, net	56	126	16	179
Income taxes payable and receivable	(86)	(52)	29	(66)
Other assets and liabilities, net	(56)	(130)	(91)	(49)
Net cash provided by (used in) operating activities – continuing operations	1,043	(179)	759	385
Net cash provided by (used in) operating activities – discontinued operations	(1)	(12)	1	(3)
Net cash provided by (used in) operating activities	1,042	(191)	760	382
Investing activities:				
Purchases of investments	(760)	(256)	(100)	(128)
Purchases of property, plant and equipment and intangible assets	(331)	(338)	(180)	(151)
Acquisition of businesses (net of cash acquired) and increases in cost- and equity-accounted companies	(135)	(179)	(116)	(34)
Proceeds from sales of investments	176	506	156	201
Proceeds from maturity of investments	138	–	138	–
Proceeds from sales of property, plant and equipment	57	66	26	31
Proceeds from sales of businesses (net of transaction costs and cash disposed) and cost- and equity-accounted companies	43	(13)	43	(13)
Net cash from settlement of foreign currency derivatives	(18)	56	(54)	(10)
Changes in loans receivable, net	1	9	(7)	(2)
Other investing activities	9	(17)	10	(16)
Net cash used in investing activities – continuing operations	(820)	(166)	(84)	(122)
Net cash used in investing activities – discontinued operations	(21)	(91)	(16)	(70)
Net cash used in investing activities	(841)	(257)	(100)	(192)
Financing activities:				
Net changes in debt with original maturities of 90 days or less	(35)	1,191	679	(114)
Increase in debt	1,648	3,181	15	639
Repayment of debt	(1,128)	(1,483)	(1,092)	(1,442)
Delivery of shares	96	370	1	–
Purchase of treasury stock	(476)	(2,661)	(202)	(1,100)
Dividends paid	(1,713)	(1,698)	(419)	(809)
Dividends paid to noncontrolling shareholders	(83)	(76)	(80)	(75)
Proceeds from issuance of subsidiary shares	328	–	(13)	–
Other financing activities	–	(53)	(12)	(19)
Net cash used in financing activities – continuing operations	(1,363)	(1,229)	(1,123)	(2,920)
Net cash provided by financing activities – discontinued operations	–	–	–	–
Net cash used in financing activities	(1,363)	(1,229)	(1,123)	(2,920)
Effects of exchange rate changes on cash and equivalents and restricted cash	(42)	(76)	(37)	(80)
Adjustment for the net change in cash and equivalents and restricted cash in Assets held for sale	(28)	–	(15)	–
Net change in cash and equivalents and restricted cash	(1,232)	(1,753)	(515)	(2,810)
Cash and equivalents and restricted cash, beginning of period	4,174	4,489	3,457	5,546
Cash and equivalents and restricted cash, end of period	2,942	2,736	2,942	2,736
Supplementary disclosure of cash flow information:				
Interest paid	108	36	60	27
Income taxes paid	527	638	320	298

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

See Notes to the Consolidated Financial Information

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

(\$ in millions)	Common stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Treasury stock	Total ABB stockholders' equity	Non-controlling interests	Total stockholders' equity
Balance at January 1, 2022	178	22	22,477	(4,088)	(3,010)	15,579	378	15,957
Net income ⁽¹⁾			983			983	48	1,031
Foreign currency translation adjustments, net of tax of \$1				(392)		(392)	(22)	(414)
Effect of change in fair value of available-for-sale securities, net of tax of \$(4)				(17)		(17)		(17)
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$37				106		106		106
Change in derivative instruments and hedges, net of tax of \$2				2		2		2
Changes in noncontrolling interests		(2)				(2)	(13)	(15)
Dividends to noncontrolling shareholders						–	(74)	(74)
Dividends to shareholders			(1,700)			(1,700)		(1,700)
Cancellation of treasury shares	(8)	(4)	(2,864)		2,876	–		–
Share-based payment arrangements		28				28		28
Purchase of treasury stock					(2,693)	(2,693)		(2,693)
Delivery of shares		(38)	(130)		538	370		370
Other		6				6		6
Balance at June 30, 2022	171	12	18,767	(4,389)	(2,290)	12,271	315	12,586
Balance at January 1, 2023	171	141	20,082	(4,556)	(3,061)	12,777	410	13,187
Net income ⁽¹⁾			1,942			1,942	47	1,989
Foreign currency translation adjustments, net of tax of \$(2)				(76)		(76)	(3)	(79)
Effect of change in fair value of available-for-sale securities, net of tax of \$2				7		7		7
Unrecognized income (expense) related to pensions and other postretirement plans, net of tax of \$4				(5)		(5)		(5)
Change in derivative instruments and hedges, net of tax of \$1				3		3		3
Issuance of subsidiary shares		170				170	168	338
Other changes in noncontrolling interests		(6)				(6)	4	(2)
Dividends to noncontrolling shareholders						–	(84)	(84)
Dividends to shareholders			(1,706)			(1,706)		(1,706)
Cancellation of treasury shares	(7)	(201)	(2,359)		2,567	–		–
Share-based payment arrangements		62				62	1	63
Purchase of treasury stock					(464)	(464)		(464)
Delivery of shares		(153)			249	96		96
Other		(3)				(3)		(3)
Balance at June 30, 2023	163	11	17,958	(4,627)	(709)	12,796	544	13,340

(1) Amounts attributable to noncontrolling interests for the six months ended June 30, 2023 and 2022, exclude net losses of \$2 million and \$2 million, respectively, related to redeemable noncontrolling interests, which are reported in the mezzanine equity section on the Consolidated Balance Sheets. See Note 4 for details.

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

See Notes to the Consolidated Financial Information

Notes to the Consolidated Financial Information (unaudited)

Note 1

The Company and basis of presentation

ABB Ltd and its subsidiaries (collectively, the Company) together form a technology leader in electrification and automation, enabling a more sustainable and resource-efficient future. The Company's solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered and operated.

The Company's Consolidated Financial Information is prepared in accordance with United States of America generally accepted accounting principles (U.S. GAAP) for interim financial reporting. As such, the Consolidated Financial Information does not include all the information and notes required under U.S. GAAP for annual consolidated financial statements. Therefore, such financial information should be read in conjunction with the audited consolidated financial statements in the Company's Annual Report for the year ended December 31, 2022.

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

- estimates to determine valuation allowances for deferred tax assets and amounts recorded for unrecognized tax benefits,
- estimates related to credit losses expected to occur over the remaining life of financial assets such as trade and other receivables, loans and other instruments,
- estimates used to record expected costs for employee severance in connection with restructuring programs,
- 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 and projections, principally related to future material, labor and project-related overhead costs, used in determining the percentage-of-completion on projects where revenue is recognized over time, as well as the amount of variable consideration the Company expects to be entitled to,
- assumptions used in the calculation of pension and postretirement benefits and the fair value of pension plan assets,
- assumptions used in determining inventory obsolescence and net realizable value,
- growth rates, discount rates and other assumptions used to determine impairment of long-lived assets and in testing goodwill for impairment,
- estimates and assumptions used in determining the fair values of assets and liabilities assumed in business combinations, and
- estimates and assumptions used in determining the initial fair value of retained noncontrolling interests and certain obligations in connection with divestments.

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

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

Basis of presentation

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

Certain amounts reported in the Consolidated Financial Information for prior periods have been reclassified to conform to the current year's presentation. These changes relate primarily to the reorganization of the Company's operating segments (see Note 17 for details).

Note 2

Recent accounting pronouncements

Applicable for current periods

Disclosure about supplier finance program obligations

In January 2023, the Company adopted an accounting standard update which requires entities to disclose information related to supplier finance programs. Under the update, the Company is required to disclose annually (i) the key terms of the program, (ii) the amount of the supplier finance obligations outstanding and where those obligations are presented in the balance sheet at the reporting date, and (iii) a rollforward of the supplier finance obligation program within the reporting period. The Company adopted this update retrospectively for all in-scope transactions, with the exception of the rollforward disclosures, which will be adopted prospectively for annual periods beginning January 1, 2024. Apart from the additional disclosure requirements, this update does not have a significant impact on the Company's consolidated financial statements.

The total outstanding supplier finance obligation included in "Accounts payable, trade" in the Consolidated Balance Sheets at June 30, 2023 and December 31, 2022, amounted to \$457 million and \$477 million, respectively. The Company's payment terms related to suppliers' finance programs are not impacted by the suppliers' decisions to sell amounts under the arrangements and are typically consistent with local market practices.

Facilitation of the effects of reference rate reform on financial reporting

In January 2023, the Company adopted an accounting standard update which provides temporary optional expedients and exceptions to the current guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. The Company is applying this standard update as relevant contract and hedge accounting relationship modifications are made during the course of the transition period ending December 31, 2024. This update does not have a significant impact on the Company's consolidated financial statements.

Note 3

Discontinued operations and assets held for sale

Divestment of the Power Grids business

In 2020, the Company completed the divestment of its Power Grids business to Hitachi Ltd (Hitachi). Upon closing of the sale, the Company entered into various transition services agreements (TSAs), some of which continue to have services performed. Pursuant to these TSAs, the Company and Hitachi Energy provide to each other, on a transitional basis, various services. The services provided by the Company primarily include finance, information technology, human resources and certain other administrative services. The TSAs were to be performed for up to 3 years with the possibility to agree on extensions on an exceptional basis for business-critical services which are reasonably necessary to avoid a material adverse impact on the business. The TSA for information technology services was extended until mid-2025. In the six and three months ended June 30, 2023, the Company has recognized within its continuing operations, general and administrative expenses incurred to perform the TSAs, offset by \$76 million and \$39 million in TSA-related income for such services that is reported in Other income (expense), net. In the six and three months ended June 30, 2022, the Company has recognized within its continuing operations, general and administrative expenses incurred to perform the TSAs, offset by \$76 million and \$38 million in TSA-related income for such services that is reported in Other income (expense), net.

