

**ABB AB**  
(org. nr 559193-0903)

Styrelsens och Verkställande Direktörens


**ÅRSREDOVISNING**

för år 2019

Undertecknad styrelseledamot i ABB AB, 559193-0903, intygar härmed, dels att denna kopia av årsredovisningen överensstämmer med originalet, dels att resultaträkningen och balansräkningen fastställts på årsstämman den 26 mars 2020.

Bolagsstämman beslöt också att av till bolagsstämmans förfogande stående 1 766 365 065,96 kr skulle överföras till i ny räkning.

Västerås den 8 april 2020

Dennis Helfridsson  
Country Managing Director

# **ABB AB (f.d. ABB Sweden 1 AB)**

(org. nr. 559193-0903)

Styrelsens och Verkställande Direktörens

## **ÅRSREDOVISNING**

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för år 2019

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## Förvaltningsberättelse, ABB AB

ABB AB är moderbolag inom den svenska delen av ABB-koncernen och ett dotterbolag till ABB Norden Holding AB, org.nr. 556011-5114, som ytterst ägs av ABB Ltd i Zürich, Schweiz.

Med stöd av ÅRL 7 kap. 2 § upprättas ingen särskild koncernredovisning för ABB AB och dess dotterbolag, utan dess redovisning ingår i den koncernredovisning som upprättas av ABB Ltd. ABB Ltd.'s årsredovisning finns tillgänglig på [www.abb.com](http://www.abb.com).

### Om ABB och vår verksamhet

ABB är en pionjär med banbrytande teknik inom kraftnät, elektrifieringsprodukter, industriell automation samt robotar och drivsystem. Vi betjänar kunder inom energi, industri samt transport och infrastruktur i hela världen. Med över 130 år av innovation driver ABB som teknikledare den digitala omställningen av industrier med två tydliga värdeerbjudanden: att transportera elektricitet från kraftverk till eluttag samt att automatisera industrier från naturresurser till färdiga produkter.

I Sverige har ABB, vid utgången av året, cirka 7 700 medarbetare och finns på cirka 30 orter. Svenska ABB är en ledande leverantör av produkter och system för kraftöverföring samt process- och industriautomation. Stora verksamhetsorter är Västerås med cirka 3 700 medarbetare och Ludvika med cirka 2 600 medarbetare.

Den 1 november 2019 delades ABB i Sverige i två separata bolag, ABB AB och ABB Power Grids Sweden AB. Båda bolagen är fortfarande helägda av ABB.

Bolaget ABB AB har under de två sista månaderna av 2019 bestått av de fyra affärsområdena Electrification, Industrial Automation, Motion och Robotics and Discrete Automation inklusive serviceverksamhet, dotterbolag, staber och centrala funktioner.

#### Electrification

Affärsområdet Electrification ansvarar för att sälja ett komplett sortimentet av ABB:s låg- och mellanspänningsprodukter till den svenska marknaden via ett flertal säljkanaler. De mest centrala av dessa säljkanaler är grossist och installatör, försäljning direkt till större OEM och systemintegratörer samt ställverks- och panelbyggare. Vi erbjuder även kompletta ställverk och kontrollutrustningar. Genom att lägga till solenergi, laddning av elbilar och elskydd har sortimentet gjorts ännu bredare. Divisionen har även ett flertal produktenheter i Sverige som ansvarar för produkter som säljs via ABB till kunder i hela världen.

#### Industrial Automation

Detta affärsområde förser kunder med instrument- och analysprodukter, automation och optimering av industriella processer. Affärsområdets kunder är datacenters och processindustrier såsom kraftindustri, olje- och gasproducenter, kemisk industri, läkemedel- och livsmedelsindustri. Vidare ingår massa och papper, metall, gruvor och marin industri, VA-verk samt industri för turboladdare. Vi hjälper våra kunder att öka sin produktivitet och säkerhet i anläggningen med minskad energianvändning.

### **Motion**

Affärsområdet Motion erbjuder produkter och lösningar som höjer produktivitet och energieffektivitet. Motorer, generatorer, komponenter för mekanisk kraftöverföring (växlar mm), frekvensomriktare och PLC-enheter (programmable logic controllers) är produkter som driver, styr och åstadkommer rörelse i ett stort antal automations-applikationer.

### **Robotics and Discrete Automation**

Affärsområdet Robotics and Discrete automation erbjuder förutom robotar även intelligenta lösningar för automation. ABB har installerat över 400 000 robotar världen över och är en ledande leverantör av industrirobotar, modulbaserade tillverknings-system och service. Ett tydligt fokus på lösningar hjälper industriföretag att förbättra produktivitet, produktkvalitet och att skapa en säker arbetsmiljö.

## **Väsentliga händelser under räkenskapsåret**

Som tidigare kommunicerats, avser ABB att sälja sin Power Grids verksamhet till Hitachi. Försäljningen i Sverige genomförs som en omvänd delning. Det tidigare bolaget ABB AB med organisationsnummer 556029-7029 är namnändrat till ABB Power Grids Sweden AB och fortsätter att driva ABBs Power Grids verksamhet. Svenska ABB's övriga fyra ovan beskrivna affärsområden har förts över till ett nybildat bolag som har ärvt namnet ABB AB (organisationsnummer 559193-0903). Denna årsredovisning avser bolagets första räkenskapsår vilket omfattar perioden från 2019-01-30 till 2019-12-31.

### **Beställningsingång och nettoomsättning**

ABB AB:s intäkter blev 2 688 MSEK. Exportvärdet från Sverige uppgick till 1 795 MSEK, vilket motsvarar 67 %.

För de två månaderna i 2019 redovisar vi en beställningsingång på 2 565 MSEK. Exportförsäljningen svarade för cirka 58 % av den totala orderingen och uppgick till 1 489 MSEK.

### **Större projekt och händelser under 2019 för affärsområdena**

Nedan listas några större händelser och projekt som tagits under 2019:

- ABB tillkännagav ett nytt samarbete med svenska Exeger Operations AB. Samarbetet kommer att möjliggöra för Exeger att stärka produktionskvaliteten på det unika fotovoltaiska materialet på Stockholmsfabriken och utveckla automatiseringslösningar för Exegers nya toppmoderna helautomatiserade fabrik som börjar byggas i en nära framtid.
- ABB hjälper det ledande energibolaget Vattenfall att utveckla ett omfattande nätverk för laddning av elfordon i Sverige. Lösningen är helt komplett och

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omfattar både snabbbladdningsstationen och all nödvändig utrustning för elnätsanslutning. ABB:s teknik används av Vattenfall för att ladda elfordon på nästan 40 offentliga platser i hela Sverige.

- ABB och Stena Recycling skrev ett långsiktigt samarbetsavtal om återvinning av elmotorer. Samarbetet, som är ett viktigt steg på vägen mot cirkulär ekonomi i ett hållbart samhälle, har stor potential att frigöra elektrisk energikapacitet inom industrin.
- ABB tillkännagav öppnandet av det nya Robotics Experience Center i Västerås. Centret ska göra det möjligt för ABB att tillsammans med kunder och partners från både industrin och den akademiska världen att samarbeta för att utveckla nya robottekniker och tillverkningslösningar.
- Jönköping satsar på ekologisk, social och ekonomisk hållbarhet. I linje med det läde Jönköping Energi en order till ABB för att elektrifiera stadens första elbusslinje.
- ABB laddar nya elbussar i Göteborg. Med start 2020 kommer 157 nya elbussar från Volvo att börja rulla på Göteborgs, Mölndals och Partilles gator, drivna av laddinfrastrukturlösningar från ABB.
- ABB ska leverera kraftförsörjningen till Europas största batterifabrik. Det pålitliga och effektiva kraftdistributionsnätet är en viktig byggsten i konstruktionen av en av Europas största och mest avancerade litiumjonbatterifabriker, som ska byggas av Northvolt i Skellefteå. ABB kommer att tillhandahålla infrastruktur för kraftförsörjning från det lokala elnätet direkt till produktionsanläggningarna.

## Väsentliga händelser efter räkenskapsårets slut

Efter räkenskapsårets slut har en global pandemi orsakad av ett coronavirus drabbat världen. Effekterna på samhället är långtgående. ABB följer utvecklingen noga men kan för närvarande inte kvantifiera effekterna av pandemins påverkan på den egna verksamheten.

## Resultat och ställning

Resultat efter finansiella poster uppgick till 188 MSEK.

Årets resultat uppgick till 95 MSEK.

Räntabiliteten på sysselsatt kapital uppgick 2019 till 9,3 %. Soliditeten uppgår till 23 %.

ABB AB:s netto likvida medel (likvida medel minus kort- och medelfristiga lån) uppgick till 278 MSEK.

Orderstocken för ABB AB var vid utgången av året 6 555 MSEK vilket är en jämförbart hög nivå.

Medelantalet anställda under 2019 var 3 780. Vi fortsätter att rekrytera inom vissa tillväxtområden.

## **Forskning, utveckling och andra investeringar**

Under året investerade ABB AB 269 MSEK i forskning och utveckling.

ABB AB investerade 2019 58 MSEK i maskiner, inventarier, byggnader och mark.

## **Intern kontroll**

ABB arbetar strukturerat med intern kontroll baserat på SOX (Sarbanes-Oxley Act), en uppsättning lagar och regler avseende internkontroll för företag noterade på den amerikanska börsen. Arbetet med att förenkla och standardisera processer inom verksamheten pågår fortlöpande och leder kontinuerligt till en effektivare kontrollmiljö.

## **Miljöpåverkan**

ABB AB-koncernen bedrev under året 2019, 4 tillståndspliktiga och 7 anmälningspliktiga enheter enligt miljöbalken.

Påverkan på den yttre miljön från ABB:s verksamhet sker i huvudsak genom utsläpp till luft och vatten och genom användning av resurser såsom energi och råmaterial, för tillverkning och service.

En betydande del av verksamheten i Sverige omfattar leverans av system för bl. a process- och industriautomation. Detta innebär att den indirekta miljöpåverkan från de produkter och tjänster som vi tillhandahåller har en betydande roll i företagets totala miljöpåverkan. Transporter av material och färdiga produkter liksom resor är också en väsentlig del av företagets påverkan på miljön. Överflyttning av produktion till underleverantörer innebär att våra leverantörers miljöarbete fortsatt har en stor betydelse.

För den kompletta hållbarhetsrapporten hänvisas till [www.abb.com](http://www.abb.com).

## **Utländska filialer**

ABB AB har i dagsläget inga filialer i utlandet.

## **Utsikter för 2020**

ABB kommer att bli ledare inom banbrytande teknik i digitala industrier, bedriva verksamhet på attraktiva marknader med ett unikt erbjudande med innovativa lösningar inom elektrifiering, automatisering, robotisering och digitalisering. Med ABB Ability™, vårt erbjudande för digitala lösningar, fortsätter vi att driva en lönsam tillväxt där ABB Sverige bidrar på ett positivt sätt.