Discontinued operations

As a result of the sale of the Power Grids business, substantially all Power Grids-related assets and liabilities have been sold. As this divestment represented a strategic shift that would have a major effect on the Company's operations and financial results, the results of operations for this business are presented as discontinued operations and the assets and liabilities are presented as held for sale and in discontinued operations. Certain of the business contracts in the Power Grids business continue to be executed by subsidiaries of the Company for the benefit/risk of Hitachi Energy. Assets and liabilities relating to, as well as the net financial results of, these contracts will continue to be included in discontinued operations until they have been completed or otherwise transferred to Hitachi Energy. The remaining business activities of the Power Grids business being executed by the Company is not significant.

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

At June 30, 2023, the balances reported as held for sale and in discontinued operations pertaining to the activities of the Power Grids business and other obligations will remain with the Company until such time as the obligations are settled or the activities are fully wound down. These balances amounted to \$74 million of current assets, \$97 million of current liabilities and \$20 million of non-current liabilities.

Planned business divestments classified as held for sale

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

In January 2023, the Company entered into an agreement to divest its Power Conversion Division to AcBel Polytech Inc. for cash proceeds of \$505 million. The Power Conversion Division is part of the Company's Electrification operating segment and the divestment, subject to regulatory approvals, is expected to be completed in the second half of 2023.

As this planned divestment does not qualify as a discontinued operation, the results of operations for this business are included in the Company's continuing operations for all periods presented. The assets and liabilities of this business are shown as assets and liabilities held for sale in the Company's Consolidated Balance Sheet at June 30, 2023. The carrying amounts of the major classes of assets and liabilities held for sale relating to this planned divestment are as follows:

(\$ in millions)	June 30, 2023
Assets	
Receivables, net	97
Inventories, net	104
Property, plant and equipment, net	44
Other intangible assets, net	74
Goodwill	175
Other assets	60
Current assets held for sale	554
Liabilities	
Accounts payable, trade	48
Other liabilities	62
Current liabilities held for sale	110

In the six and three months ended June 30, 2023, Income from continuing operations before taxes includes income of \$30 million and \$13 million, respectively, from the Power Conversion Division. In the six and three months ended June 30, 2022, Income from continuing operations before taxes includes income of \$12 million and \$11 million, respectively, from this Division.

Subsequent events

On July 3, 2023, the Company completed the divestment of its Power Conversion Division to AcBel Polytech Inc.

Note 4

Acquisitions and equity-accounted companies

Acquisition of controlling interests

Acquisitions of controlling interests were as follows:

(\$ in millions, except number of acquired businesses)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Purchase price for acquisitions (net of cash acquired) ⁽¹⁾	114	138	113	-
Aggregate excess of purchase price over fair value of net assets acquired ⁽²⁾	54	191	50	-
Number of acquired businesses	2	1	2	-

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

(2) Recorded as goodwill.

In the table above, the "Purchase price for acquisitions" and "Aggregate excess of purchase price over fair value of net assets acquired" amounts in the six months ended June 30, 2022, relate primarily to the acquisition of InCharge Energy, Inc. (In-Charge).

Acquisitions of controlling interests have been accounted for under the acquisition method and have been included in the Company's consolidated financial statements since the date of acquisition.

On January 26, 2022, the Company increased its ownership in In-Charge to a 60 percent controlling interest through a stock purchase agreement. In-Charge is headquartered in Santa Monica, USA, and is a provider of turn-key commercial electric vehicle charging hardware and software solutions. The resulting cash outflows for the Company amounted to \$134 million (net of cash acquired of \$4 million). The acquisition expands the market presence of the E-mobility operating segment, particularly in the North American market. In connection with the acquisition, the Company's pre-existing 13.2 percent ownership of In-Charge was revalued to fair value and a gain of \$32 million was recorded in "Other income (expense), net" in the six months ended June 30, 2022. The Company entered into an agreement with the remaining noncontrolling shareholders allowing either party to put or call the remaining 40 percent of the shares until 2027. The amount for which either party can exercise their option is dependent on a formula based on revenues and thus, the amount is subject to change. As a result of this agreement, the noncontrolling interest is classified as Redeemable noncontrolling interest (i.e. mezzanine equity) in the Consolidated Balance Sheets and was initially recognized at fair value.

While the Company uses its best estimates and assumptions as part of the purchase price allocation process to value assets acquired and liabilities assumed at the acquisition date, the purchase price allocation for acquisitions is preliminary for up to 12 months after the acquisition date and is subject to refinement as more detailed analyses are completed and additional information about the fair values of the assets and liabilities becomes available.

Investments in equity-accounted companies

In connection with the divestment of its Power Grids business to Hitachi in 2020 (see Note 3), the Company initially retained a 19.9 percent interest in the business until December 2022, when the retained investment was sold to Hitachi. During the Company's period of ownership of the retained 19.9 percent interest, based on its continuing involvement with the Power Grids business, including the membership in its governing board of directors, the Company concluded that it had significant influence over Hitachi Energy. As a result, the investment was accounted for using the equity method through to the date of its sale.

In the six and three months ended June 30, 2023 and 2022, the Company recorded its share of the earnings of investees accounted for under the equity method of accounting in Other income (expense), net, as follows:

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Income (loss) from equity-accounted companies, net of taxes	(7)	(10)	–	1
Basis difference amortization (net of deferred income tax benefit)	–	(52)	–	(15)
Income (loss) from equity-accounted companies	(7)	(62)	–	(14)

Note 5

Cash and equivalents, marketable securities and short-term investments

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

June 30, 2023						
(\$ in millions)	Cost basis	Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents and restricted cash	Marketable securities and short-term investments
Changes in fair value recorded in net income						
Cash	1,743			1,743	1,743	
Time deposits	1,541			1,541	1,199	342
Equity securities	622	16		638		638
	3,906	16	–	3,922	2,942	980
Changes in fair value recorded in other comprehensive income						
Debt securities available-for-sale:						
U.S. government obligations	225	1	(13)	213		213
	225	1	(13)	213	–	213
Total	4,131	17	(13)	4,135	2,942	1,193
Of which:						
Restricted cash, current					19	

December 31, 2022						
(\$ in millions)	Cost basis	Gross unrealized gains	Gross unrealized losses	Fair value	Cash and equivalents and restricted cash	Marketable securities and short-term investments
Changes in fair value recorded in net income						
Cash	1,715			1,715	1,715	
Time deposits	2,459			2,459	2,459	
Equity securities	345	10		355		355
	4,519	10	–	4,529	4,174	355
Changes in fair value recorded in other comprehensive income						
Debt securities available-for-sale:						
U.S. government obligations	269	1	(15)	255		255
Other government obligations	58			58		58
Corporate	64		(7)	57		57
	391	1	(22)	370	–	370
Total	4,910	11	(22)	4,899	4,174	725
Of which:						
Restricted cash, current					18	

Note 6

Derivative financial instruments

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

Currency risk

Due to the global nature of the Company's operations, many of its subsidiaries are exposed to currency risk in their operating activities from entering into transactions in currencies other than their functional currency. To manage such currency risks, the Company's policies require its subsidiaries to hedge their foreign currency exposures from binding sales and purchase contracts denominated in foreign currencies. For forecasted foreign currency denominated sales of standard products and the related foreign currency denominated purchases, the Company's policy is to hedge up to a maximum of 100 percent of the forecasted foreign currency denominated exposures, depending on the length of the forecasted exposures. Forecasted exposures greater than 12 months are not hedged. Forward foreign exchange contracts are the main instrument used to protect the Company against the volatility of future cash flows (caused by changes in exchange rates) of contracted and forecasted sales and purchases denominated in foreign currencies. In addition, within its treasury operations, the Company primarily uses foreign exchange swaps and forward foreign exchange contracts to manage the currency and timing mismatches arising in its liquidity management activities.

Commodity risk

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

Interest rate risk

The Company has issued bonds at fixed rates. Interest rate swaps and cross-currency interest rate swaps are used to manage the interest rate and foreign currency 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, 2023	December 31, 2022	June 30, 2022
Foreign exchange contracts	14,256	13,509	14,470
Embedded foreign exchange derivatives	1,374	933	850
Cross-currency interest rate swaps	868	855	833
Interest rate contracts	2,198	2,830	3,049

Derivative commodity contracts

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

Type of derivative	Unit	Total notional amounts at		
		June 30, 2023	December 31, 2022	June 30, 2022
Copper swaps	metric tonnes	32,894	29,281	42,961
Silver swaps	ounces	1,726,172	2,012,213	2,844,285
Steel swaps	metric tonnes	11,158	–	–
Aluminum swaps	metric tonnes	5,950	6,825	7,350

Equity derivatives

At June 30, 2023, December 31, 2022, and June 30, 2022, the Company held 3 million, 8 million and 9 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$12 million, \$15 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. The Company applies cash flow hedge accounting in only limited cases. In these cases, 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. For the six and three months ended June 30, 2023 and 2022, there were no significant amounts recorded for cash flow hedge accounting activities.

Fair value hedges

To reduce its interest rate exposure arising primarily from its debt issuance activities, the Company uses interest rate swaps and cross-currency 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".

The effect of derivative instruments, 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,	
		2023	2022	2023	2022
Gains (losses) recognized in Interest and other finance expense:					
Interest rate contracts	Designated as fair value hedges	18	(55)	8	(26)
	Hedged item	(18)	56	(8)	27
Cross-currency interest rate swaps	Designated as fair value hedges	(10)	(94)	1	(49)
	Hedged item	–	90	(2)	46

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 30,		Three months ended June 30,	
	Location	2023	2022	2023	2022
Foreign exchange contracts	Total revenues	5	(119)	(6)	(123)
	Total cost of sales	(12)	34	(11)	40
	SG&A expenses ⁽¹⁾	14	23	8	15
	Non-order related research and development	(1)	1	(1)	–
	Interest and other finance expense	(62)	(54)	(104)	(76)
Embedded foreign exchange contracts	Total revenues	45	5	38	7
	Total cost of sales	(1)	(2)	–	(3)
Commodity contracts	Total cost of sales	(15)	(51)	(26)	(86)
Other	Interest and other finance expense	1	3	1	2
Total		(26)	(160)	(101)	(224)

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

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

June 30, 2023				
(\$ in millions)	Derivative assets		Derivative liabilities	
	Current in “Other current assets”	Non-current in “Other non-current assets”	Current in “Other current liabilities”	Non-current in “Other non-current liabilities”
Derivatives designated as hedging instruments:				
Foreign exchange contracts	–	–	4	2
Interest rate contracts	–	–	45	–
Cross-currency interest rate swaps	–	–	–	282
Cash-settled call options	12	–	–	–
Total	12	–	49	284
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	145	25	122	22
Commodity contracts	4	–	16	–
Interest rate contracts	2	–	2	–
Other equity contracts	10	–	–	–
Embedded foreign exchange derivatives	36	10	15	3
Total	197	35	155	25
Total fair value	209	35	204	309

(\$ in millions)	December 31, 2022			
	Derivative assets		Derivative liabilities	
	Current in "Other current assets"	Non-current in "Other non-current assets"	Current in "Other current liabilities"	Non-current in "Other non-current liabilities"
Derivatives designated as hedging instruments:				
Foreign exchange contracts	–	–	4	4
Interest rate contracts	–	–	5	57
Cross-currency interest rate swaps	–	–	–	288
Cash-settled call options	15	–	–	–
Total	15	–	9	349
Derivatives not designated as hedging instruments:				
Foreign exchange contracts	140	21	80	5
Commodity contracts	13	–	12	–
Interest rate contracts	5	–	3	–
Embedded foreign exchange derivatives	11	6	17	13
Total	169	27	112	18
Total fair value	184	27	121	367

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, 2023, and December 31, 2022, 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, 2023, and December 31, 2022, information related to these offsetting arrangements was as follows:

June 30, 2023					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	198	(103)	–	–	95
Total	198	(103)	–	–	95

June 30, 2023					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	495	(103)	–	–	392
Total	495	(103)	–	–	392

December 31, 2022					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized assets	Derivative liabilities eligible for set-off in case of default	Cash collateral received	Non-cash collateral received	Net asset exposure
Derivatives	194	(96)	–	–	98
Total	194	(96)	–	–	98

December 31, 2022					
(\$ in millions)					
Type of agreement or similar arrangement	Gross amount of recognized liabilities	Derivative liabilities eligible for set-off in case of default	Cash collateral pledged	Non-cash collateral pledged	Net liability exposure
Derivatives	458	(96)	–	–	362
Total	458	(96)	–	–	362

Note 7

Fair values

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

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

The levels of the fair value hierarchy are as follows:

Level 1: Valuation inputs consist of quoted prices in an active market for identical assets or liabilities (observable quoted prices). Assets and liabilities valued using Level 1 inputs include exchange-traded equity securities, listed derivatives which are actively traded such as commodity futures, interest rate futures and certain actively traded debt securities.

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

Level 3: Valuation inputs are based on the Company's assumptions of relevant market data (unobservable input).

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

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

Recurring fair value measures

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

(\$ in millions)	June 30, 2023			
	Level 1	Level 2	Level 3	Total fair value
Assets				
Securities in "Marketable securities and short-term investments":				
Equity securities	–	638	–	638
Debt securities—U.S. government obligations	213	–	–	213
Derivative assets—current in "Other current assets"	–	209	–	209
Derivative assets—non-current in "Other non-current assets"	–	35	–	35
Total	213	882	–	1,095
Liabilities				
Derivative liabilities—current in "Other current liabilities"	–	204	–	204
Derivative liabilities—non-current in "Other non-current liabilities"	–	309	–	309
Total	–	513	–	513

(\$ in millions)	December 31, 2022			
	Level 1	Level 2	Level 3	Total fair value
Assets				
Securities in "Marketable securities and short-term investments":				
Equity securities	–	355	–	355
Debt securities—U.S. government obligations	255	–	–	255
Debt securities—European government obligations	–	58	–	58
Debt securities—Corporate	–	57	–	57
Derivative assets—current in "Other current assets"	–	184	–	184
Derivative assets—non-current in "Other non-current assets"	–	27	–	27
Total	255	681	–	936
Liabilities				
Derivative liabilities—current in "Other current liabilities"	–	121	–	121
Derivative liabilities—non-current in "Other non-current liabilities"	–	367	–	367
Total	–	488	–	488

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

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

Non-recurring fair value measures

There were no significant non-recurring fair value measurements during the six and three months ended June 30, 2023 and 2022.

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, 2023				
(\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding securities with original maturities up to 3 months):					
Cash	1,724	1,724	–	–	1,724
Time deposits	1,199	–	1,199	–	1,199
Restricted cash	19	19	–	–	19
Marketable securities and short-term investments (excluding securities):					
Time deposits	342	–	342	–	342
Liabilities					
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)					
	3,821	2,412	1,409	–	3,821
Long-term debt (excluding finance lease obligations)	4,316	4,222	16	–	4,238

		December 31, 2022			
(\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
Assets					
Cash and equivalents (excluding securities with original maturities up to 3 months):					
Cash	1,697	1,697	–	–	1,697
Time deposits	2,459	–	2,459	–	2,459
Restricted cash	18	18	–	–	18
Liabilities					
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)					
	2,500	1,068	1,432	–	2,500
Long-term debt (excluding finance lease obligations)	4,976	4,813	30	–	4,843

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

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

Note 8

Contract assets and liabilities

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

(\$ in millions)	June 30, 2023	December 31, 2022	June 30, 2022
Contract assets	1,010	954	965
Contract liabilities	2,394	2,216	2,141

Contract assets primarily relate to the Company's right to receive consideration for work completed but for which no invoice has been issued at the reporting date. Contract assets are transferred to receivables when rights to receive payment become unconditional. Management expects that the majority of the amounts will be collected within one year of the respective balance sheet date.

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

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

(\$ in millions)	Six months ended June 30,			
	2023		2022	
	Contract assets	Contract liabilities	Contract assets	Contract liabilities
Revenue recognized, which was included in the Contract liabilities balance at Jan 1, 2023/2022		(966)		(763)
Additions to Contract liabilities - excluding amounts recognized as revenue during the period		1,102		1,102
Receivables recognized that were included in the Contract assets balance at Jan 1, 2023/2022	(465)		(423)	

The Company considers its order backlog to represent its unsatisfied performance obligations. At June 30, 2023, the Company had unsatisfied performance obligations totaling \$21,938 million and, of this amount, the Company expects to fulfill approximately 51 percent of the obligations in 2023, approximately 36 percent of the obligations in 2024 and the balance thereafter.

Note 9

Debt

The Company's total debt at June 30, 2023, and December 31, 2022, amounted to \$8,300 million and \$7,678 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, 2023	December 31, 2022
Short-term debt	1,434	1,448
Current maturities of long-term debt	2,415	1,087
Total	3,849	2,535

Short-term debt primarily represented issued commercial paper and short-term bank borrowings from various banks. At June 30, 2023, and December 31, 2022, \$1,352 million and \$1,383 million, respectively, was outstanding under the \$2 billion Euro-commercial paper program. No amount was outstanding under the \$2 billion commercial paper program in the United States at June 30, 2023, or at December 31, 2022.

In May 2023, the Company repaid on maturity its EUR 700 million 0.625% Instruments, equivalent to \$772 million on date of repayment.

Long-term debt

The Company's long-term debt at June 30, 2023, and December 31, 2022, amounted to \$4,451 million and \$5,143 million, respectively.

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

(in millions)	June 30, 2023		December 31, 2022	
	Nominal outstanding	Carrying value ⁽¹⁾	Nominal outstanding	Carrying value ⁽¹⁾
Bonds:				
0.625% EUR Instruments, due 2023			EUR 700	\$ 742
0% CHF Bonds, due 2023	CHF 275	\$ 305	CHF 275	\$ 298
0.625% EUR Instruments, due 2024	EUR 700	\$ 739	EUR 700	\$ 720
Floating Rate EUR Instruments, due 2024	EUR 500	\$ 544	EUR 500	\$ 536
0.75% EUR Instruments, due 2024	EUR 750	\$ 788	EUR 750	\$ 769
0.3% CHF Bonds, due 2024	CHF 280	\$ 310	CHF 280	\$ 303
2.1% CHF Bonds, due 2025	CHF 150	\$ 166	CHF 150	\$ 162
3.25% EUR Instruments, due 2027	EUR 500	\$ 539		
0.75% CHF Bonds, due 2027	CHF 425	\$ 470	CHF 425	\$ 460
3.8% USD Notes, due 2028 ⁽²⁾	USD 383	\$ 382	USD 383	\$ 381
1.0% CHF Bonds, due 2029	CHF 170	\$ 188	CHF 170	\$ 184
0% EUR Instruments, due 2030	EUR 800	\$ 691	EUR 800	\$ 677
2.375% CHF Bonds, due 2030	CHF 150	\$ 166	CHF 150	\$ 162
3.375% EUR Instruments, due 2031	EUR 750	\$ 801		
4.375% USD Notes, due 2042 ⁽²⁾	USD 609	\$ 590	USD 609	\$ 590
Total		\$ 6,679		\$ 5,984

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

(2) Prior to completing a cash tender offer in November 2020, the original principal amount outstanding, on each of the 3.8% USD Notes, due 2028, and the 4.375% USD Notes, due 2042, was USD 750 million.