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**Nyckeltal – Femårsöversikt  
(enligt legal struktur vid respektive rapporteringstillfälle)**

2020042904405

(MSEK)	2019				
Beställningsingång	2 565				
- varav export	1 489				
Rörelsens nettoomsättning	2 688				
- varav export	1 795				
Resultat efter finansiella poster	188				
Årets resultat	95				
Netto likvida medel	278				
Soliditet	23%				
Räntabilitet på sysselsatt kapital	9,3%				
Räntabilitet på eget kapital	9,7%				
Orderstock	6 555				
Medelantalet anställda	3 782				
Kostnader för FoU	269				
Investeringar i maskiner och fastigheter	58				

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**Förslag till vinstdisposition**

Till bolagsstämmans förfogande står följande

Fond för verkligt värde	0,00
Balanserad vinst	1 671 015 448,96
Årets resultat	95 349 617,00

Tillhoppa	1 766 365 065,96
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Styrelsen och verkställande direktören föreslår att vinstmedlen disponeras sålunda:

Till B-aktieägaren	0,00
och i ny räkning överföres	1 766 365 065,96

Tillhoppa	1 766 365 065,96
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**RESULTATRÄKNING**

(MSEK)

	Not	2019
Nettoomsättning	3	2 688
Kostnad för sålda varor		-1 964
<b>Bruttoresultat</b>		<b>724</b>
Försäljningskostnader	4	-168
Forsknings- och utvecklingskostnader	4	-269
Administrationskostnader	4	-129
Övriga rörelseintäkter	5	73
Övriga rörelsekostnader	6	-42
<b>Rörelseresultat</b>		<b>188</b>
<b>Resultat från finansiella poster:</b>		
Ränteintäkter och liknande resultatposter	7	-
Räntekostnader och liknande resultatposter	7	-1
<b>Summa resultat från finansiella investeringar</b>		<b>-1</b>
<b>Resultat efter finansiella poster</b>		<b>188</b>
Bokskottsdispositioner	8	-68
Skatt på årets resultat	9	-25
<b>Årets resultat</b>		<b>95</b>




**BALANSRÄKNING**

(MSEK)

	Not	2019
<b>TILLGÅNGAR</b>		
<b>Anläggningstillgångar</b>		
<b>Immateriella anläggningstillgångar</b>		
Koncessioner, patent, licenser, varumärken samt liknande rättigheter	10,29	-
Dataprogram för eget bruk		15
Goodwill		25
		<u>40</u>
<b>Materiella anläggningstillgångar</b>		
Byggnader och mark	11,29	225
Maskiner och andra tekniska anläggningar		249
Inventarier, verktyg och installationer		171
Pågående nyanläggningar		244
		<u>889</u>
<b>Finansiella anläggningstillgångar</b>		
Andelar i dotterbolag	12,24	203
Andelar i intresseföretag	12,25	1
Uppskjuten skattefordran	16	21
Andra långfristiga värdepappersinnehav	12	2
Andra långfristiga fordringar	2	4
		<u>231</u>
<b>Summa anläggningstillgångar</b>		<b>1 160</b>
<b>Omsättningstillgångar</b>		
<b>Varulager m.m</b>		
Råvaror och förnödenheter		662
Varor under tillverkning		772
Färdiga varor och handelsvaror		390
Pågående arbete för annans räkning	15	744
Förskott till leverantörer	2	14
		<u>2 582</u>
<b>Kortfristiga fordringar</b>		
Kundfordringar	2	3 813
Skattefordran		28
Övriga fordringar	2, 26	678
Förutbetalda kostnader och upplupna intäkter	2, 13	230
		<u>4 747</u>
<b>Kassa och bank</b>	2, 26	68
<b>Summa omsättningstillgångar</b>		<b>7 397</b>
<b>SUMMA TILLGÅNGAR</b>		<b>8 557</b>



2020042901408



## EGET KAPITAL OCH SKULDER

	Not	2019
<b>Eget kapital</b>		
<b>Bundet eget kapital</b>		
Aktiekapital		200
Reservfond		-
		<u>200</u>
<b>Fritt eget kapital</b>		
Balanserade vinstmedel	14	1 671
Årets resultat		85
		<u>1 756</u>
<b>Summa eget kapital</b>		<b>1 966</b>
<b>Obeskattade reserver</b>	<b>8</b>	<b>344</b>
<b>Avsättningar</b>		
Avsättningar för pensioner och liknande förpliktelser	17	19
Uppskjuten skatteskuld	16	9
Övriga avsättningar	18	543
<b>Summa avsättningar</b>		<u>571</u>
<b>Långfristiga skulder</b>	<b>2, 19</b>	<b>607</b>
<b>Kortfristiga skulder</b>		
Förskott från kunder	2	450
Leverantörsskulder	2	2 731
Skatteskulder		-
Övriga skulder	2, 15, 26	675
Upplupna kostnader och förutbetalda intäkter	2, 20	1 213
<b>Summa kortfristiga skulder</b>		<u>5 069</u>
<b>SUMMA EGET KAPITAL OCH SKULDER</b>		<b>8 557</b>

**Förändring av eget kapital**

	Aktiekapital	Reservfond	Fond för verkligt värde	Balanserade vinstmedel	Totalt eget kapital
<b>Ingående balans 1 januari 2019</b>	0	0	0	0	0
Årets resultat				95	95
Nyemission	200				200
Ägartillskott				18	18
Inkrämsöverlåtelse				1 653	1 653
<b>Utgående balans 31 december 2019</b>	<b>200</b>	<b>0</b>	<b>0</b>	<b>1 766</b>	<b>1 966</b>

ABB ABs aktiekapital fördelas på 198.000 A-aktier med 1 röst samt 1.802.000 B-aktier med 1/10 röst



2020042904410



**KASSAFLÖDESANALYS**

(MSEK)

2019

**Den löpande verksamheten**

Rörelseresultat		188
Justering för avskrivningar		29
Justering för förändring i avsättningar		65
Justering för marknadsvärdering derivat		-117
Justering för rearesultat mm.		-
		<u>165</u>

Erhållen ränta	27	-
Betald ränta	27	<u>-1</u>
		-1

Betald inkomstskatt		-31
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**Kassaflöden från den löpande verksamheten före förändringar av rörelsekapitalet** **133**

Förändring av kundfordringar		-344
Förändring av övriga kortfristiga fordringar		28
Förändring av varulager m.m.		212
Förändring av leverantörsskulder		-164
Förändring av förskott från kunder		3
Förändring av övriga kortfristiga skulder		<u>264</u>
		-41

**Kassaflöden från den löpande verksamheten** **122****Investeringsverksamheten**

Förändring av långfristiga fordringar		-
Förvärv av materiella anläggningstillgångar		-59
Förvärv av immateriella anläggningstillgångar		-
Förvärv och försäljning av bolag		-
Förvärv av kapitalförsäkringar		-2
Kassa fusionerade bolag		-
Försäljning av anläggningstillgångar		<u>-</u>

**Kassaflöden från investeringsverksamheten** **-61****Finansieringsverksamheten**

Förändring av skulder		-
Betalda/erhållna koncernbidrag		-
Erhållet ägartillskott		17
Nyemission		<u>200</u>

**Kassaflöden från finansieringsverksamheten** **217****ÖKNING/MINSKNING AV LIKVIDA MEDEL** **278**

LIKVIDA MEDEL VID ÅRETS BÖRJAN	26	0
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LIKVIDA MEDEL VID ÅRETS SLUT	26	278
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## Noter till resultat- och balansräkningar

(Belopp i MSEK)

### Not 1

#### Redovisningsprinciper

Årsredovisningen har upprättats enligt Årsredovisningslagen och BFNAR2012:1, med tillämpning av de redovisningsprinciper som anges nedan.

#### Koncerninterna verksamhetsöverlåtelse

Under året har bolaget, från ett närstående företag under gemensamt bestämmande inflytande, övertagit tillgångar. Överföringen har skett med stöd av de skattemässiga reglerna för så kallade underprisöverlåtelser. Bolaget har i avsaknad av detaljerade regler i K3 fastställt och tillämpat följande princip för redovisning av koncerninterna överlåtelser av verksamheter.

Redovisning av verksamhetsöverlåtelser redovisas i enlighet med den ekonomiska innebörden av transaktionen. Enligt bolagets bedömning är bakgrunden och motiven till övertagandet av tillgångarna snarast att se som en överföring/omorganisation mellan enheter under gemensamt bestämmande inflytande, d.v.s. i detta fall initierad och styrd av moderföretaget. Det medför att redovisning av transaktionen har skett baserat på redovisade värden i det överlåtande bolaget samt att den mellanskillnad som uppkommit mellan ersättning i form av övertagna skulder och de överförda tillgångarna har redovisats som en transaktion med ägaren i eget kapital

#### Intäktsredovisning

Intäkter från försäljning av produkter redovisas när äganderätten och väsentliga risker övergått till köparen. Överföring av äganderätt och risker till köparen regleras i avtalens definierade leveransvillkor.

Intäkter och resultat från projektverksamhet redovisas i takt med att projekten färdigställs enligt successiv vinstavräkningsmetod. Färdigställandegraden beräknas genom att verkliga kostnader ställs i relation till prognostiserade totala kostnader. De prognostiserade kostnaderna revideras och uppdateras löpande. Den ackumulerade effekten av en förändring av prognosen redovisas i den period som ändringen genomförs. Avräknade men ej fakturerade intäkter klassificeras som Pågående arbete för annans räkning och Fakturerade men ej avräknade intäkter som Övriga kortfristiga skulder i balansräkningen.

Intäkter från servicetransaktioner redovisas normalt när servicen är utförd. För långfristiga servicekontrakt, redovisas intäkten linjärt över kontraktstiden, eller, om servicen inte är linjär till sin natur, när servicen är utförd. För serviceprojekt används successiv vinstavräkningsmetod.

Vid förlustorder sker reservering i sin helhet för att täcka förväntade förluster så snart dessa befaras. Dessa ingår i posten Avsättningar.

#### Forskning och utveckling

Kostnader för forskning och utveckling redovisas som omkostnader när de uppstår. Utvecklingskostnader för pågående kundorder ingår i varulagret och kostnadsförs i takt med att projektet färdigställs.

**Leasing**

Bolaget disponerar tillgångar enligt leasingkontrakt av kan vara av såväl finansiell som operationell natur, i bolaget redovisas samtliga kontrakt som operationella.

**Skatter**

Bolagets totala skatt utgörs av aktuell och uppskjuten skatt. Uppskjuten skatt redovisas då det, på balansdagen, föreligger skillnader mellan redovisade och skattemässiga värden på tillgångar respektive skulder. Skattenytan i underskottsavdrag och andra framtida skattemässiga avdrag redovisas som uppskjutna skattefordringar om det är sannolikt att avdragen kan avräknas mot framtida överskott inom en överskådlig framtid.

**Fordringar**

Fordringar redovisas till det lägsta av nominellt värde och det belopp varmed de beräknas inflyta.

**Transaktioner i utländsk valuta**

Transaktioner i utländsk valuta omräknas till svenska kronor vid transaktionstillfället. På balansdagen omräknas fordringar och skulder till balansdagens kurs och kursdifferenser ingår i Årets Resultat. Förskott från kunder och till leverantörer redovisas till kursen vid betalningstillfället, eftersom återbetalningsskyldighet ej förutses inträffa.

**Valuta- och råvaruderivat samt inbäddade derivat**

Samtliga derivat redovisas till verkligt värde i balansräkningen. För de valutaderivat som uppfyller kraven för säkringsredovisning, redovisas värdeförändringen hänförligt till den säkrade risken direkt i eget kapital inom fonden för verkligt värde, i avvaktan på att den säkrade transaktionen redovisas i resultaträkningen. När så sker överförs respektive belopp inom fonden för verkligt värde till resultaträkningen och redovisas i rörelsens intäkter eller kostnader för att möta den underliggande säkrade transaktionens resultatavräkning i rörelsens intäkter eller kostnader. Uppfylls inte kraven för säkringsredovisning redovisas värdeförändringar i valutaderivaten löpande i resultaträkningen. Det som säkras är intäkter och kostnader samt andra kända / förväntade kassaflöden, som avgifter, moms mm.

**Varulager**

Varulager värderas till det lägsta av anskaffningskostnaden, bestämd enligt FIFU-metoden, och nettoförsäljningsvärdet. Erforderligt avdrag sker för inkurans. Kostnader för sådana leveranser av anläggningar, vilka ej fullgjorts vid räkenskapsårets slut, balanseras såsom varulager.

**Kapitalförsäkringar**

Det förekommer ett antal direktpensionsavtal som säkerställts genom kapitalförsäkringar. Pensionsutfästelserna är direkt kopplade till det belopp som utfaller från de pantsatta företagsägda kapitalförsäkringarna. Kapitalförsäkringarna redovisas som finansiella anläggningstillgångar och pensionsutfästelsen som Avsättningar för pensioner.

**Andelar i dotterbolag och intressebolag**

Andelar i dotterbolag och intressebolag redovisas enligt anskaffningsvärdemetoden. Prövning av värdet på andelarna görs när indikationer finns att värdet minskat.

**Dataprogram för eget bruk**

Utgifter för programvara för internt bruk balanseras om det bedöms ge framtida ekonomiska fördelar. Avskrivningstiderna för programvara är 3-5 år. Aktiveringen sker under immateriella anläggningstillgångar och rubriken dataprogram för eget bruk.

**Goodwill**

Goodwill redovisas till anskaffningskostnad efter avdrag för ackumulerade avskrivningar efter linjär metod baserad på beräknad ekonomisk livslängd. Goodwill avskrivs normalt på 5 år.

**Materiella anläggningstillgångar**

Materiella anläggningstillgångar redovisas till historiskt anskaffningsvärde med avdrag för linjära, ackumulerade avskrivningar och eventuella nedskrivningar. Varje del av en materiell anläggningstillgång med ett anskaffningsvärde som är betydande i relation till tillgångens sammanlagda anskaffningsvärde, skrivs av separat. Detta omfattar huvudsakligen komponenter i fastigheter och för maskinutrustning. Mark är inte föremål för avskrivning, eftersom den bedöms ha obegränsad ekonomisk livslängd, men i övrigt beräknas avskrivningstiderna enligt den linjära metoden och grundar sig på följande förväntade nyttjandeperioder:

Byggnader och markanläggning	20-60 år
Investeringar i förhyrda lokaler (hyreslängden)	2-17 år
Maskiner och inventarier	3-15 år
Produktionsverktyg	3-5 år
Datorutrustning	3-5 år

**Nedskrivning av tillgångar**

Anläggningstillgångar prövas varje år, om händelser och förändringar inträffar som tyder på att det redovisade värdet av en tillgång inte kan återvinnas, med avseende på behovet av eventuell nedskrivning. En tillgång som minskat i värde skrivs ned till marknadsvärdet baserat på bästa tillgängliga information.