In January 2023, the Company issued the following EUR Instruments: (i) EUR 500 million of 3.25 percent Instruments, due 2027, and (ii) EUR 750 million of 3.375 percent Instruments, due 2031, both paying interest annually in arrears. The aggregate net proceeds of these EUR Instruments, after discount and fees, amounted to EUR 1,235 million (equivalent to approximately \$1,338 million on date of issuance).

Note 10

Commitments and contingencies

Contingencies—Regulatory, Compliance and Legal

Regulatory

Based on findings during an internal investigation, the Company self-reported to the SEC and the DoJ, in the United States, to the Special Investigating Unit (SIU) and the National Prosecuting Authority (NPA) in South Africa as well as to various authorities in other countries potential suspect payments and other compliance concerns in connection with some of the Company's dealings with Eskom and related persons. Many of those parties have expressed an interest in, or commenced an investigation into, these matters and the Company is cooperating fully with them. The Company paid \$104 million to Eskom in December 2020 as part of a full and final settlement with Eskom and the Special Investigating Unit relating to improper payments and other compliance issues associated with the Controls and Instrumentation Contract, and its Variation Orders for Units 1 and 2 at Kusile. The Company made a provision of approximately \$325 million which was recorded in Other income (expense), net, during the third quarter of 2022. In December 2022, the Company settled with the SEC and DOJ as well as the authorities in South Africa and Switzerland. The matter is still pending with the authorities in Germany, but the Company does not believe that it will need to record any additional provisions for this matter.

General

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

Liabilities recognized

At June 30, 2023, and December 31, 2022, the Company had aggregate liabilities of \$95 million and \$86 million, respectively, included in "Other provisions" and "Other non-current liabilities", for the above regulatory, compliance and legal contingencies, and none of the individual liabilities recognized was significant. As it is not possible to make an informed judgment on, or reasonably predict, the outcome of certain matters and as it is not possible, based on information currently available to management, to estimate the maximum potential liability on other matters, there could be 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, 2023	December 31, 2022
Performance guarantees	3,546	4,300
Financial guarantees	94	96
Total⁽¹⁾	3,640	4,396

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

The carrying amount of liabilities recorded in the Consolidated Balance Sheets reflects the Company's best estimate of future payments, which it may incur as part of fulfilling its guarantee obligations. In respect of the above guarantees, the carrying amounts of liabilities at June 30, 2023, and December 31, 2022, 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 2035, mainly consist of performance guarantees whereby (i) the Company guarantees the performance of a third party's product or service according to the terms of a contract and (ii) as member of a consortium/joint-venture that includes third parties, the Company guarantees not only its own performance but also the work of third parties. Such guarantees may include guarantees that a project will be completed within a specified time. If the third party does not fulfill the obligation, the Company will compensate the guaranteed party in cash or in kind. The original maturity dates for the majority of these performance guarantees range from one to ten years.

In conjunction with the divestment of the high-voltage cable and cables accessories businesses, the Company has entered into various performance guarantees with other parties with respect to certain liabilities of the divested business. At both June 30, 2023, and December 31, 2022, the maximum potential payable under these guarantees amounts to \$843 million, respectively, and these guarantees have various original maturities ranging from five to ten years.

The Company retained obligations for financial, performance and indemnification guarantees related to the sale of the Power Grids business (see Note 3 for details). The performance and financial guarantees have been indemnified by Hitachi Ltd. These guarantees, which have various maturities up to 2035, primarily consist of bank guarantees, standby letters of credit, business performance guarantees and other trade-related guarantees, the majority of which have original maturity dates ranging from one to ten years. The maximum amount payable under these guarantees at June 30, 2023, and December 31, 2022, is approximately \$2.3 billion and \$3.0 billion, respectively.

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, 2023, and December 31, 2022, respectively, the total outstanding performance bonds aggregated to \$3.0 billion and \$2.9 billion. There have been no significant amounts reimbursed to financial institutions under these types of arrangements in the six and three months ended June 30, 2023 and 2022.

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)	2023	2022
Balance at January 1,	1,028	1,005
Claims paid in cash or in kind	(85)	(82)
Net increase in provision for changes in estimates, warranties issued and warranties expired	136	103
Exchange rate differences	(3)	(54)
Balance at June 30,	1,076	972

Note 11

Income taxes

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

The effective tax rate of 19.0 percent in the six months ended June 30, 2023, was lower than the effective tax rate of 29.3 percent in the six months ended June 30, 2022, primarily due to a net benefit realized on a favorable resolution of an uncertain tax position. In February 2023, on completion of a tax audit, the Company obtained resolution of the uncertain tax position for which an amount was recorded within Other non-current liabilities as of December 31, 2022. In the six months ended June 30, 2023, the Company released the provision of \$206 million, due to the resolution of this matter, which resulted in an increase of \$0.11 in earnings per share (basic and diluted) for the six months ended June 30, 2023.

Note 12

Employee benefits

The Company operates defined benefit pension plans, defined contribution pension plans, and termination indemnity plans, in accordance with local regulations and practices. At June 30, 2023, the Company's most significant defined benefit pension plans are in Switzerland as well as in Germany, the United Kingdom, and the United States. 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	
	Switzerland		International			
	2023	2022	2023	2022	2023	2022
Six months ended June 30,						
Operational pension cost:						
Service cost	19	27	14	17	–	–
Operational pension cost	19	27	14	17	–	–
Non-operational pension cost (credit):						
Interest cost	24	1	82	43	1	1
Expected return on plan assets	(63)	(58)	(74)	(77)	–	–
Amortization of prior service cost (credit)	(4)	(4)	(1)	(1)	(1)	(1)
Amortization of net actuarial loss	–	–	23	30	(2)	(2)
Non-operational pension cost (credit)	(43)	(61)	30	(5)	(2)	(2)
Net periodic benefit cost (credit)	(24)	(34)	44	12	(2)	(2)

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2023	2022	2023	2022	2023	2022
Three months ended June 30,						
Operational pension cost:						
Service cost	10	13	6	8	–	–
Operational pension cost	10	13	6	8	–	–
Non-operational pension cost (credit):						
Interest cost	12	–	42	21	–	1
Expected return on plan assets	(30)	(28)	(35)	(36)	–	–
Amortization of prior service cost (credit)	(4)	(2)	(1)	(1)	(1)	–
Amortization of net actuarial loss	–	–	10	15	(1)	(2)
Non-operational pension cost (credit)	(22)	(30)	16	(1)	(2)	(1)
Net periodic benefit cost (credit)	(12)	(17)	22	7	(2)	(1)

The components of net periodic benefit cost other than the service cost component are included in the line “Non-operational pension cost (credit)” in the income statement.

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2023	2022	2023	2022	2023	2022
Six months ended June 30,						
Total contributions to defined benefit pension and other postretirement benefit plans	5	31	21	19	4	4

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International			
	2023	2022	2023	2022	2023	2022
Three months ended June 30,						
Total contributions to defined benefit pension and other postretirement benefit plans	3	15	10	9	2	1

The Company expects to make contributions totaling approximately \$95 million and \$34 million to its defined pension plans and other postretirement benefit plans, respectively, for the full year 2023.

Note 13

Stockholder's equity

At the Annual General Meeting of Shareholders (AGM) on March 23, 2023, shareholders approved the proposal of the Board of Directors to distribute 0.84 Swiss francs per share to shareholders. The declared dividend amounted to \$1,706 million, with the Company disbursing a portion in March and the remaining amounts in April.

In March 2023, the Company completed the share buyback program that was launched in April 2022. This program was executed on a second trading line on the SIX Swiss Exchange. Through this program, the Company purchased a total of 67 million shares for approximately \$2.0 billion, of which 8 million shares were purchased in the first quarter of 2023 (resulting in an increase in Treasury stock of \$253 million).

Also in March 2023, the Company announced a new share buyback program of up to \$1 billion. This program, which was launched in April 2023, is being executed on a second trading line on the SIX Swiss Exchange and is planned to run until the Company's 2024 AGM. Through this program, the Company purchased, from the program's launch in April 2023 to June 30, 2023, 6 million shares, resulting in an increase in Treasury stock of \$212 million.

In the second quarter of 2023, the Company cancelled 83 million shares which had been purchased under its share buyback program. This resulted in a decrease in Treasury stock of \$2,567 million and a corresponding total decrease in Capital stock, Additional paid-in capital and Retained earnings.

During the first quarter of 2023, the Company delivered, out of treasury stock, approximately 5 million shares in connection with its Management Incentive Plan.

In February 2023, the Company obtained funding through a private placement of shares in its ABB E-Mobility subsidiary, ABB E-mobility Holding Ltd (ABB E-Mobility), receiving gross proceeds of 325 million Swiss francs (approximately \$351 million) and reducing the Company's ownership in ABB E-Mobility from 92 percent to 81 percent. This resulted in an increase in Additional paid-in capital of \$170 million.

Note 14

Earnings per share

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

Basic earnings per share

(\$ in millions, except per share data in \$)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,951	1,003	910	388
Loss from discontinued operations, net of tax	(9)	(20)	(4)	(9)
Net income	1,942	983	906	379
Weighted-average number of shares outstanding (in millions)	1,861	1,922	1,862	1,909
Basic earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	1.05	0.52	0.49	0.20
Loss from discontinued operations, net of tax	0.00	(0.01)	0.00	0.00
Net income	1.04	0.51	0.49	0.20

Diluted earnings per share

(\$ in millions, except per share data in \$)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Amounts attributable to ABB shareholders:				
Income from continuing operations, net of tax	1,951	1,003	910	388
Loss from discontinued operations, net of tax	(9)	(20)	(4)	(9)
Net income	1,942	983	906	379
Weighted-average number of shares outstanding (in millions)	1,861	1,922	1,862	1,909
Effect of dilutive securities:				
Call options and shares	12	13	11	9
Adjusted weighted-average number of shares outstanding (in millions)	1,873	1,935	1,873	1,918
Diluted earnings per share attributable to ABB shareholders:				
Income from continuing operations, net of tax	1.04	0.52	0.49	0.20
Loss from discontinued operations, net of tax	0.00	(0.01)	0.00	0.00
Net income	1.04	0.51	0.48	0.20

Note 15

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	Derivative instruments and hedges	Total OCI
Balance at January 1, 2022	(2,993)	2	(1,089)	(8)	(4,088)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	(419)	(17)	91	(12)	(357)
Amounts reclassified from OCI	5	–	15	14	34
Total other comprehensive (loss) income	(414)	(17)	106	2	(323)
Less:					
Amounts attributable to noncontrolling interests and redeemable noncontrolling interests	(22)	–	–	–	(22)
Balance at June 30, 2022	(3,385)	(15)	(983)	(6)	(4,389)

(\$ in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on available-for-sale securities	Pension and other postretirement plan adjustments	Derivative instruments and hedges	Total OCI
Balance at January 1, 2023	(3,691)	(19)	(838)	(8)	(4,556)
Other comprehensive (loss) income:					
Other comprehensive (loss) income before reclassifications	(79)	2	(13)	(1)	(91)
Amounts reclassified from OCI	–	5	8	4	17
Total other comprehensive (loss) income	(79)	7	(5)	3	(74)
Less:					
Amounts attributable to noncontrolling interests and redeemable noncontrolling interests	(3)	–	–	–	(3)
Balance at June 30, 2023	(3,767)	(12)	(843)	(5)	(4,627)

The amounts reclassified out of OCI for the six and three months ended June 30, 2023 and 2022, were not significant.

Note 16

Restructuring and related expenses

Other restructuring-related activities

In the six and three months ended June 30, 2023 and 2022, the Company executed various other restructuring-related activities and incurred the following expenses:

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Employee severance costs	26	43	7	35
Estimated contract settlement, loss order and other costs	2	202	1	195
Inventory and long-lived asset impairments	–	5	–	1
Total	28	250	8	231

Expenses associated with these activities are recorded in the following line items in the Consolidated Income Statements:

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Total cost of sales	10	8	3	4
Selling, general and administrative expenses	13	28	1	24
Non-order related research and development expenses	–	2	(1)	2
Other income (expense), net	5	212	5	201
Total	28	250	8	231

During the second quarter of 2022, the Company completed a plan to fully exit its full train retrofit business by transferring the remaining contracts to a third party. The Company recorded \$195 million of restructuring expenses in connection with this business exit primarily for contract settlement costs. Prior to exiting this business, the business was reported as part of the Company's non-core business activities within Corporate and Other.

At June 30, 2023 and December 31, 2022, \$193 million and \$198 million, respectively, was recorded for other restructuring-related liabilities and is included primarily in Other provisions.

Note 17

Operating segment data

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

Effective January 1, 2023, the E-mobility Division is no longer managed within the Electrification segment and has become a separate operating segment. This new segment does not currently meet any of the size thresholds to be considered a reportable segment and as such is presented within Corporate and Other. The segment information for the six and three months ended June 30, 2023 and 2022, and at December 31, 2022, has been recast to reflect this change.

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

- **Electrification:** manufactures and sells electrical products and solutions which are designed to provide safe, smart and sustainable electrical flow from the substation to the socket. The portfolio of increasingly digital and connected solutions includes renewable power solutions, modular substation packages, distribution automation products, switchboard and panelboards, switchgear, UPS solutions, circuit breakers, measuring and sensing devices, control products, wiring accessories, enclosures and cabling systems and intelligent home and building solutions, designed to integrate and automate lighting, heating, ventilation, security and data communication networks. The products and services are delivered through six operating Divisions: Distribution Solutions, Smart Power, Smart Buildings, Installation Products, Power Conversion and Service.
- **Motion:** designs, manufactures, and sells drives, motors, generators and traction converters that are driving the low-carbon future for industries, cities, infrastructure and transportation. These products, digital technology and related services enable industrial customers to increase energy efficiency, improve safety and reliability, and achieve precise control of their processes. Building on over 130 years of cumulative experience in electric powertrains, Motion combines domain expertise and technology to deliver the optimum solution for a wide range of applications in all industrial segments. In addition, Motion, along with its partners, has a leading global service presence. These products and services are delivered through seven operating Divisions: Large Motors and Generators, IEC LV Motors, NEMA Motors, Drive Products, System Drives, Service and Traction.

- **Process Automation:** offers a broad range of industry-specific, integrated automation, electrification and digital solutions, as well as lifecycle services for the process, hybrid and marine industries. The product portfolio includes control technologies, industrial software, advanced analytics, sensing and measurement technology, and marine propulsion systems. In addition, Process Automation offers a comprehensive range of services, from repair to advanced digital capabilities such as remote monitoring, preventive maintenance, asset performance management, emission monitoring and cybersecurity. The products, systems and services are currently delivered through four operating Divisions: Energy Industries, Process Industries, Marine & Ports and Measurement & Analytics as well as, prior to its spin-off in October 2022, the Turbocharging Division (Accelleron).
- **Robotics & Discrete Automation:** delivers its products, solutions and services through two operating Divisions: Robotics and Machine Automation. Robotics includes industrial robots, autonomous mobile robotics, software, robotic solutions, field services, spare parts, and digital services. Machine Automation specializes in solutions based on its programmable logic controllers (PLC), industrial PCs (IPC), servo motion, transport systems and machine vision. Both Divisions offer engineering and simulation software as well as a comprehensive range of digital solutions.

Corporate and Other: includes headquarter costs, the Company's corporate real estate activities, Corporate Treasury Operations, the E-mobility operating segment, historical operating activities of certain divested businesses, and other non-core operating activities.

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

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

Certain other non-operational items generally includes certain regulatory, compliance and legal costs, other income/expense relating to the Power Grids joint venture, certain asset write downs/impairments and certain other fair value changes, changes in estimates relating to opening balance sheets of acquired businesses (changes in pre-acquisition estimates), as well as other items which are determined by management on a case-by-case basis.

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

The following tables present disaggregated segment revenues from contracts with customers, Operational EBITA, and the reconciliations of consolidated Operational EBITA to Income from continuing operations before taxes for the six and three months ended June 30, 2023 and 2022, as well as total assets at June 30, 2023, and December 31, 2022.

Six months ended June 30, 2023						
(\$ in millions)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	2,328	1,289	1,081	956	153	5,807
The Americas	2,932	1,267	868	272	129	5,468
of which: United States	2,179	1,061	550	175	111	4,076
Asia, Middle East and Africa	1,948	1,117	1,027	623	32	4,747
of which: China	917	581	339	475	17	2,329
	7,208	3,673	2,976	1,851	314	16,022
Product type						
Products	6,762	3,169	1,743	1,576	280	13,530
Services and other	446	504	1,233	275	34	2,492
	7,208	3,673	2,976	1,851	314	16,022
Third-party revenues	7,208	3,673	2,976	1,851	314	16,022
Intersegment revenues	117	248	13	8	(386)	–
Total revenues⁽¹⁾	7,325	3,921	2,989	1,859	(72)	16,022

Six months ended June 30, 2022						
(\$ in millions)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	2,120	953	1,131	712	110	5,026
The Americas	2,445	1,029	767	238	87	4,566
of which: United States	1,789	853	460	166	60	3,328
Asia, Middle East and Africa	1,967	995	1,119	509	34	4,624
of which: China	992	565	309	382	15	2,263
	6,532	2,977	3,017	1,459	231	14,216
Product type						
Products	6,124	2,552	1,642	1,230	214	11,762
Services and other	408	425	1,375	229	17	2,454
	6,532	2,977	3,017	1,459	231	14,216
Third-party revenues	6,532	2,977	3,017	1,459	231	14,216
Intersegment revenues	118	221	18	3	(360)	–
Total revenues⁽¹⁾	6,650	3,198	3,035	1,462	(129)	14,216

Three months ended June 30, 2023						
(\$ in millions)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	1,166	651	562	482	74	2,935
The Americas	1,525	635	447	136	72	2,815
of which: United States	1,136	528	286	84	58	2,092
Asia, Middle East and Africa	991	568	538	299	17	2,413
of which: China	460	300	177	227	10	1,174
	3,682	1,854	1,547	917	163	8,163
Product type						
Products	3,456	1,586	916	785	143	6,886
Services and other	226	268	631	132	20	1,277
	3,682	1,854	1,547	917	163	8,163
Third-party revenues	3,682	1,854	1,547	917	163	8,163
Intersegment revenues	53	127	6	5	(191)	–
Total revenues⁽¹⁾	3,735	1,981	1,553	922	(28)	8,163