**Avsättningar**

Bolagets pensionsutfästelser, som inte fonderas hos extern part, beräknas försäkringsmatematiskt och skuldförs i balansräkningen under rubriken Avsättningar för pensioner, enligt Tryggandelagen. Övriga avsättningar täcker identifierbara garantikostnader, viten, förlustorder, särskild löneskatt mm.

**Likvida medel**

Som likvida medel redovisas kassa och bankmedel samt kortfristiga placeringar som vid anskaffningstidpunkten har en återstående löptid på högst 3 månader.

**Orderingång**

Orderingång och orderstock är angiven i prisnivå vid beräknad leveranstidpunkt.

**Bedömningar och uppskattningar**

Vid upprättande av årsredovisningen har företagsledningen använt uppskattningar och antaganden i redovisningen av tillgångar och skulder. Detta för redovisningsprinciper som vid sin tillämpning kräver mer omfattande subjektiva bedömningar från företagsledningens sida vad gäller uppskattningar och antaganden i frågor som till sin natur är svårbedömda. De mest kritiska bedömningarna anser företagsledningen vara:

- antaganden och prognoser, främst relaterade till framtida material, arbetskraft och projektrelaterade omkostnader, som används för att bestämma den procentuella avräkningen för projekten.
- uppskattningar förknippade med produktgarantier, miljöskador, regelverk samt rättstvister eller hotande tvister.
- antaganden som används för att bestämma inkurans och nettoförsäljningsvärde.

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### **Definition av nyckeltal**

(I den mån de ej beskrivits ovan)

#### **Räntabilitet på sysselsatt kapital, %**

Resultat efter finansiella poster med tillägg för räntekostnader samt valutakursdifferenser relaterade till genomsnittligt sysselsatt kapital. Genomsnitt beräknas av sysselsatt kapital vid årets början respektive årets slut.

#### **Räntabilitet på eget kapital, %**

Årets resultat relaterat till genomsnittligt eget kapital. Genomsnitt beräknas av eget kapital vid årets början respektive årets slut.

#### **Soliditet, %**

Eget kapital i procent av balansomslutningen.

bo

**Not 2****Koncernmellanhavanden**

Koncernföretag innefattar endast dotterbolag till ABB Norden Holding AB.

	Koncernföretag 2019	Varav dotterbolag 2019
Andra långfristiga fordringar	-	-
Kundfordringar	362	215
Övriga fordringar	-	-
Förutbetalda kostnader och upplupna intäkter	43	1
Förskott till leverantörer	4	-
<b>Summa tillgångar</b>	<b>409</b>	<b>216</b>
Långfristiga skulder	15	15
Förskott från kunder	24	-
Leverantörsskulder	142	25
Övriga skulder	90	-
Upplupna kostnader och förutbetalda intäkter	2	-
<b>Summa skulder</b>	<b>273</b>	<b>40</b>
<b>Netto tillgångar/skulder</b>	<b>136</b>	<b>176</b>

**Inköp och försäljning**

Nedan anges årets inköp och försäljning från koncernföretag

	Koncernföretag 2019	Varav dotterbolag 2019
Inköp	105	6
Försäljning	175	31

Kundfordringar mot dotterbolag avser främst överföring av produkter till ett centrallager, och omkostnadsöverföring och inte försäljning.

**Not 3****Nettoomsättningens fördelning på divisioner och geografiska områden**

Nettoomsättning fördelar sig på divisioner enligt följande:

	2019
Electrification	399
Industrial Automation	915
Motion	536
Robotics & Discrete Automation	641
Övriga	197
<b>Nettoomsättning</b>	<b>2 688</b>

Nettoomsättning fördelar sig på geografiska områden enligt följande:

	2019
Sverige	893
Europa	1 082
Asien, Mellanöstern & Afrika	224
Nord- & Sydamerika	489
<b>Nettoomsättning</b>	<b>2 688</b>

## Not 4

## Löner, andra ersättningar och sociala kostnader samt medelantal anställda. Styrelsens och ledningsgruppens könsfördelning.

Land	Medelantal anställda		Totalt	Löner och andra ersättningar till			Sociala kostnader samtliga anställda	
	Kvinnor	Män		Ledande befattningshavare 1), 3)	Tantiem och dyl. till styrelse och VD	Övriga anställda	2)	Pensionskostnader
2019								
Sverige	831	2 951	3 782	0	0	381	119	53

1) Exklusive tantiem och dyl.

2) Exklusive pensionskostnader.

3) Med ledande befattningshavare menas styrelse, suppleanter, VD och vice VD (arbetslagarrepresentanterna exkluderade).

Av bolagets pensionskostnader avser 0 Mkr ledande befattningshavare.3)

ABB Ltd i Schweiz erbjuder anställda inom ABB-koncernen att delta i Employee Share Acquisition Plan (ESAP). ESAP innebär att anställda erbjuds att delta i ett individuellt månatligt sparande med möjlighet att därefter välja att köpa aktier till en förutbestämd kurs alternativt att totala sparandet plus ränta återbetalas. ABB Ltd i Schweiz erbjuder även vissa nyckelbefattningshavare ett incitamentprogram (Management Incentive Plan) där de erbjuds placeringar i warrants alternativt warrant appreciation rights. ABB AB belastas för dessa båda program av sociala avgifter på eventuell värdestegring och administrativa omkostnader. Dessa kostnader uppgick till 5 MSEK. För ytterligare detaljer om dessa program, se årsredovisningen för ABB Ltd som finns på [www.abb.com](http://www.abb.com).

## Avgångsvederlag

Bolagets verkställande direktör har vid uppsägning rätt till ersättning motsvarande 6 månadslöner medan om uppsägningen sker på bolagets initiativ, rätt till ersättning motsvarande 12 månadslöner.

## Styrelsen resp. företagsledningen hade vid utgången av 2019 följande sammansättning:

	Styrelsen	Bolagets övriga ledningsgrupp inkl VD
Kvinnor	2	4
Män	5	8
Totalt	7	12

## Not 5

## Övriga rörelseintäkter

	2019
Hysesintäkter	5
Övriga intäkter	68
	<u>73</u>

## Not 6

## Övriga rörelsekostnader

	2019
Övriga kostnader	-42
	<u>-42</u>

**Not 7****Ränteintäkter, räntekostnader och liknande resultatposter**

Ränteintäkter och liknande resultatposter	2019
Finansiell intäkt marknadsvärdering kapitalförsäkringar	-
Räntor	-
	<u>0</u>
Varav räntor till koncernföretag	-
Räntekostnader och liknande resultatposter	2019
Räntor	-1
Finansiell kostnad marknadsvärdering kapitalförsäkringar	-
	<u>-1</u>
Varav räntor till koncernföretag	-

**Not 8****Bokslutsdispositioner och obeskattade reserver**

Bokslutsdispositioner	2019
Skilnad mellan bokförda avskrivningar och avskrivningar enligt plan	2
Koncernbidrag	-70
<b>Bokslutsdispositioner</b>	<u>-68</u>
Obeskattade reserver	2019
Överavskrivning	344
<b>Obeskattade reserver</b>	<u>344</u>
Övertagen överavskrivning vid inkörs, 346 MSEK	

**Not 9****Skatt på årets resultat**

	2019
Aktuell skatt	-5
Justering aktuell skatt avseende tidigare års resultat	-
Uppskjuten skatt	-20
<b>Skatt på årets resultat</b>	<u>-25</u>
Den genomsnittliga effektiva skattesatsen är 21 procent	
Avstämning av effektiv skattesats	2019
Resultat före skatt	120
Skatt enligt gällande skattesats, 21,4%	-26
<b>Skatteeffekt av:</b>	
Ej skattepliktiga intäkter	-
Ej avdragsbara kostnader	-2
Justering avseende skatter för föregående år	-
Övrigt	3
<b>Summa redovisad skatt</b>	<u>-25</u>
Effektiv skattesats %	21%

**Not 10**  
**Immateriella anläggningstillgångar**

	Koncessioner, patent, licenser, varumärken samt liknande rättigheter	Goodwill
	2019	2019
Ingående anskaffningsvärde	-	-
Övertagen tillgång*	25	1004
Årets anskaffning	-	-
Försäljning och avyttringar	-	-
<b>Utgående ackumulerade anskaffningsvärden</b>	<b>25</b>	<b>1004</b>
Ingående avskrivningar	-	-
Övertagen tillgång*	-25	-975
Årets avskrivning	-	-4
<b>Utgående ackumulerade avskrivningar</b>	<b>-25</b>	<b>-979</b>
Ingående nedskrivningar	-	-
Årets nedskrivningar	-	-
<b>Utgående ackumulerade nedskrivningar</b>	<b>0</b>	<b>0</b>
<b>Utgående bokfört värde</b>	<b>0</b>	<b>25</b>
	<b>Datorprogram för egget bruk</b>	
	<b>2019</b>	
Ingående anskaffningsvärde	-	
Övertagen tillgång*	334	
Årets anskaffning	-	
Försäljning och avyttringar	-	
<b>Utgående ackumulerade anskaffningsvärden</b>	<b>334</b>	
Ingående avskrivningar	-	
Övertagen tillgång*	-317	
Årets avskrivningar	-2	
<b>Utgående ackumulerade avskrivningar</b>	<b>-319</b>	
Ingående nedskrivningar	-	
Årets nedskrivningar	-	
<b>Utgående ackumulerade nedskrivningar</b>	<b>0</b>	
<b>Utgående bokfört värde</b>	<b>15</b>	

\* Övertagen tillgång vid inkråm

**Not 11**  
**Materiella anläggningstillgångar**

	Byggnader och mark	Maskiner och andra tekniska anläggningar	Inventarier, verktyg och installationer
	2019	2019	2019
Ingående anskaffningsvärde	-	-	-
Övertagen tillgång*	392	1 363	439
Inköp	-	-	-
Försäljning och utrangeringar	-	-6	-7
Omklassificeringar	-	26	17
<b>Utgående ackumulerade anskaffningsvärden</b>	<b>392</b>	<b>1 383</b>	<b>449</b>
Ingående nedskrivningar	-	-	-
Årets nedskrivningar	-	-	-
<b>Utgående ackumulerade nedskrivningar</b>	<b>0</b>	<b>0</b>	<b>0</b>
Ingående avskrivningar	-	-	-
Övertagen tillgång*	-166	-1 125	-266
Försäljningar och utrangeringar	-	-	-
Årets avskrivningar	-1	-9	-12
Omklassificeringar	-	-	-
<b>Utgående ackumulerade avskrivningar</b>	<b>-167</b>	<b>-1 134</b>	<b>-278</b>
<b>Utgående bokfört värde</b>	<b>225</b>	<b>249</b>	<b>171</b>

**Pågående  
nyanläggningar**

	2019
Ingående balans	-
Övertagen tillgång*	229
Under året nedlagda kostnader	58
Under året genomförda omfördelningar	-43
<b>Utgående balans</b>	<b>244</b>

\* Övertagen tillgång vid Inkräm.

to

to

**Not 12**  
**Finansiella anläggningstillgångar**

<b>Andelar i dotterbolag</b>		<b>2019</b>
Ingående anskaffningsvärde		-
Övertagen tillgång*		203
Investeringar / Inköp		-
Försäljningar		-
<b>Utgående ackumulerade anskaffningsvärden</b>		<b>203</b>
Ingående nedskrivningar		-
Omklassificering		-
<b>Utgående ackumulerade nedskrivningar</b>		<b>0</b>
<b>Utgående bokfört värde</b>		<b>203</b>
<b>Andelar i intresseföretag</b>		<b>2019</b>
Ingående anskaffningsvärde		-
Övertagen tillgång*		1
Försäljningar		-
<b>Utgående ackumulerade anskaffningsvärden</b>		<b>1</b>
Ingående nedskrivningar		-
Omklassificering		-
<b>Utgående ackumulerade nedskrivningar</b>		<b>0</b>
<b>Utgående bokfört värde</b>		<b>1</b>
<b>Kapitalförsäkringar</b>		<b>2019</b>
Ingående bokfört värde		-
Övertagen tillgång*		-
Årets nya premier		2
Årets utbetalningar		-
Årets marknadsvärdering		-
<b>Utgående bokförda värden</b>		<b>2</b>

Anskaffningsvärde för ovanstående kapitalförsäkringar är 2 MSEK

\* Övertagen tillgång vid inkräm.

**Not 13**  
**Förutbetalda kostnader och upplupna intäkter**

		<b>2019</b>
Försäkringskostnader		12
Förutbetalda hyror		61
Pensionspremier		6
Upplupna intäkter		10
Övriga poster		141
		<b>230</b>

**Not 14****Vinstdisposition****Förslag till vinstdisposition**

Till bolagsstämmans förfogande står följande

Fond för verkligt värde	0,00
Balanserad vinst	1 671 015 448,96
Årets resultat	95 349 617,00

Tillhopa	1 766 365 065,96
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Styrelsen och verkställande direktören föreslår att vinstmedlen disponeras sålunda:

Till B-aktieägaren	0,00
och i ny räkning överföres	1 766 365 065,96

Tillhopa	1 766 365 065,96
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Koncernbidrag har lämnats till ABB Norden Holding AB med 70 000 KSEK.

**Not 15****Pågående arbete för annans räkning**

	2019
Upparbetad intäkt för ej avslutade projekt	3 630
Fakturerat	-2 886
Upparbetad ej fakturerad intäkt, tillgång	744

Av fakturerade belopp uppgår beställarens innehållna belopp enligt kontraktsvillkor till:	2019
	0

	2019
Fakturerat	17 170
Upparbetad intäkt för ej avslutade projekt	-17 416
Fakturerade ej upparbetade intäkter, skuld	-246

Av fakturerade belopp uppgår beställarens innehållna belopp enligt kontraktsvillkor till:	2019
	0

Upparbetade ej fakturerade intäkter och fakturerade ej upparbetade intäkter, bruttoredo visas per projekt. De projekt där upparbetade intäkter överstiger fakturerade intäkter redovisas som omsättningstillgång i posten Pågående arbete för annans räkning. De projekt där fakturering överstiger upparbetade intäkter ingår i kortfristiga skulder under posten Övriga skulder. Upparbetade och fakturerade värden avser ackumulerade värden för projekten och kan därför omfatta värden som upparbetats och fakturerats under flera räkenskapsår.

**Not 16****Uppskjuten skatt**

Uppskjuten skattefordran avseende:	2019
Avsättningar	9
Pensioner	6
Övrigt	6
<b>Summa utgående uppskjuten skattefordran:</b>	<b>21</b>

Uppskjuten skatteskuld avseende:	2019
Derivatinstrument	4
Övrigt	5
<b>Summa utgående uppskjuten skatteskuld:</b>	<b>9</b>

<b>Förändringen mellan räkenskapsåren:</b>	<b>2019</b>
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Förändring över RR	-20
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Varav förändring i BR	12
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Av förändring i BR, övertagna uppskjutna skatter*	32
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\* Övertagna uppskjutna skatter i Inkräm

**Not 17****Avsättning till pensioner**

	2019
Förpliktelse mot FPG/PRI	14
Avsatt till övriga pensioner	5
Avsättning till pensioner	<u>19</u>

Avsatt till övriga pensioner avser pantsatta kapitalförsäkringar.

**Förpliktelser avseende pensioner och liknande förmåner till styrelseledamöter och verkställande direktörer (Inkl. suppleanter samt vice verkställande direktörer)**

	2019
Avsatt till övriga pensioner (del av posten ovan)	0
Summa förpliktelser	<u>0</u>

**Not 18****Övriga avsättningar**

	Förlust order <sup>1)</sup>	Garantier	Omstruktur- eringsreserv	Övriga	
Avsättningar vid årets ingång	-	-	-	-	0
Övertagen reserv*	22	424	-	47	493
Avsättning under perioden	3	81	4	10	98
Belopp som tagits i anspråk under perioden	-3	-39	-	-3	-45
Återförda belopp under perioden	0	-2	-	-1	-3
<b>Utgående Balans</b>	<b>22</b>	<b>464</b>	<b>4</b>	<b>53</b>	<b>543</b>

\* Övertagna reserver vid inkräm.

**Förlustorderreserv**

Reserven för förlustorder avser order där en negativ bruttomarginal förväntas. Reservering sker så snart ordern befaras leda till förlust.

**Garanti-reserv**

Avsättningar för garantier är avsedda att täcka garantrisker på grund av felaktig konstruktion, material och utförande eller garanterad prestanda.

**Omstruktureringsreserv**

Reserver för omstrukturering avser i regel nedläggning av anläggningar eller nedläggning eller flyttning av produktionslinjer, verksamheter, funktioner etc. eller nerdragning av antalet anställda i samband med en konjunkturnedgång.

**Övriga reserver**

Övriga reserver avser diverse avsättningar som inte faller under någon av ovanstående kategorier.

**Not 19****Långfristiga skulder**

Nedan anges den del av långfristiga skulder som förfaller till betalning senare än fem år efter balansdagen.

	2019
Skulder till koncernföretag (företag inom ABB Ltd koncernen)	607
	<u>607</u>

Övertagna långfristiga lån vid inkräm, 624 MSEK.

Av långfristiga lån utgör 15 MSEK räntefria lån från dotterbolag.

**Not 20****Upplupna kostnader och förutbetalda intäkter**

	2019
Upplupna personalkostnader	650
Efterkostnadsreserver	304
Övriga poster	259
	<u>1 213</u>

## Not 21 Checkräkningskredit

Bolaget har ett beviljat belopp på checkräkningskrediten som uppgår till 0 MSEK

Bolaget har ett lånelöfte, Revolving Credit Facility, hos ABB Ltd-koncernens internt bank ABB Capital BV, Zürich Branch om 1.000 MSEK.

## Not 22 Ställda säkerheter och Eventualförpliktelser

### Ställda säkerheter

	2019
För eget pensionsåtagande	2
	2

### Eventualförpliktelser

	2019
FPG/PRI	0
	0

Ingen osäkerhet finns för eventualförpliktelsen mot FPG/PRI.

Som ett led i bolagets affärsverksamhet förekommer, utöver ovan angivna eventualförpliktelser, garantier för fullgörande av olika kontraktssliga åtaganden. Vissa av dessa är av s-k on-demand-karaktär. Per balansdagen är det inte sannolikt att någon väsentlig utbetalning kommer att krävas för att täcka sådana garantier.

## Not 23 Hyrd tillgångar

Bolaget disponerar genom leasingavtal kontorslokaler, truckar, tjänstebilar, datorer, maskiner och inventarier.

	2019
Leasing/hyresbetalningar som har betalats under året	29
Betalningar som förfaller:	
2020	251
2021	213
2022	149
2023	111
2024	99
2025 och senare	335

## Not 24 Andelar i dotterbolag

Namn, säte	Organisationsnr	Eget kapital	Årets resultat	Antal aktier	Kapitalandel	Bokfört värde
Asea AB, Västerås	556172-1522	12	0	100 000	100%	12
LCP-Life Cycle Profit AB, Västerås	556338-1473	3	0	11 000	100%	3
ABB Logistics Center Europe GmbH, Mende	DE1289860	22	6	50	51%	0
ABB Financial Services AB, Västerås	556070-6367	86	0	500 000	100%	86
SynerLeap powered by ABB AB	559069-8865	0	0	50 000	100%	0
Aktiebolag Rotech	556388-3924	79	27	1 000	100%	102

### Innehav i dotterföretag

203

Övertagna andelar vid inkräm, 203 MSEK.

**Not 25**  
**Andelar i intresseföretag**

Namn, säte, organisationsnr	Eget kapital*	Årets resultat*	Antal aktier/andelar	Kapitalandel	Bokfört värde
IndustriQompetens Mälardalen, Västerås, 556587-7759	3	1	500	39%	1
<b>Innehav i intresseföretag</b>					<b>1</b>

\* 2018 års elfförför anges här.  
Övertagna intresseföretag vid inkräm, 1 MSEK.

**Not 26**  
**Likvida medel**

Likvida medel	2019
Kassa och bank	68
Del av koncernkonto i utländskt ABB-bolag och liknande placeringar	210
<b>Likvida medel</b>	<b>278</b>

**Koncerninterna fordringar och skulder i cashpoolen**

Koncernintern fordran	296
Koncernintern skuld	-47

Koncerninterna fordringar och skulder redovisas som övriga kortfristiga fordringar respektive skulder i balansräkningen och kassafödesanalysen.

**Not 27**  
**Betald/erhållen ränta**

	2019
Under perioden erhållen ränta	0
Under perioden betald ränta	-1

**Not 28**  
**Finansiella instrument**

Det bokförda värdet av derivattillgångar och skulder uppgår till följande:

	2019
Inbäddade derivat (kortfristiga), tredje part	20
Inbäddade derivat (långfristiga), tredje part	4
Derivatfordran ABB (kortfristiga), valuta	106
Derivatfordran ABB (kortfristiga), råvaror	2
Inbäddade derivat (kortfristiga), ABB	11
<b>Totalt derivattillgångar:</b>	<b>143</b>
Inbäddade derivat (kortfristiga), tredje part	17
Derivatskuld ABB (kortfristiga), valuta	90
Derivatskuld ABB (kortfristiga), råvaror	-
Inbäddade derivat (kortfristiga), ABB	9
<b>Totalt derivatskulder:</b>	<b>116</b>

Derivattillgångar redovisas som övriga fordringar och andra långfristiga fordringar.  
Derivatskulder redovisas som övriga skulder.

Övertagna derivattillgångar vid inkräm, 52 MSEK.  
Övertagna derivatskulder vid inkräm, 142 MSEK.

**Not 29**  
**Avskrivningar**

I resultatet ingår avskrivningar på följande belopp:

	2019
Avskrivningar Immateriella tillgångar	-6
Avskrivningar materiella tillgångar	-23
	-29

Avskrivningarna är hänförliga till:

	2019
Kostnad sålda varor	-22
Försäljningskostnader	-3
Administrativa kostnader	-2
Forsknings- och utvecklingskostnader	-2
	-29

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**Not 30**  
**Väsentliga händelser efter räkenskapsårets slut**

Inga väsentliga händelser har inträffat efter räkenskapsårets slut.

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**Not 31**  
**Hållbarhetsrapport**

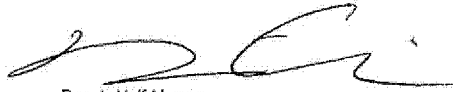
Bolaget har inte upprättat någon Hållbarhetsrapport utan hänvisar till den Hållbarhetsrapport som moderbolaget ABB Ltd, ID CHE-101.049.653, Zürich Schweiz har publicerat.

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Västerås den 26 mars 2020

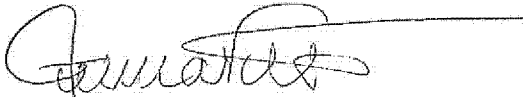
2020042904427



Dennis Helfridsson  
Ordförande och verkställande direktör



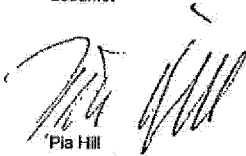
Daniel Jegerhjelm  
Ledamot



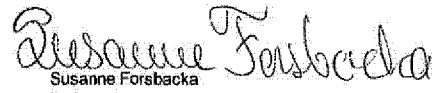
Helena Nilsson  
Ledamot



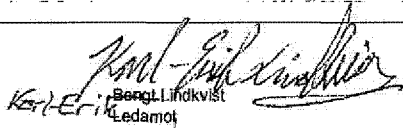
Jaana Suvanto  
Ledamot



Pia Hill  
Ledamot



Susanne Forsbacka  
Ledamot



Bengt Lindkvist  
Ledamot

Vår revisionsberättelse har lämnats den

26 mars, 2020

KPMG AB



Håkan Olsson Relsing  
Auktoriserad revisor



# Revisionsberättelse

Till bolagsstämman i ABB AB, org. nr 559193-0903

## Rapport om årsredovisningen

### Uttalanden

Vi har utfört en revision av årsredovisningen för ABB AB för räkenskapsåret 2019-01-30—2019-12-31.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av ABB ABs finansiella ställning per den 31 december 2019 och av dess finansiella resultat och kassaflöde för räkenskapsåret enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen.

### Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till ABB AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

### Styrelsens och verkställande direktörens ansvar

Det är styrelsen och verkställande direktören som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen och verkställande direktören ansvarar även för den interna kontroll som de bedömer är nödvändig för att upprätta en årsredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen ansvarar styrelsen och verkställande direktören för bedömningen av bolagets förmåga att fortsätta verksamheten. De upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen och verkställande direktören avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

### Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om huruvida årsredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen.

Som del av en revision enligt ISA använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Dessutom:

- identifierar och bedömer vi riskerna för väsentliga felaktigheter i årsredovisningen, vare sig dessa beror på oegentligheter eller misstag, utformar och utför granskningsåtgärder bland annat utifrån dessa risker och inhämtar revisionsbevis som är tillräckliga och ändamålsenliga för att utgöra en grund för våra uttalanden. Risken för att inte upptäcka en väsentlig felaktighet till följd av oegentligheter är högre än för en väsentlig felaktighet som beror på misstag, eftersom oegentligheter kan innefatta agerande i maskopi, förfalskning, avsiktliga utelämnanden, felaktig information eller åsidosättande av intern kontroll.
- skaffar vi oss en förståelse av den del av bolagets interna kontroll som har betydelse för vår revision för att utforma granskningsåtgärder som är lämpliga med hänsyn till omständigheterna, men inte för att uttala oss om effektiviteten i den interna kontrollen.