Three months ended June 30, 2022						
(\$ in millions)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Total
Geographical markets						
Europe	1,058	487	546	358	59	2,508
The Americas	1,281	537	399	130	50	2,397
of which: United States	940	446	239	94	27	1,746
Asia, Middle East and Africa	1,016	496	573	242	19	2,346
of which: China	535	278	159	185	6	1,163
	3,355	1,520	1,518	730	128	7,251
Product type						
Products	3,143	1,304	829	618	119	6,013
Services and other	212	216	689	112	9	1,238
	3,355	1,520	1,518	730	128	7,251
Third-party revenues	3,355	1,520	1,518	730	128	7,251
Intersegment revenues	59	106	11	2	(178)	–
Total revenues⁽¹⁾	3,414	1,626	1,529	732	(50)	7,251

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

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Operational EBITA:				
Electrification	1,464	1,117	787	605
Motion	767	540	401	266
Process Automation	444	420	239	224
Robotics & Discrete Automation	281	109	141	60
Corporate and Other				
– E-mobility	(95)	(8)	(67)	(6)
– Corporate costs, Intersegment elimination and other	(159)	(45)	(76)	(13)
Total	2,702	2,133	1,425	1,136
Acquisition-related amortization	(109)	(119)	(55)	(59)
Restructuring, related and implementation costs ⁽¹⁾	(41)	(280)	(13)	(264)
Changes in obligations related to divested businesses	5	17	8	3
Gains and losses from sale of businesses	26	(4)	26	(4)
Acquisition- and divestment-related expenses and integration costs	(45)	(109)	(26)	(50)
Foreign exchange/commodity timing differences in income from operations:				
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	(10)	(100)	(32)	(118)
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(6)	(35)	(1)	(33)
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	14	40	7	41
Certain other non-operational items:				
Other income/expense relating to the Power Grids joint venture	20	(37)	7	(2)
Regulatory, compliance and legal costs	–	(4)	–	(5)
Business transformation costs ⁽²⁾	(82)	(66)	(48)	(40)
Changes in pre-acquisition estimates	(4)	1	(4)	2
Certain other fair value changes, including asset impairments	6	34	7	–
Other non-operational items	20	(27)	(3)	(20)
Income from operations	2,496	1,444	1,298	587
Interest and dividend income	78	33	38	20
Interest and other finance expense	(124)	(62)	(63)	(40)
Non-operational pension (cost) credit	15	68	8	32
Income from continuing operations before taxes	2,465	1,483	1,281	599

(1) Includes impairment of certain assets.

(2) Amount includes ABB Way process transformation costs of \$71 million and \$64 million for six months ended June 30, 2023 and 2022, respectively, and \$41 million and \$39 million for the three months ended June 30, 2023 and 2022, respectively.

(\$ in millions)	Total assets ⁽¹⁾	
	June 30, 2023	December 31, 2022
Electrification	13,300	12,500
Motion	7,043	6,565
Process Automation	4,761	4,598
Robotics & Discrete Automation	4,931	4,901
Corporate and Other ⁽²⁾	9,821	10,584
Consolidated	39,856	39,148

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

(2) At June 30, 2023, and December 31, 2022, respectively, Corporate and Other includes \$74 million and \$96 million of assets in the Power Grids business which is reported as discontinued operations (see Note 3).

Supplemental Reconciliations and Definitions

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

While ABB's management believes that the non-GAAP financial measures herein are useful in evaluating ABB's operating results, this information should be considered as supplemental in nature and not as a substitute for the related financial information prepared in accordance with U.S. GAAP. Therefore these measures should not be viewed in isolation but considered together with the Consolidated Financial Information (unaudited) prepared in accordance with U.S. GAAP as of and for the six and three months ended June 30, 2023.

Comparable growth rates

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

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

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

Comparable growth rate reconciliation by Business Area

Business Area	Q2 2023 compared to Q2 2022							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	1%	2%	0%	3%	9%	2%	0%	11%
Motion	3%	1%	-1%	3%	22%	1%	-1%	22%
Process Automation	-8%	2%	12%	6%	2%	2%	15%	19%
Robotics & Discrete Automation	-23%	1%	0%	-22%	26%	1%	0%	27%
ABB Group	-2%	2%	2%	2%	13%	1%	3%	17%

Business Area	H1 2023 compared to H1 2022							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	1%	3%	0%	4%	10%	4%	0%	14%
Motion	3%	3%	-1%	5%	23%	3%	-1%	25%
Process Automation	8%	4%	17%	29%	-2%	4%	15%	17%
Robotics & Discrete Automation	-23%	2%	0%	-21%	27%	4%	0%	31%
ABB Group	0%	3%	3%	6%	13%	3%	3%	19%

Regional comparable growth rate reconciliation
Regional comparable growth rate reconciliation for ABB Group - Quarter

Region	Q2 2023 compared to Q2 2022							
	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%	0%	2%	1%	17%	-1%	4%	20%
The Americas	5%	0%	1%	6%	17%	0%	2%	19%
of which: United States	4%	0%	0%	4%	20%	0%	1%	21%
Asia, Middle East and Africa	-10%	6%	3%	-1%	3%	6%	4%	13%
of which: China	-15%	5%	1%	-9%	1%	5%	3%	9%
ABB Group	-2%	2%	2%	2%	13%	1%	3%	17%

Regional comparable growth rate reconciliation by Business Area - Quarter

Region	Q2 2023 compared to Q2 2022							
	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	-4%	-2%	0%	-6%	9%	-1%	0%	8%
The Americas	8%	0%	0%	8%	19%	0%	0%	19%
of which: United States	6%	0%	0%	6%	21%	0%	0%	21%
Asia, Middle East and Africa	-3%	8%	0%	5%	-2%	7%	0%	5%
of which: China	-9%	6%	0%	-3%	-14%	4%	0%	-10%
Electrification	1%	2%	0%	3%	9%	2%	0%	11%

Region	Q2 2023 compared to Q2 2022							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	8%	-2%	-2%	4%	31%	-2%	-1%	28%
The Americas	4%	-1%	-2%	1%	20%	0%	-3%	17%
of which: United States	0%	-1%	-2%	-3%	20%	0%	-3%	17%
Asia, Middle East and Africa	-3%	6%	0%	3%	14%	8%	0%	22%
of which: China	-6%	5%	0%	-1%	8%	6%	0%	14%
Motion	3%	1%	-1%	3%	22%	1%	-1%	22%

Region	Q2 2023 compared to Q2 2022							
	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%	3%	13%	10%	3%	0%	17%	20%
The Americas	-8%	-1%	8%	-1%	12%	0%	12%	24%
of which: United States	-2%	0%	9%	7%	19%	0%	16%	35%
Asia, Middle East and Africa	-10%	3%	15%	8%	-7%	5%	15%	13%
of which: China	-6%	4%	14%	12%	11%	6%	21%	38%
Process Automation	-8%	2%	12%	6%	2%	2%	15%	19%

Region	Q2 2023 compared to Q2 2022							
	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	-23%	-1%	0%	-24%	35%	-2%	0%	33%
The Americas	4%	0%	0%	4%	6%	-1%	0%	5%
of which: United States	-16%	1%	0%	-15%	-9%	0%	0%	-9%
Asia, Middle East and Africa	-33%	4%	0%	-29%	23%	6%	0%	29%
of which: China	-41%	4%	0%	-37%	23%	7%	0%	30%
Robotics & Discrete Automation	-23%	1%	0%	-22%	26%	1%	0%	27%

Region	H1 2023 compared to H1 2022							
	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	0%	3%	3%	6%	16%	2%	3%	21%
The Americas	4%	0%	2%	6%	20%	0%	2%	22%
of which: United States	0%	0%	1%	1%	22%	1%	1%	24%
Asia, Middle East and Africa	-6%	8%	3%	5%	3%	8%	4%	15%
of which: China	-13%	5%	2%	-6%	3%	7%	2%	12%
ABB Group	0%	3%	3%	6%	13%	3%	3%	19%

Regional comparable growth rate reconciliation by Business Area – Year to date

Region	H1 2023 compared to H1 2022							
	Order growth rate				Revenue growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Europe	-2%	2%	0%	0%	9%	2%	0%	11%
The Americas	3%	1%	0%	4%	20%	0%	0%	20%
of which: United States	0%	0%	0%	0%	22%	0%	0%	22%
Asia, Middle East and Africa	1%	9%	0%	10%	-1%	9%	0%	8%
of which: China	-10%	6%	0%	-4%	-8%	6%	0%	-2%
Electrification	1%	3%	0%	4%	10%	4%	0%	14%

Region	H1 2023 compared to H1 2022							
	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%	3%	-1%	8%	31%	2%	-1%	32%
The Americas	2%	0%	-1%	1%	24%	0%	-1%	23%
of which: United States	1%	-1%	-1%	-1%	25%	0%	-1%	24%
Asia, Middle East and Africa	-1%	8%	0%	7%	13%	9%	0%	22%
of which: China	-7%	6%	0%	-1%	5%	7%	0%	12%
Motion	3%	3%	-1%	5%	23%	3%	-1%	25%

Region	H1 2023 compared to H1 2022							
	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	18%	7%	20%	45%	-4%	3%	16%	15%
The Americas	8%	0%	12%	20%	13%	1%	13%	27%
of which: United States	-5%	0%	12%	7%	20%	0%	17%	37%
Asia, Middle East and Africa	-2%	5%	18%	21%	-8%	5%	15%	12%
of which: China	5%	7%	20%	32%	9%	7%	21%	37%
Process Automation	8%	4%	17%	29%	-2%	4%	15%	17%