- utvärderar vi lämpligheten i de redovisningsprinciper som används och rimligheten i styrelsens och verkställande direktörens uppskattningar i redovisningen och tillhörande upplysningar.
- drar vi en slutsats om lämpligheten i att styrelsen och verkställande direktören använder antagandet om fortsatt drift vid upprättandet av årsredovisningen. Vi drar också en slutsats, med grund i de inhämtade revisionsbevisen, om huruvida det finns någon väsentlig osäkerhetsfaktor som avser sådana händelser eller förhållanden som kan leda till betydande tvivel om bolagets förmåga att fortsätta verksamheten. Om vi drar slutsatsen att det finns en väsentlig osäkerhetsfaktor, måste vi i revisionsberättelsen fästa uppmärksamheten på upplysningarna i årsredovisningen om den väsentliga osäkerhetsfaktor eller, om sådana upplysningar är otillräckliga, modifiera uttalandet om årsredovisningen. Våra slutsatser baseras på de revisionsbevis som inhämtas fram till datumet för revisionsberättelsen. Dock kan framtida händelser eller förhållanden göra att ett bolag inte längre kan fortsätta verksamheten.
- utvärderar vi den övergripande presentationen, strukturen och innehållet i årsredovisningen, däribland upplysningarna, och om årsredovisningen återger de underliggande transaktionerna och händelserna på ett sätt som ger en rättvisande bild.

Vi måste informera styrelsen om bland annat revisionens planerade omfattning och inriktning samt tidpunkten för den. Vi måste också informera om betydelsefulla iakttagelser under revisionen, däribland de eventuella betydande brister i den interna kontrollen som vi identifierat.

## Rapport om andra krav enligt lagar och andra författningar

### Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens och verkställande direktörens förvaltning för ABB AB för räkenskapsåret 2019-01-30—2019-12-31 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter och verkställande direktören ansvarsfrihet för räkenskapsåret.

## Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till ABB AB enligt god revisors sed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

## Styrelsens och verkställande direktörens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets verksamhetsart, omfattning och risker ställer på storleken av bolagets egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att fortlöpande bedöma bolagets ekonomiska situation och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt.

Verkställande direktören ska sköta den löpande förvaltningen enligt styrelsens riktlinjer och anvisningar och bland annat vidta de åtgärder som är nödvändiga för att bolagets bokföring ska fullgöras i överensstämmelse med lag och för att medelsförvaltningen ska skötas på ett betryggande sätt.

## Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot eller verkställande direktören i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisions sed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

Som en del av en revision enligt god revisions sed i Sverige använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Granskningen av förvaltningen och förslaget till dispositioner av bolagets vinst eller förlust grundar sig främst på revisionen av räkenskaperna. Vilka tillkommande granskningsåtgärder som utförs baseras på vår professionella bedömning med utgångspunkt i risk och väsentlighet. Det innebär att vi fokuserar granskningen på sådana åtgärder, områden och förhållanden som är väsentliga för verksamheten och där avsteg och överträdelser skulle ha särskild betydelse för bolagets situation. Vi går igenom och prövar fattade beslut, beslutsunderlag, vidtagna åtgärder och andra förhållanden som är relevanta för vårt uttalande om ansvarsfrihet. Som underlag för vårt uttalande om styrelsens förslag till dispositioner beträffande bolagets vinst eller förlust har vi granskat om förslaget är förenligt med aktiebolagslagen.

Stockholm den 26 mars 2020

KPMG AB



Håkan Olsson Reising

Auktoriserad revisor

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# Consolidated Financial Statements of ABB Group



# Report of management on internal control over financial reporting

The Board of Directors and Management of ABB Ltd and its consolidated subsidiaries ("ABB") are responsible for establishing and maintaining adequate internal control over financial reporting. ABB's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of the published Consolidated Financial Statements in accordance with U.S. generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with ABB's policies and procedures may deteriorate.

Management conducted an assessment of the effectiveness of internal control over financial reporting based on the criteria established in

Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this assessment, management has concluded that ABB's internal control over financial reporting was effective as of December 31, 2019.

KPMG AG, the independent registered public accounting firm who audited the Company's consolidated financial statements, has issued an opinion on the effectiveness of ABB's internal control over financial reporting as of December 31, 2019, which is included on pages 142–143 of this annual report.

**Peter Voser**  
Chairman of the Board  
of Directors and  
Chief Executive Officer

**Timo Ihamuotila**  
Chief Financial Officer

Zurich, February 25, 2020

*V. Ihamuotila*



# Report of the Statutory Auditor

To the General Meeting of ABB Ltd, Zurich

## Report of the Statutory Auditor on the Consolidated Financial Statements

### Opinion

As statutory auditor, we have audited the accompanying consolidated financial statements of ABB Ltd and subsidiaries (the Group), which comprise the consolidated balance sheets as of December 31, 2019 and 2018, and the related consolidated income statements, statements of comprehensive income, cash flows and changes in stockholders' equity for each of the years in the two-year period ended December 31, 2019, and the related notes (pages 145 to 216). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2019, in accordance with U.S. Generally Accepted Accounting Principles, and comply with Swiss law.

### Change In Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Group has changed its method of accounting for leases as of January 1, 2019 due to the adoption of Accounting Standard Codification (ASC), 842 Leases.

### Board of Directors' Responsibility

The Board of Directors is responsible for the preparation of the consolidated financial statements in accordance with U.S. Generally Accepted Accounting Principles and the requirements of Swiss law. This responsibility includes designing, implementing and maintaining an internal control system relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.

### Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm and are required to be independent with respect to the Group. We conducted our audits in accordance with Swiss law, Swiss Auditing Standards and the standards of the Public Company Accounting Oversight Board (United States) (PCAOB). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement, whether due to fraud or error.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers the internal control system relevant to the entity's preparation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



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## Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.



**Evaluation of estimated costs to complete related to revenue recognition for long-term fixed price contracts**



**Evaluation of unrecognized tax benefits related to transfer pricing**



**Evaluation of estimated costs to complete related to revenue recognition for long-term fixed price contracts**

### Critical Audit Matter

### How the matter was addressed

As discussed in Note 2 to the consolidated financial statements, revenues from the sale of customized products, including long-term fixed price contracts for integrated automation and electrification systems and solutions are generally recognized on an over time basis using the percentage of completion method of accounting.

We identified the evaluation of estimated costs to complete related to revenue recognition of long-term fixed price contracts using the percentage-of-completion method of accounting as a critical audit matter. In particular, a high degree of subjective auditor judgment was required to evaluate the Group's estimates regarding the amount of future direct materials, labor and subcontract costs, and indirect costs to complete the contracts.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Group's long-term fixed price contract revenue recognition process, including controls over the development of estimates regarding the amount of future direct materials, labor and subcontract costs, and indirect costs. We assessed the Group's historical ability to accurately estimate costs to complete by comparing historical estimates to actual results for a sample of contracts. We evaluated the estimate of remaining costs to be incurred for a sample of contracts by assessing progress to date and the nature and complexity of work to be performed through interviewing project managers and inspecting correspondence, if any, between the Group and the customer and/or subcontractors.

For further information on revenue recognition on long-term projects refer to the following:

- Note 2 "Significant accounting policies"



## Evaluation of unrecognized tax benefits related to transfer pricing

### Critical Audit Matter

As discussed in Note 2 to the consolidated financial statements, the Group operates across multiple tax jurisdictions, is exposed to numerous tax laws and is regularly subject to tax audits by local tax authorities. Unrecognized tax benefits related to transfer pricing are recorded by the Group based on management's assessment of the technical merits of tax filings and considering applicable tax laws of the relevant jurisdictions. The unrecognized tax benefits related to transfer pricing represent a portion of the Group's total unrecognized tax benefits related to various matters.

We identified the evaluation of unrecognized tax benefits related to transfer pricing as a critical audit matter as a high degree of subjective auditor judgment and specialized skills was required in assessing the Group's interpretation of international tax practice and developments in relation to intragroup charges and intragroup sales of goods and services and the Group's ability to estimate the ultimate resolution of the tax positions.

### Our response

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Group's unrecognized tax benefits process, including controls related to the Group's interpretation of international tax practice and developments in relation to intragroup charges and intragroup sale of goods and services and the estimate of the related unrecognized tax benefits. We tested the identified costs that have a higher likelihood of being challenged by tax authorities associated with intragroup arrangements and potential price adjustments for intragroup sales of goods and services. We involved our tax professionals with specialized skills and knowledge, who assisted in evaluating (i) the Group's historical ability to accurately estimate the unrecognized tax benefits related to transfer pricing by comparing historical tax positions to subsequent settlements (ii) transfer pricing documentation and methodology for compliance with applicable laws and regulations by reviewing the documentation and relevant agreements, (iii) the impact of new information or changes in international tax practice and developments on historical tax positions, and (iv) performing an independent assessment of unrecognized tax benefits relating to the Group's intragroup sales of goods and services and comparing the results to the Group's assessment.

For further information on unrecognized tax benefits refer to the following:

- Note 2 "Significant accounting policies"
- Note 16 "Income taxes"

### Other Matter

The consolidated financial statements of the Group for the year ended December 31, 2017 were audited by other auditors who expressed an unmodified opinion on those statements on February 22, 2018, except for Note 3 for which the date is March 27, 2019 and except for Note 23 for which the date is February 25, 2020.



## Report on Other Legal and Regulatory Requirements

We are a public accounting firm registered with the Swiss Federal Audit Oversight Authority (FAOA) and the PCAOB and we confirm that we meet the legal requirements on licensing according to the Auditor Oversight Act (AOA). We are independent of the Group in accordance with Swiss law (article 728 CO and article 11 AOA) and U.S. federal securities laws as well as the applicable rules and regulations of the Swiss audit profession, the U.S. Securities and Exchange Commission and the PCAOB, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

We have also audited, in accordance with the standards of the PCAOB, the Group's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control – Integrated Framework 2013 issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated February 25, 2020, expressed an unqualified opinion on the effectiveness of the Group's internal control over financial reporting.

We have served as the Group's auditor since 2018.

KPMG AG

Hans-Dieter Krauss  
Licensed Audit Expert  
Auditor in Charge

Douglas Mullins

Zurich, Switzerland  
February 25, 2020



# Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of ABB Ltd

## Opinion on Internal Control Over Financial Reporting

We have audited ABB Ltd's (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in COSO.

We also have audited, in accordance with Swiss law, Swiss Auditing Standards and the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets as of December 31, 2019 and 2018, and the related consolidated income statements, statements of comprehensive income, cash flows and changes in stockholders' equity for each of the years in the two-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated February 25, 2020 expressed an unqualified opinion on those consolidated financial statements.

## Basis for Opinion

The Company's Board of Directors and management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying management's annual report on internal control over financial reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinion.

## Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.



Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

KPMG AG

A handwritten signature in black ink, appearing to read 'Hans-Dieter Krauss'.

Hans-Dieter Krauss  
Licensed Audit Expert  
Auditor in Charge

A handwritten signature in black ink, appearing to read 'Douglas Mullins'.

Douglas Mullins

Zurich, Switzerland  
February 25, 2020

KPMG AG, Raffelstrasse 28, PO Box, CH-8036 Zurich

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2020060900526

# Report of Independent Registered Public Accounting Firm

## To the Board of Directors and Stockholders of ABB Ltd

### Opinion on the Financial Statements

We have audited the accompanying consolidated statements of income, comprehensive income, cash flows and changes in stockholders' equity for the year ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated results of operations and cash flows for the year ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

### Basis for Opinion

These financial statements are the responsibility of the Company's Board of Directors and management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require

that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

Ernst & Young AG

We served as the Company's auditor from 1994 to 2018.

Zurich, Switzerland  
February 22, 2018

Except for Note 3 for the aforementioned period, as to which the date is March 27, 2019, and

Except for Note 23 for the aforementioned period, as to which the date is February 25, 2020.

This report of Ernst & Young AG has been provided in connection with the Company's Consolidated Financial Statements included in its annual report filed on Form 20-F with the United States Securities and Exchange Commission. It is provided here for information purposes.

# Consolidated Income Statements

Year ended December 31 (\$ in millions, except per share data in \$)	2019	2018	2017
Sales of products	22,554	22,366	20,438
Sales of services and other	5,424	5,296	4,758
<b>Total revenues</b>	<b>27,978</b>	<b>27,662</b>	<b>25,196</b>
Cost of sales of products	(15,811)	(15,961)	(14,485)
Cost of services and other	(3,261)	(3,157)	(2,865)
<b>Total cost of sales</b>	<b>(19,072)</b>	<b>(19,118)</b>	<b>(17,350)</b>
<b>Gross profit</b>	<b>8,906</b>	<b>8,544</b>	<b>7,846</b>
Selling, general and administrative expenses	(5,447)	(5,295)	(4,765)
Non-order related research and development expenses	(1,198)	(1,147)	(1,013)
Other income (expense), net	(323)	124	162
<b>Income from operations</b>	<b>1,938</b>	<b>2,226</b>	<b>2,230</b>
Interest and dividend income	67	72	73
Interest and other finance expense	(216)	(262)	(234)
Non-operational pension (cost) credit	72	83	33
<b>Income from continuing operations before taxes</b>	<b>1,862</b>	<b>2,119</b>	<b>2,102</b>
Provision for taxes	(772)	(544)	(583)
<b>Income from continuing operations, net of tax</b>	<b>1,090</b>	<b>1,575</b>	<b>1,519</b>
Income from discontinued operations, net of tax	438	723	846
<b>Net income</b>	<b>1,528</b>	<b>2,298</b>	<b>2,365</b>
Net income attributable to noncontrolling interests	(89)	(125)	(152)
<b>Net income attributable to ABB</b>	<b>1,439</b>	<b>2,173</b>	<b>2,213</b>
Amounts attributable to ABB shareholders:			
Income from continuing operations, net of tax	1,043	1,514	1,441
Income from discontinued operations, net of tax	396	659	772
<b>Net income</b>	<b>1,439</b>	<b>2,173</b>	<b>2,213</b>
Basic earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.49	0.71	0.67
Income from discontinued operations, net of tax	0.19	0.31	0.36
<b>Net income</b>	<b>0.67</b>	<b>1.02</b>	<b>1.04</b>
Diluted earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.49	0.71	0.67
Income from discontinued operations, net of tax	0.19	0.31	0.36
<b>Net income</b>	<b>0.67</b>	<b>1.02</b>	<b>1.03</b>
Weighted-average number of shares outstanding (in millions) used to compute:			
Basic earnings per share attributable to ABB shareholders	2,133	2,132	2,138
Diluted earnings per share attributable to ABB shareholders	2,135	2,139	2,148

Due to rounding, numbers presented may not add to the totals provided.  
See accompanying Notes to the Consolidated Financial Statements

# Consolidated Statements of Comprehensive Income

Year ended December 31 (\$ In millions)	2019	2018	2017
<b>Net income</b>	<b>1,528</b>	<b>2,298</b>	<b>2,365</b>
<b>Other comprehensive income (loss), net of tax:</b>			
Foreign currency translation adjustments:			
Foreign currency translation adjustments	(130)	(627)	912
Gain on liquidation of foreign subsidiary	—	(31)	—
Changes attributable to divestments	(2)	12	12
<b>Foreign currency translation adjustments</b>	<b>(132)</b>	<b>(646)</b>	<b>924</b>
Available-for-sale securities:			
Net unrealized gains (losses) arising during the year	14	(4)	1
Reclassification adjustments for net losses included in net income	—	1	—
<b>Unrealized gains (losses) on available-for-sale securities</b>	<b>14</b>	<b>(3)</b>	<b>1</b>
Pension and other postretirement plans:			
Prior service (costs) credits arising during the year	6	(7)	(16)
Net actuarial gains (losses) arising during the year	(220)	(352)	(139)
Amortization of prior service cost (credit) included in net income	(28)	(24)	6
Amortization of net actuarial loss included in net income	68	69	63
Net (gains) losses from pension settlements included in net income	32	19	9
Changes attributable to divestments	—	—	6
<b>Pension and other postretirement plan adjustments</b>	<b>(142)</b>	<b>(295)</b>	<b>(71)</b>
Cash flow hedge derivatives:			
Net unrealized gains (losses) arising during the year	20	(49)	38
Reclassification adjustments for net (gains) losses included in net income	(9)	21	(22)
Changes attributable to divestments	—	—	(3)
<b>Unrealized gains (losses) of cash flow hedge derivatives</b>	<b>11</b>	<b>(28)</b>	<b>13</b>
<b>Total other comprehensive income (loss), net of tax</b>	<b>(249)</b>	<b>(972)</b>	<b>867</b>
<b>Total comprehensive income, net of tax</b>	<b>1,279</b>	<b>1,326</b>	<b>3,232</b>
Comprehensive income attributable to noncontrolling interests, net of tax	(83)	(110)	(177)
<b>Total comprehensive income, net of tax, attributable to ABB</b>	<b>1,196</b>	<b>1,216</b>	<b>3,055</b>

Due to rounding, numbers presented may not add to the totals provided.  
See accompanying Notes to the Consolidated Financial Statements

# Consolidated Balance Sheets

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

Due to rounding, numbers presented may not add to the totals provided.  
See accompanying Notes to the Consolidated Financial Statements

# ABB Ltd Consolidated Statements of Cash Flows

Year ended December 31 (\$ in millions)	2019	2018	2017
<b>Operating activities:</b>			
Net income	1,528	2,298	2,365
Less: Income from discontinued operations, net of tax	(438)	(723)	(846)
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	961	916	836
Deferred taxes	(83)	(142)	(199)
Net loss from derivatives and foreign exchange	1	93	29
Net gain from sale of property, plant and equipment	(51)	(57)	(37)
Net gain from sale of businesses	(55)	(57)	(252)
Fair value adjustment on assets and liabilities held for sale	421	—	—
Share-based payment arrangements	46	50	49
Other	(59)	(76)	4
Changes in operating assets and liabilities:			
Trade receivables, net	(202)	(144)	(178)
Contract assets and liabilities	128	(18)	6
Inventories, net	(182)	(336)	(66)
Accounts payable, trade	130	454	474
Accrued liabilities	(76)	252	99
Provisions, net	(36)	87	(4)
Income taxes payable and receivable	(3)	(102)	202
Other assets and liabilities, net	(131)	(143)	106
<b>Net cash provided by operating activities – continuing operations</b>	<b>1,899</b>	<b>2,352</b>	<b>2,588</b>
<b>Net cash provided by operating activities – discontinued operations</b>	<b>426</b>	<b>572</b>	<b>1,211</b>
<b>Net cash provided by operating activities</b>	<b>2,325</b>	<b>2,924</b>	<b>3,799</b>
<b>Investing activities:</b>			
Purchases of investments	(748)	(322)	(666)
Purchases of property, plant and equipment and intangible assets	(762)	(772)	(752)
Acquisition of businesses (net of cash acquired) and increases in cost- and equity-accounted companies	(22)	(2,664)	(2,011)
Proceeds from sales of investments	749	567	1,443
Proceeds from maturity of investments	80	160	100
Proceeds from sales of property, plant and equipment	82	72	61
Proceeds from sales of businesses (net of transaction costs and cash disposed) and cost- and equity-accounted companies	69	113	607
Net cash from settlement of foreign currency derivatives	(76)	(30)	63
Other investing activities	(23)	(32)	37
<b>Net cash used in investing activities – continuing operations</b>	<b>(651)</b>	<b>(2,908)</b>	<b>(1,118)</b>
<b>Net cash used in investing activities – discontinued operations</b>	<b>(164)</b>	<b>(177)</b>	<b>(332)</b>
<b>Net cash used in investing activities</b>	<b>(815)</b>	<b>(3,085)</b>	<b>(1,450)</b>

Year ended December 31 (\$ in millions)	2019	2018	2017
<b>Financing activities:</b>			
Net changes in debt with maturities of 90 days or less	164	221	204
Increase in debt	2,406	1,914	920
Repayment of debt	(2,156)	(830)	(1,000)
Delivery of shares	10	42	163
Purchase of treasury stock	—	(250)	(251)
Dividends paid	(1,675)	(1,717)	(1,635)
Dividends paid to noncontrolling shareholders	(90)	(86)	(83)
Other financing activities	13	(35)	(6)
<b>Net cash used in financing activities – continuing operations</b>	<b>(1,328)</b>	<b>(741)</b>	<b>(1,688)</b>
<b>Net cash used in financing activities – discontinued operations</b>	<b>(55)</b>	<b>(48)</b>	<b>(47)</b>
<b>Net cash used in financing activities</b>	<b>(1,383)</b>	<b>(789)</b>	<b>(1,735)</b>
Effects of exchange rate changes on cash and equivalents	(28)	(131)	268
<b>Net change in cash and equivalents</b>	<b>99</b>	<b>(1,081)</b>	<b>882</b>
Cash and equivalents, beginning of period	3,445	4,526	3,644
<b>Cash and equivalents, end of period</b>	<b>3,544</b>	<b>3,445</b>	<b>4,526</b>
<b>Supplementary disclosure of cash flow information:</b>			
Interest paid	284	243	205
Income taxes paid	1,005	1,026	894

Due to rounding, numbers presented may not add to the totals provided.  
See accompanying Notes to the Consolidated Financial Statements.

# ABB Ltd Consolidated Statements of Changes in Stockholders' Equity

Years ended December 31, 2019, 2018 and 2017 (\$ in millions)	Common stock	Additional paid-in capital
Balance at January 1, 2017	192	24
Comprehensive income:		
Net income		
Foreign currency translation adjustments, net of tax		
Effect of change in fair value of available-for-sale securities, net of tax		
Unrecognized expense related to pensions and other postretirement plans, net of tax		
Change in derivatives qualifying as cash flow hedges, net of tax		
<b>Total comprehensive income</b>		
Changes in noncontrolling interests		17
Dividends to noncontrolling shareholders		
Dividends paid to shareholders		
Share-based payment arrangements		58
Cancellation of treasury shares	(4)	(27)
Purchase of treasury stock		
Delivery of shares		(46)
Call options		4
<b>Balance at December 31, 2017</b>	<b>188</b>	<b>29</b>
Cumulative effect of changes in accounting principles		
Comprehensive income:		
Net income		
Foreign currency translation adjustments, net of tax		
Effect of change in fair value of available-for-sale securities, net of tax		
Unrecognized expense related to pensions and other postretirement plans, net of tax		
Change in derivatives qualifying as cash flow hedges, net of tax		
<b>Total comprehensive income</b>		
Changes in noncontrolling interests		(4)
Noncontrolling interests recognized in connection with business combination		
Dividends to noncontrolling shareholders		
Dividends paid to shareholders		
Share-based payment arrangements		60
Purchase of treasury stock		
Delivery of shares		(35)
Call options		5
<b>Balance at December 31, 2018</b>	<b>188</b>	<b>56</b>
Adoption of accounting standard update		
Comprehensive income:		
Net income		
Foreign currency translation adjustments, net of tax		
Effect of change in fair value of available-for-sale securities, net of tax		
Unrecognized expense related to pensions and other postretirement plans, net of tax		
Change in derivatives qualifying as cash flow hedges, net of tax		
<b>Total comprehensive income</b>		
Changes in noncontrolling interests		(17)
Fair value adjustment to noncontrolling interests recognized in business combination		
Changes in noncontrolling interests in connection with divestments		
Dividends to noncontrolling shareholders		
Dividends paid to shareholders		
Share-based payment arrangements		55
Delivery of shares		(24)
Call options		4
<b>Balance at December 31, 2019</b>	<b>188</b>	<b>73</b>

Due to rounding, numbers presented may not add to the totals provided.  
See accompanying Notes to the Consolidated Financial Statements

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	Retained earnings	Accumulated other comprehensive loss	Treasury stock	Total ABB stockholders' equity	Non-controlling interests	Total stockholders' equity
	19,925	(5,187)	(1,559)	13,395	502	13,897
	2,213			2,213	152	2,365
		899		899	25	924
		1		1		1
		(71)		(71)		(71)
		13		13		13
				3,055	177	3,232
				17	(14)	3
				—	(134)	(134)
	(1,622)			(1,622)		(1,622)
				58		58
	(922)		953	—		—
			(251)	(251)		(251)
			209	163		163
				4		4
	19,594	(4,345)	(647)	14,819	530	15,349
	(192)	(9)		(201)		(201)
	2,173			2,173	125	2,298
		(631)		(631)	(15)	(646)
		(3)		(3)		(3)
		(295)		(295)		(295)
		(28)		(28)		(28)
				1,216	110	1,326
				(4)	(19)	(23)
				—	107	107
				—	(146)	(146)
	(1,736)			(1,736)		(1,736)
				60		60
			(249)	(249)		(249)
			77	42		42
				5		5
	19,839	(5,311)	(820)	13,952	582	14,534
	36	(36)		—		—
	1,439			1,439	89	1,528
		(126)		(126)	(6)	(132)
		14		14		14
		(142)		(142)		(142)
		11		11		11
				1,196	83	1,279
				(17)	12	(5)
				—	(44)	(44)
				—	(55)	(55)
				—	(122)	(122)
	(1,675)			(1,675)		(1,675)
				55		55
			34	10		10
				4		4
	19,640	(5,590)	(785)	13,526	454	13,980

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# Notes to the Consolidated Financial Statements

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## Note 1

### The Company

ABB Ltd and its subsidiaries (collectively, the Company) together form a technology leader that is driving the digital transformation of industries with its four customer-focused, globally leading businesses.