Region	H1 2023 compared to H1 2022							
	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	-22%	2%	0%	-20%	35%	2%	0%	37%
The Americas	-8%	-1%	0%	-9%	16%	-1%	0%	15%
of which: United States	-20%	0%	0%	-20%	6%	1%	0%	7%
Asia, Middle East and Africa	-31%	5%	0%	-26%	22%	9%	0%	31%
of which: China	-35%	4%	0%	-31%	24%	9%	0%	33%
Robotics & Discrete Automation	-23%	2%	0%	-21%	27%	4%	0%	31%

Order backlog growth rate reconciliation

Business Area	June 30, 2023 compared to June 30, 2022			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	18%	1%	0%	19%
Motion	17%	-1%	-2%	14%
Process Automation	11%	1%	5%	17%
Robotics & Discrete Automation	-3%	1%	0%	-2%
ABB Group	13%	0%	1%	14%

Other growth rate reconciliations

Business Area	Q2 2023 compared to Q2 2022							
	Service orders growth rate				Services revenues growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	1%	1%	0%	2%	7%	3%	0%	10%
Motion	10%	3%	0%	13%	24%	3%	0%	27%
Process Automation	-16%	2%	20%	6%	-8%	1%	25%	18%
Robotics & Discrete Automation	8%	0%	0%	8%	18%	0%	0%	18%
ABB Group	-6%	2%	11%	7%	3%	2%	14%	19%

Business Area	H1 2023 compared to H1 2022							
	Service orders growth rate				Services revenues growth rate			
	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable	US\$ (as reported)	Foreign exchange impact	Portfolio changes	Comparable
Electrification	3%	3%	0%	6%	10%	3%	0%	13%
Motion	8%	4%	0%	12%	18%	6%	0%	24%
Process Automation	-16%	3%	22%	9%	-10%	3%	25%	18%
Robotics & Discrete Automation	9%	3%	0%	12%	20%	3%	0%	23%
ABB Group	-6%	4%	12%	10%	2%	3%	14%	19%

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

Definition

Operational EBITA margin

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

Operational EBITA

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

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

Certain other non-operational items generally includes certain regulatory, compliance and legal costs, other income/expense relating to the Power Grids joint venture, certain asset write downs/impairments and certain other fair value changes, changes in estimates relating to opening balance sheets of acquired businesses (changes in pre-acquisition estimates), as well as other items which are determined by management on a case-by-case basis.

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

Acquisition-related amortization

Amortization expense on intangibles arising upon acquisitions.

Restructuring, related and implementation costs

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

Operational revenues

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

Reconciliation

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

Reconciliation of consolidated Operational EBITA to Net Income

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Operational EBITA	2,702	2,133	1,425	1,136
Acquisition-related amortization	(109)	(119)	(55)	(59)
Restructuring, related and implementation costs ⁽¹⁾	(41)	(280)	(13)	(264)
Changes in obligations related to divested businesses	5	17	8	3
Gains and losses from sale of businesses	26	(4)	26	(4)
Acquisition- and divestment-related expenses and integration costs	(45)	(109)	(26)	(50)
Certain other non-operational items	(40)	(99)	(41)	(65)
Foreign exchange/commodity timing differences in income from operations	(2)	(95)	(26)	(110)
Income from operations	2,496	1,444	1,298	587
Interest and dividend income	78	33	38	20
Interest and other finance expense	(124)	(62)	(63)	(40)
Non-operational pension (cost) credit	15	68	8	32
Income from continuing operations before taxes	2,465	1,483	1,281	599
Income tax expense	(468)	(434)	(349)	(193)
Income from continuing operations, net of tax	1,997	1,049	932	406
Loss from discontinued operations, net of tax	(9)	(20)	(4)	(9)
Net income	1,988	1,029	928	397

(1) Includes impairment of certain assets.

Reconciliation of Operational EBITA margin by business

(\$ in millions, unless otherwise indicated)	Three months ended June 30, 2023					Consolidated
	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other and Intersegment elimination	
Total revenues	3,735	1,981	1,553	922	(28)	8,163
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	6	(9)	3	6	8	14
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(4)	–	5	–	(2)	(1)
Unrealized foreign exchange movements on receivables (and related assets)	–	(2)	(8)	(7)	(6)	(23)
Operational revenues	3,737	1,970	1,553	921	(28)	8,153
Income (loss) from operations	713	380	270	119	(184)	1,298
Acquisition-related amortization	22	9	2	19	3	55
Restructuring, related and implementation costs ⁽¹⁾	4	1	2	–	6	13
Changes in obligations related to divested businesses	1	–	–	–	(9)	(8)
Gains and losses from sale of businesses	–	–	(26)	–	–	(26)
Acquisition- and divestment-related expenses and integration costs	12	8	(2)	2	6	26
Certain other non-operational items	6	1	–	1	33	41
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	31	5	(8)	4	–	32
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(2)	–	5	–	(2)	1
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	–	(3)	(4)	(4)	4	(7)
Operational EBITA	787	401	239	141	(143)	1,425
Operational EBITA margin (%)	21.1%	20.4%	15.4%	15.3%	n.a.	17.5%

(1) Includes impairment of certain assets.

In the three months ended June 30, 2023, Certain other non-operational items in the table above includes the following:

(\$ in millions, unless otherwise indicated)	Three months ended June 30, 2023					Consolidated
	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	
Certain other non-operational items:						
Other income/expense relating to the Power Grids joint venture	–	–	–	–	(7)	(7)
Business transformation costs ⁽¹⁾	5	–	–	1	42	48
Changes in pre-acquisition estimates	1	–	–	–	3	4
Certain other fair values changes, including asset impairments	–	–	–	–	(7)	(7)
Other non-operational items	–	1	–	–	2	3
Total	6	1	–	1	33	41

(1) Amounts include ABB Way process transformation costs of \$41 million for the three months ended June 30, 2023.

Three months ended June 30, 2022						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other and Intersegment elimination	Consolidated
Total revenues	3,414	1,626	1,529	732	(50)	7,251
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	30	(1)	37	9	10	85
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	6	1	5	–	26	38
Unrealized foreign exchange movements on receivables (and related assets)	(18)	(4)	(10)	(8)	(13)	(53)
Operational revenues	3,432	1,622	1,561	733	(27)	7,321
Income (loss) from operations	474	231	175	43	(336)	587
Acquisition-related amortization	28	7	1	19	4	59
Restructuring, related and implementation costs ⁽¹⁾	8	–	–	2	254	264
Changes in obligations related to divested businesses	–	–	–	–	(3)	(3)
Gains and losses from sale of businesses	–	4	–	–	–	4
Acquisition- and divestment-related expenses and integration costs	10	3	36	2	(1)	50
Certain other non-operational items	20	–	–	(1)	46	65
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	74	23	12	1	8	118
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	4	1	7	(1)	22	33
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(13)	(3)	(7)	(5)	(13)	(41)
Operational EBITA	605	266	224	60	(19)	1,136
Operational EBITA margin (%)	17.6%	16.4%	14.3%	8.2%	n.a.	15.5%

(1) Includes impairment of certain assets.

In the three months ended June 30, 2022, Certain other non-operational items in the table above includes the following:

Three months ended June 30, 2022						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Consolidated
Certain other non-operational items:						
Other income/expense relating to the Power Grids joint venture	–	–	–	–	2	2
Regulatory, compliance and legal costs	–	–	–	–	5	5
Business transformation costs ⁽¹⁾	1	–	–	–	39	40
Changes in pre-acquisition estimates	–	–	–	(2)	–	(2)
Other non-operational items	19	–	–	1	–	20
Total	20	–	–	(1)	46	65

(1) Amounts include ABB Way process transformation costs of \$39 million for the three months ended June 30, 2022.

Six months ended June 30, 2023						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other and Intersegment elimination	Consolidated
Total revenues	7,325	3,921	2,989	1,859	(72)	16,022
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	(8)	(5)	16	8	4	15
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(5)	–	6	–	–	1
Unrealized foreign exchange movements on receivables (and related assets)	(7)	(6)	(12)	(8)	(9)	(42)
Operational revenues	7,305	3,910	2,999	1,859	(77)	15,996
Income (loss) from operations	1,368	733	470	234	(309)	2,496
Acquisition-related amortization	44	17	3	39	6	109
Restructuring, related and implementation costs ⁽¹⁾	12	2	4	–	23	41
Changes in obligations related to divested businesses	1	–	–	–	(6)	(5)
Gains and losses from sale of businesses	–	–	(26)	–	–	(26)
Acquisition- and divestment-related expenses and integration costs	19	12	1	4	9	45
Certain other non-operational items	9	3	–	3	25	40
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	16	5	(10)	6	(7)	10
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	(2)	–	7	–	1	6
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(3)	(5)	(5)	(5)	4	(14)
Operational EBITA	1,464	767	444	281	(254)	2,702
Operational EBITA margin (%)	20.0%	19.6%	14.8%	15.1%	n.a.	16.9%

(1) Includes impairment of certain assets.

In the six months ended June 30, 2023, Certain other non-operational items in the table above includes the following:

Six months ended June 30, 2023						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Consolidated
Certain other non-operational items:						
Other income/expense relating to the Power Grids joint venture	–	–	–	–	(20)	(20)
Business transformation costs ⁽¹⁾	9	–	–	2	71	82
Changes in pre-acquisition estimates	1	–	–	–	3	4
Certain other fair values changes, including asset impairments	1	1	–	1	(9)	(6)
Other non-operational items	(2)	2	–	–	(20)	(20)
Total	9	3	–	3	25	40

(1) Amounts include ABB Way process transformation costs of \$71 million for the six months ended June 30, 2023.