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## Note 2

### Significant accounting policies

The following is a summary of significant accounting policies followed in the preparation of these Consolidated Financial Statements.

#### Basis of presentation

The Consolidated Financial Statements are prepared in accordance with United States of America (United States or U.S.) generally accepted accounting principles (U.S. GAAP) and are presented in United States dollars (\$) or USD unless otherwise stated. Due to rounding, numbers presented may not add to the totals provided. The par value of capital stock is denominated in Swiss francs. See Note 3 for a summary of changes in presentation and other reclassifications affecting these financial statements compared to the previous year.

#### Scope of consolidation

The Consolidated Financial Statements include the accounts of ABB Ltd and companies which are directly or indirectly controlled by ABB Ltd. Additionally, the Company consolidates variable interest entities if it has determined that it is the primary beneficiary. Intercompany accounts and transactions are eliminated. Investments in joint ventures and affiliated companies in which the Company has the ability to exercise significant influence over operating and financial policies (generally through direct or indirect ownership of 20 percent to 50 percent of the voting rights), are recorded in the Consolidated Financial Statements using the equity method of accounting.

#### Discontinued operations

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

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

Interest expense that is not directly attributable to or related to the Company's continuing business or discontinued business is allocated to discontinued operations based on the ratio of net assets to be sold less debt that is required to be paid as a result of the planned disposal transaction to the sum of total net assets of the Company plus consolidated debt. General corporate overhead is not allocated to discontinued operations (see Note 3).

### Operating cycle

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

### Use of estimates

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

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

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

### Cash and equivalents

Cash and equivalents include highly liquid investments with maturities of three months or less at the date of acquisition.

Currency and other local regulatory limitations related to the transfer of funds exist in a number of countries where the Company operates. Funds, other than regular dividends, fees or loan repayments, cannot be readily transferred abroad from these countries and are therefore deposited and used for working capital needs locally. These funds are included in cash and equivalents as they are not considered restricted.

### Marketable securities and short-term investments

Management determines the appropriate classification of held-to-maturity and available-for-sale debt securities at the time of purchase. Debt securities are classified as held-to-maturity when the Company has the positive intent and ability to hold the securities to maturity. Held-to-maturity debt securities are carried at amortized cost, adjusted for accretion of discounts or amortization of premiums to maturity computed under the effective interest method. Such accretion or amortization is included in "Interest and dividend income". Marketable debt securities not classified as held-to-maturity are classified as available-for-sale and reported at fair value.

Unrealized gains and losses on available-for-sale debt securities are excluded from the determination of earnings and are instead recognized in the "Accumulated other comprehensive loss" component of stockholders' equity, net of tax, until realized. Realized gains and losses on available-for-sale debt securities are computed based upon the historical cost of these securities, using the specific identification method.

Marketable debt securities are classified as either "Cash and equivalents" or "Marketable securities and short-term investments" according to their maturity at the time of acquisition.

Marketable equity securities are generally classified as "Marketable securities and short-term investments", however, any marketable securities held as a long-term investment rather than as an investment of excess liquidity are classified as "Other non-current assets". Equity securities are measured at fair value with fair value changes reported in net income. Fair value changes for equity securities are reported in "Interest and other finance expense".

The Company performs a periodic review of its debt securities to determine whether an other-than-temporary impairment has occurred. Generally, when an individual security has been in an unrealized loss position for an extended period of time, the Company evaluates whether an impairment has occurred. The evaluation is based on specific facts and circumstances at the time of assessment, which include general market conditions, and the duration and extent to which the fair value is below cost.

If the fair value of a debt security is less than its amortized cost, then an other-than-temporary impairment for the difference is recognized if (i) the Company has the intent to sell the security, (ii) it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost base, or (iii) a credit loss exists insofar as the Company does not expect to recover the entire recognized amortized cost of the security. Such impairment charges are generally recognized in "Interest and other finance expense". If the impairment is due to factors other than credit losses, and the Company does not intend to sell the security and it is not more likely than not that it will be required to sell the security before recovery of the security's amortized cost, such impairment charges are recorded in "Accumulated other comprehensive loss".

In addition, equity securities without readily determinable fair value are written down to fair value if a qualitative assessment indicates that the investment is impaired and the fair value of the investment is less than carrying amount. The impairment charge is recorded in "Interest and other finance expense".

#### **Accounts receivable and allowance for doubtful accounts**

Accounts receivable are recorded at the invoiced amount. The Company has a group-wide policy on the management of credit risk. The policy includes a credit assessment methodology to assess the creditworthiness of customers and assign to those customers a risk category. Third-party agencies' ratings are considered, if available. For customers where agency ratings are not available, the customer's most recent financial statements, payment history and other relevant information are considered in the assignment to a risk category. Customers are assessed at least annually or more frequently when information on significant changes in the customer's financial position becomes known. In addition to the assignment to a risk category, a credit limit per customer is set.

The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in existing accounts receivable. The Company determines the allowance based on historical write-off experience and customer-specific data. If an amount has not been settled within its contractual payment term then it is considered past due. The Company reviews the allowance for doubtful accounts regularly and past due balances are reviewed for collectability. Account balances are charged off against the related allowance when the Company believes that the amount will not be recovered.

The Company, in its normal course of business, transfers receivables to third parties, generally without recourse. The transfer is accounted for as a sale when the Company has surrendered control over the receivables. Control is deemed to have been surrendered when (i) the transferred receivables have been put presumptively beyond the reach of the Company and its creditors, even in bankruptcy or other receivership, (ii) the third-party transferees have the right to pledge or exchange the transferred receivables, and (iii) the Company has relinquished effective control over the transferred receivables and does not retain the ability or obligation to repurchase or redeem the transferred receivables. At the time of sale, the sold receivables are removed from the Consolidated Balance Sheets and the related cash inflows are classified as operating activities in the Consolidated Statements of Cash Flows. Costs associated with the sale of receivables, including the related gains and losses from the sales, are included in "Interest and other finance expense". Transfers of receivables that do not meet the requirements for treatment as sales are accounted for as secured borrowings and the related cash flows are classified as financing activities in the Consolidated Statements of Cash Flows.

**Concentrations of credit risk**

The Company sells a broad range of products, systems, services and software to a wide range of industrial, commercial and utility customers as well as various government agencies and quasi-governmental agencies throughout the world. Concentrations of credit risk with respect to accounts receivable are limited, as the Company's customer base is comprised of a large number of individual customers. Ongoing credit evaluations of customers' financial positions are performed to determine whether the use of credit support instruments such as guarantees, letters of credit or credit insurance are necessary; collateral is not generally required. The Company maintains reserves for potential credit losses as discussed above in "Accounts receivable and allowance for doubtful accounts". Such losses, in the aggregate, are in line with the Company's expectations.

It is the Company's policy to invest cash in deposits with banks throughout the world with certain minimum credit ratings and in high quality, low risk, liquid investments. The Company actively manages its credit risk by routinely reviewing the creditworthiness of the banks and the investments held. The Company has not incurred significant credit losses related to such investments.

The Company's exposure to credit risk on derivative financial instruments is the risk that the counterparty will fail to meet its obligations. To reduce this risk, the Company has credit policies that require the establishment and periodic review of credit limits for individual counterparties. In addition, the Company has entered into close-out netting agreements with most derivative counterparties. 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. In the Consolidated Financial Statements derivative instruments are presented on a gross basis.

**Revenue recognition**

A customer contract exists if collectability under the contract is considered probable, the contract has commercial substance, contains payment terms, as well as the rights and commitments of both parties, and has been approved.

The Company offers arrangements with multiple performance obligations to meet its customers' needs. These arrangements may involve the delivery of multiple products and/or performance of services (such as installation and training) and the delivery and/or performance may occur at different points in time or over different periods of time. Goods and services under such arrangements are evaluated to determine whether they form distinct performance obligations and should be accounted for as separate revenue transactions. The Company allocates the sales price to each distinct performance obligation based on the price of each item sold in separate transactions at the inception of the arrangement.

The Company generally recognizes revenues for the sale of non-customized products including switchgear, circuit breakers, modular substation packages, control products, motors, generators, drives, robots, turbochargers, measurement and analytical instrumentation, and other goods which are manufactured on a standardized basis at a point in time. Revenues are recognized at the point in time that the customer obtains control of the good which is when it has taken title to the products and assumed the risks and rewards of ownership of the products specified in the purchase order or sales agreement. Generally, the transfer of title and risks and rewards of ownership are governed by the contractually defined shipping terms. The Company uses various International Commercial shipping terms (as promulgated by the International Chamber of Commerce) in its sales of products to third party customers, such as Ex Works (EXW), Free Carrier (FCA) and Delivered Duty Paid (DDP).

Billing terms for these point in time contracts vary but generally coincide with delivery to the customer. Payment is generally due upon receipt of the invoice, payable within 90 days or less.

The Company generally recognizes revenues for the sale of customized products, including integrated automation and electrification systems and solutions, on an over time basis using the percentage-of-completion method of accounting. These systems are generally accounted for as a single performance obligation as the Company is required to integrate equipment and services into one deliverable for the customer. Revenues are recognized as the systems are customized during the manufacturing or integration process and as control is transferred to the customer as evidenced by the Company's right to payment for work performed or by the customer's ownership of the work in process. The Company principally uses the cost-to-cost method to measure progress towards completion on

contracts. Under this method, progress of contracts is measured by actual costs incurred in relation to the Company's best estimate of total costs based on the Company's history of manufacturing or constructing similar assets for customers. Estimated costs are reviewed and updated routinely for contracts in progress to reflect changes in quantity or pricing of the inputs. The cumulative effect of any change in estimate is recorded in the period when the change in estimate is determined. Contract costs include all direct materials, labor and subcontract costs and indirect costs related to contract performance, such as indirect labor, supplies, tools and depreciation costs.

The nature of the Company's contracts for the sale of customized products gives rise to several types of variable consideration, including claims, unpriced change orders, liquidated damages and penalties. These amounts are estimated based upon the most likely amount of consideration to which the customer or the Company will be entitled. The estimated amounts are included in the sales price to the extent it is probable that a significant reversal of cumulative revenues recognized will not occur when the uncertainty associated with the variable consideration is resolved. All estimates of variable consideration are reassessed periodically. Back charges to suppliers or subcontractors are recognized as a reduction of cost when it is determined that recovery of such cost is probable and the amounts can be reliably estimated.

Billing terms for these over-time contracts vary but are generally based on achieving specified milestones. The differences between the timing of revenues recognized and customer billings result in changes to contract assets and contract liabilities. Payment is generally due upon receipt of the invoice, payable within 90 days or less. Contractual retention amounts billed to customers are generally due upon expiration of the contractual warranty period.

Service revenues reflect revenues earned from the Company's activities in providing services to customers primarily subsequent to the sale and delivery of a product or complete system. Such revenues consist of maintenance type contracts, repair services, equipment upgrades, field service activities that include personnel and accompanying spare parts, training, and installation and commissioning of products as a stand-alone service or as part of a service contract. The Company generally recognizes revenues from service transactions as services are performed or at the point in time that the customer obtains control of the spare parts. For long-term service contracts including monitoring and maintenance services, revenues are recognized on a straight line basis over the term of the contract consistent with the nature, timing and extent of the services or, if the performance pattern is other than straight line, as the services are provided based on costs incurred relative to total expected costs.

In limited circumstances the Company sells extended warranties that extend the warranty coverage beyond the standard coverage offered on specific products. Revenues for these warranties are recorded over the length of the warranty period based on their stand-alone selling price.

Billing terms for service contracts vary but are generally based on the occurrence of a service event. Payment is generally due upon receipt of the invoice, payable within 90 days or less.

Revenues are reported net of customer rebates, early settlement discounts, and similar incentives. Rebates are estimated based on sales terms, historical experience and trend analysis. The most common incentives relate to amounts paid or credited to customers for achieving defined volume levels.

Taxes assessed by a governmental authority that are directly imposed on revenue-producing transactions between the Company and its customers, such as sales, use, value added and some excise taxes, are excluded from revenues.

The Company does not adjust the contract price for the effects of a financing component if the Company expects, at contract inception, that the time between control transfer and cash receipt is less than 12 months.

Sales commissions are expensed immediately when the amortization period for the costs to obtain the contract is less than a year.