Six months ended June 30, 2022						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other and Intersegment elimination	Consolidated
Total revenues	6,650	3,198	3,035	1,462	(129)	14,216
Foreign exchange/commodity timing differences in total revenues:						
Unrealized gains and losses on derivatives	19	3	36	11	8	77
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	7	2	2	–	30	41
Unrealized foreign exchange movements on receivables (and related assets)	(18)	(6)	(7)	(5)	(15)	(51)
Operational revenues	6,658	3,197	3,066	1,468	(106)	14,283
Income (loss) from operations	955	485	326	65	(387)	1,444
Acquisition-related amortization	56	15	2	40	6	119
Restructuring, related and implementation costs ⁽¹⁾	10	8	5	3	254	280
Changes in obligations related to divested businesses	–	–	–	–	(17)	(17)
Gains and losses from sale of businesses	–	4	–	–	–	4
Acquisition- and divestment-related expenses and integration costs	28	8	69	3	1	109
Certain other non-operational items	23	–	–	(1)	77	99
Foreign exchange/commodity timing differences in income from operations:						
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	53	22	18	4	3	100
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	6	1	4	(1)	25	35
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(14)	(3)	(4)	(4)	(15)	(40)
Operational EBITA	1,117	540	420	109	(53)	2,133
Operational EBITA margin (%)	16.8%	16.9%	13.7%	7.4%	n.a.	14.9%

(1) Includes impairment of certain assets.

In the six months ended June 30, 2022, certain other non-operational items in the table above includes the following:

Six months ended June 30, 2022						
(\$ in millions, unless otherwise indicated)	Electrification	Motion	Process Automation	Robotics & Discrete Automation	Corporate and Other	Consolidated
Certain other non-operational items:						
Other income/expense related to the Power Grids joint venture	–	–	–	–	37	37
Regulatory, compliance and legal costs	–	–	–	–	4	4
Business transformation costs	2	–	–	–	64	66
Changes in pre-acquisition estimates	1	–	–	(2)	–	(1)
Certain other fair values changes, including asset impairments	–	–	–	–	(34)	(34)
Other non-operational items	20	–	–	1	6	27
Total	23	–	–	(1)	77	99

(1) Amounts include ABB Way process transformation costs of \$64 million for the six months ended June 30, 2022.

Net debt

Definition

Net debt

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

Total debt

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

Cash and marketable securities

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

Reconciliation

(\$ in millions)	June 30, 2023	December 31, 2022
Short-term debt and current maturities of long-term debt	3,849	2,535
Long-term debt	4,451	5,143
Total debt	8,300	7,678
Cash and equivalents	2,923	4,156
Restricted cash - current	19	18
Marketable securities and short-term investments	1,193	725
Cash and marketable securities	4,135	4,899
Net debt	4,165	2,779

Net debt/Equity ratio

Definition

Net debt/Equity ratio

Net debt/Equity ratio is defined as Net debt divided by Equity.

Equity

Equity is defined as Total stockholders' equity.

Reconciliation

(\$ in millions, unless otherwise indicated)	June 30, 2023	December 31, 2022
Total stockholders' equity	13,340	13,187
Net debt (as defined above)	4,165	2,779
Net debt / Equity ratio	0.31	0.21

Net debt/EBITDA ratio

Definition

Net debt/EBITDA ratio

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

EBITDA

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

Reconciliation

(\$ in millions, unless otherwise indicated)	June 30, 2023	June 30, 2022
Income from operations for the three months ended:		
September 30, 2022 / 2021	708	852
December 31, 2022 / 2021	1,185	2,975
March 31, 2023 / 2022	1,198	857
June 30, 2023 / 2022	1,298	587
Depreciation and Amortization for the three months ended:		
September 30, 2022 / 2021	198	220
December 31, 2022 / 2021	199	216
March 31, 2023 / 2022	191	210
June 30, 2023 / 2022	196	207
EBITDA	5,173	6,124
Net debt (as defined above)	4,165	4,235
Net debt / EBITDA	0.8	0.7

Net working capital as a percentage of revenues

Definition

Net working capital as a percentage of revenues

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

Net working capital

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

Adjusted revenues for the trailing twelve months

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

Reconciliation

(\$ in millions, unless otherwise indicated)	June 30, 2023	June 30, 2022
Net working capital:		
Receivables, net	7,481	6,960
Contract assets	1,010	965
Inventories, net	6,448	5,595
Prepaid expenses	290	262
Accounts payable, trade	(4,881)	(4,805)
Contract liabilities	(2,394)	(2,141)
Other current liabilities ⁽¹⁾	(3,506)	(3,173)
Net working capital in assets and liabilities held for sale	137	–
Net working capital	4,585	3,663
Total revenues for the three months ended:		
September 30, 2022 / 2021	7,406	7,028
December 31, 2022 / 2021	7,824	7,567
March 31, 2023 / 2022	7,859	6,965
June 30, 2023 / 2022	8,163	7,251
Adjustment to annualize/eliminate revenues of certain acquisitions/divestments	(162)	(213)
Adjusted revenues for the trailing twelve months	31,090	28,598
Net working capital as a percentage of revenues (%)	14.7%	12.8%

(1) Amounts exclude \$771 million and \$1,104 million at June 30, 2023 and 2022, respectively, related primarily to (a) income taxes payable, (b) current derivative liabilities, (c) pension and other employee benefits, (d) payables under the share buyback program, (e) liabilities related to certain restructuring-related activities and (f) liabilities related to the divestment of the Power Grids business.

Free cash flow conversion to net income

Definition

Free cash flow conversion to net income

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

Adjusted net income attributable to ABB

Adjusted net income attributable to ABB is calculated as net income attributable to ABB adjusted for: (i) impairment of goodwill, (ii) losses from extinguishment of debt, and (iii) gains arising on the sale of both the Hitachi Energy Joint Venture and Power Grids business, the latter being included in discontinued operations.

Free cash flow

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

Free cash flow for the trailing twelve months

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

Net income for the trailing twelve months

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

Free cash flow conversion to net income

(\$ in millions, unless otherwise indicated)	Twelve months to	
	June 30, 2023	December 31, 2022
Net cash provided by operating activities – continuing operations	2,555	1,334
Adjusted for the effects of continuing operations:		
Purchases of property, plant and equipment and intangible assets	(755)	(762)
Proceeds from sale of property, plant and equipment	118	127
Free cash flow from continuing operations	1,918	699
Net cash used in operating activities – discontinued operations	(35)	(47)
Free cash flow	1,883	652
Adjusted net income attributable to ABB⁽¹⁾	3,392	2,442
Free cash flow conversion to net income	56%	27%

(1) Adjusted net income attributable to ABB for the year ended December 31, 2022, is adjusted to exclude the gain on the sale of Hitachi Energy Joint Venture of \$43 million and reductions to the gain on the sale of Power Grids of \$10 million.

Reconciliation of the trailing twelve months to June 30, 2023

(\$ in millions)	Continuing operations			Discontinued operations	Adjusted net income attributable to ABB ⁽¹⁾
	Net cash provided by continuing operating activities	Purchases of property, plant and equipment and intangible assets	Proceeds from sale of property, plant and equipment	Net cash provided by (used in) discontinued operating activities	
Q3 2022	793	(165)	19	(2)	362
Q4 2022	720	(259)	42	(33)	1,088
Q1 2023	283	(151)	31	(1)	1,036
Q2 2023	759	(180)	26	1	906
Total for the trailing twelve months to June 30, 2023	2,555	(755)	118	(35)	3,392

(1) Adjusted net income attributable to ABB for Q3 and Q4 2022, is adjusted to exclude reductions to the gain on the sale of Power Grids of \$2 million and \$(1) million, respectively. In addition, Q4 2022 is also adjusted to exclude the gain on the sale of Hitachi Energy Joint Venture of \$43 million.

Net finance expenses

Definition

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

Reconciliation

(\$ in millions)	Six months ended June 30,		Three months ended June 30,	
	2023	2022	2023	2022
Interest and dividend income	78	33	38	20
Interest and other finance expense	(124)	(62)	(63)	(40)
Net finance expenses	(46)	(29)	(25)	(20)

Book-to-bill ratio

Definition

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

Reconciliation

(\$ in millions, except Book-to-bill presented as a ratio)	Six months ended June 30,					
	2023			2022		
	Orders	Revenues	Book-to-bill	Orders	Revenues	Book-to-bill
Electrification	8,101	7,325	1.11	8,025	6,650	1.21
Motion	4,399	3,921	1.12	4,281	3,198	1.34
Process Automation	3,782	2,989	1.27	3,511	3,035	1.16
Robotics & Discrete Automation	1,851	1,859	1.00	2,417	1,462	1.65
Corporate and Other <i>(incl. intersegment eliminations)</i>	(16)	(72)	n.a.	(54)	(129)	n.a.
ABB Group	18,117	16,022	1.13	18,180	14,216	1.28

(\$ in millions, except Book-to-bill presented as a ratio)	Three months ended June 30,					
	2023			2022		
	Orders	Revenues	Book-to-bill	Orders	Revenues	Book-to-bill
Electrification	3,960	3,735	1.06	3,913	3,414	1.15
Motion	2,137	1,981	1.08	2,079	1,626	1.28
Process Automation	1,669	1,553	1.07	1,819	1,529	1.19
Robotics & Discrete Automation	850	922	0.92	1,109	732	1.52
Corporate and Other <i>(incl. intersegment eliminations)</i>	51	(28)	n.a.	(113)	(50)	n.a.
ABB Group	8,667	8,163	1.06	8,807	7,251	1.21

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