**Contract loss provisions**

Losses on contracts are recognized in the period when they are identified and are based upon the anticipated excess of contract costs over the related contract revenues.

**Shipping and handling costs**

Shipping and handling costs are recorded as a component of cost of sales.

**Inventories**

Inventories are stated at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method, the weighted-average cost method, or the specific identification method. Inventoried costs are stated at acquisition cost or actual production cost, including direct material and labor and applicable manufacturing overheads. Adjustments to reduce the cost of inventory to its net realizable value are made, if required, for decreases in sales prices, obsolescence or similar reductions in value.

**Impairment of long-lived assets**

Long-lived assets that are held and used are assessed for impairment when events or circumstances indicate that the carrying amount of the asset may not be recoverable. If the asset's net carrying value exceeds the asset's net undiscounted cash flows expected to be generated over its remaining useful life including net proceeds expected from disposition of the asset, if any, the carrying amount of the asset is reduced to its estimated fair value. The estimated fair value is determined using a market, income and/or cost approach.

**Property, plant and equipment**

Property, plant and equipment is stated at cost, less accumulated depreciation and is depreciated using the straight-line method. The estimated useful lives of the assets are generally as follows:

- factories and office buildings: 30 to 40 years,
- other facilities: 15 years,
- machinery and equipment: 3 to 15 years,
- furniture and office equipment: 3 to 8 years, and
- leasehold improvements are depreciated over their estimated useful life or, for operating leases, over the lease term, if shorter.

**Goodwill and other intangible assets**

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

Goodwill is evaluated for impairment at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment. For the annual impairment review performed in 2019, the reporting units were the same as the operating segments for Electrification, Motion and Robotics & Discrete Automation, while for the Industrial Automation operating segment the reporting units were determined to be one level below the operating segment.

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

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

The cost of acquired intangible assets with a finite life is amortized using a method of amortization that reflects the pattern of intangible assets' expected contributions to future cash flows. If that

pattern cannot be reliably determined, the straight-line method is used. The amortization periods range from 3 to 5 years for software and from 5 to 20 years for customer-, technology- and marketing-related intangibles. Intangible assets with a finite life are tested for impairment upon the occurrence of certain triggering events.

#### **Capitalized software costs**

When developing software for internal use, costs incurred in the application development stage until the software is substantially complete are capitalized and are amortized on a straight-line basis over the estimated useful life of the software, typically ranging from 3 to 5 years.

#### **Derivative financial instruments and hedging activities**

The Company uses derivative financial instruments to manage currency, commodity, interest rate and equity exposures, arising from its global operating, financing and investing activities (see Note 6).

The Company recognizes all derivatives, other than certain derivatives indexed to the Company's own stock, at fair value in the Consolidated Balance Sheets. Derivatives that are not designated as hedging instruments are reported at fair value with derivative gains and losses reported through earnings and classified consistent with the nature of the underlying transaction.

If the derivatives are designated as a hedge, depending on the nature of the hedge, changes in the fair value of the derivatives will either be offset against the change in fair value of the hedged item attributable to the risk being hedged through earnings (in the case of a fair value hedge) or recognized in "Accumulated other comprehensive loss" until the hedged item is recognized in earnings (in the case of a cash flow hedge). The ineffective portion of a derivative's change in fair value is immediately recognized in earnings consistent with the classification of the hedged item. Where derivative financial instruments have been designated as cash flow hedges of forecasted transactions and such forecasted transactions are no longer probable of occurring, hedge accounting is discontinued and any derivative gain or loss previously included in "Accumulated other comprehensive loss" is reclassified into earnings consistent with the nature of the original forecasted transaction. Gains or losses from derivatives designated as hedging instruments in a fair value hedge are reported through earnings and classified consistent with the nature of the underlying hedged transaction.

Certain commercial contracts may grant rights to the Company or the counterparties, or contain other provisions that are considered to be derivatives. Such embedded derivatives are assessed at inception of the contract and depending on their characteristics, accounted for as separate derivative instruments and shown at their fair value in the Consolidated Balance Sheets with changes in their fair value reported in earnings consistent with the nature of the commercial contract to which they relate.

Derivatives are classified in the Consolidated Statements of Cash Flows in the same section as the underlying item. Cash flows from the settlement of undesignated derivatives used to manage the risks of different underlying items on a net basis are classified within "Net cash provided by operating activities", as the underlying items are primarily operational in nature. Other cash flows on the settlement of derivatives are recorded within "Net cash used in investing activities".

#### **Leases**

The Company leases primarily real estate, vehicles and machinery.

In January 2019, the Company adopted a new lease accounting standard. Prior to the adoption of the new accounting standard, lease transactions where substantially all risks and rewards incident to ownership were transferred from the lessor to the lessee were accounted for as capital leases. All other leases were accounted for as operating leases. The periodic rent expense for operating leases was recorded on a straight-line basis over the life of the lease term. Amounts due under capital leases were recorded as a liability. The value of the assets under capital leases were recorded as property, plant and equipment. Depreciation and amortization of assets recorded under capital leases was included in depreciation and amortization expense.

Under the new lease accounting standard, the Company evaluates if a contract contains a lease at inception of the contract. A contract is or contains a lease if it conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration. To determine this, the Company assesses whether, throughout the period of use, it has both the right to obtain substantially all of the economic benefits from use of the identified asset and

the right to direct the use of the identified asset. Leases are classified as either finance or operating, with the classification determining the pattern of expense recognition in the Consolidated Income Statements. Lease expense for operating leases continues to be recorded on a straight-line basis over the lease term. Lease expense for finance leases is separated between amortization of right-of-use assets and lease interest expense.

In many cases, the Company's leases include one or more options to renew, with renewal terms that can extend up to 5 years. The exercise of lease renewal options is at the Company's discretion. Renewal periods are included in the expected lease term if they are reasonably certain of being exercised by the Company. Certain leases also include options to purchase the leased property. None of the Company's lease agreements contain material residual value guarantees or material restrictions or covenants.

Long-term leases (leases with terms greater than 12 months) are recorded in the Consolidated Balance Sheets at the commencement date of the lease based on the present value of the minimum lease payments. *The present value of the lease payments is determined by using the interest rate implicit in the lease if available. As most of the Company's leases do not provide an implicit rate, the Company's incremental borrowing rate is used for most leases and is determined for portfolios of leases based on the remaining lease term, currency of the lease, and the internal credit rating of the subsidiary which entered into the lease.*

Short-term leases (leases with an initial lease term of 12 months or less and where it is reasonably certain that the property will not be leased for a term greater than 12 months) are not recorded in the Consolidated Balance Sheets and are expensed on a straight-line basis over the lease term. The majority of short-term leases relate to real estate and machinery.

Assets under operating lease are included in "Operating lease right-of-use assets". Operating lease liabilities are reported both as current and non-current operating lease liabilities. Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease.

Assets under finance lease are included in "Property, plant and equipment, net" while finance lease liabilities are included in "Long-term debt" (including "Current maturities of long-term debt" as applicable).

Lease and non-lease components for leases other than real estate are not accounted for separately.

#### **Translation of foreign currencies and foreign exchange transactions**

The functional currency for most of the Company's subsidiaries is the applicable local currency. The translation from the applicable functional currencies into the Company's reporting currency is performed for balance sheet accounts using exchange rates in effect at the balance sheet date and for income statement accounts using average exchange rates prevailing during the year. The resulting translation adjustments are excluded from the determination of earnings and are recognized in "Accumulated other comprehensive loss" until the subsidiary is sold, substantially liquidated or evaluated for impairment in anticipation of disposal.

Foreign currency exchange gains and losses, such as those resulting from foreign currency denominated receivables or payables, are included in the determination of earnings, except as they relate to intercompany loans that are equity-like in nature with no reasonable expectation of repayment, which are recognized in "Accumulated other comprehensive loss". Exchange gains and losses recognized in earnings are included in "Total revenues", "Total cost of sales", "Selling, general and administrative expenses" or "Interest and other finance expense" consistent with the nature of the underlying item.

#### **Income taxes**

The Company uses the asset and liability method to account for deferred taxes. Under this method, deferred tax assets and liabilities are determined based on temporary differences between the financial reporting and the tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The Company records a deferred tax asset when it determines that it is more likely than not that the deduction will be sustained based upon the deduction's technical merit. Deferred tax assets and liabilities that can be offset against each other are reported on a net basis. A valuation

allowance is recorded to reduce deferred tax assets to the amount that is more likely than not to be realized.

Deferred taxes are provided on unredeemed retained earnings of the Company's subsidiaries. However, deferred taxes are not provided on such unredeemed retained earnings to the extent it is expected that the earnings are permanently reinvested. Such earnings may become taxable upon the sale or liquidation of these subsidiaries or upon the remittance of dividends.

The Company operates in numerous tax jurisdictions and, as a result, is regularly subject to audit by tax authorities. The Company provides for tax contingencies whenever it is deemed more likely than not that a tax asset has been impaired or a tax liability has been incurred. Contingency provisions are recorded based on the technical merits of the Company's filing position, considering the applicable tax laws and Organisation for Economic Co-operation and Development (OECD) guidelines and are based on its evaluations of the facts and circumstances as of the end of each reporting period.

The Company applies a two-step approach to recognize and measure uncertainty in income taxes. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount which is more than 50 percent likely of being realized upon ultimate settlement. Uncertain tax positions that could be settled against existing loss carryforwards or income tax credits are reported net.

Expenses related to tax penalties are classified in the Consolidated Income Statements as "Provision for taxes" while interest thereon is classified as "Interest and other finance expense". Current income tax relating to certain items is recognized directly in "Accumulated other comprehensive loss" and not in earnings. In general, the Company applies the individual items approach when releasing income tax effects from "Accumulated other comprehensive loss".

#### **Research and development**

Research and development costs not related to specific customer orders are generally expensed as incurred.

#### **Earnings per share**

Basic earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the year. Diluted earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the year, assuming that all potentially dilutive securities were exercised, if dilutive. Potentially dilutive securities comprise outstanding written call options, outstanding options and shares granted subject to certain conditions under the Company's share-based payment arrangements. See further discussion related to earnings per share in Note 20 and of potentially dilutive securities in Note 18.

#### **Share-based payment arrangements**

The Company has various share-based payment arrangements for its employees, which are described more fully in Note 18. Such arrangements are accounted for under the fair value method. For awards that are equity-settled, total compensation is measured at grant date, based on the fair value of the award at that date, and recorded in earnings over the period the employees are required to render service. For awards that are cash-settled, compensation is initially measured at grant date and subsequently remeasured at each reporting period, based on the fair value and vesting percentage of the award at each of those dates, with changes in the liability recorded in earnings.

#### **Fair value measures**

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 debt and equity 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, reverse repurchase agreements, certain debt securities that are not actively traded, interest rate swaps, commodity swaps, cash-settled call options, forward foreign exchange contracts, foreign exchange swaps and forward rate agreements, time deposits, as well as financing receivables and debt.

**Level 3:**

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

Investments in private equity, real estate and collective funds held within the Company's pension plans are generally valued using the net asset value (NAV) per share as a practical expedient for fair value provided certain criteria are met. The NAVs are determined based on the fair values of the underlying investments in the funds. These assets are not classified in the fair value hierarchy but are separately disclosed.

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 (MIP), 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.

Disclosures about the Company's fair value measurements of assets and liabilities are included in Note 7.

**Contingencies**

The Company is subject to proceedings, litigation or threatened litigation and other claims and inquiries, related to environmental, labor, product, regulatory, tax (other than income tax) and other matters, and is required to assess the likelihood of any adverse judgments or outcomes to these

matters, as well as potential ranges of probable losses. A determination of the provision required, if any, for these contingencies is made after analysis of each individual issue, often with assistance from both internal and external legal counsel and technical experts. The required amount of a provision for a contingency of any type may change in the future due to new developments in the particular matter, including changes in the approach to its resolution.

The Company records a provision for its contingent obligations when it is probable that a loss will be incurred and the amount can be reasonably estimated. Any such provision is generally recognized on an undiscounted basis using the Company's best estimate of the amount of loss incurred or at the lower end of an estimated range when a single best estimate is not determinable. In some cases, the Company may be able to recover a portion of the costs relating to these obligations from insurers or other third parties; however, the Company records such amounts only when it is probable that they will be collected.

The Company provides for anticipated costs for warranties when it recognizes revenues on the related products or contracts. Warranty costs include calculated costs arising from imperfections in design, material and workmanship in the Company's products. The Company makes individual assessments on contracts with risks resulting from order-specific conditions or guarantees and assessments on an overall, statistical basis for similar products sold in larger quantities.

The Company may have legal obligations to perform environmental clean-up activities related to land and buildings as a result of the normal operations of its business. In some cases, the timing or the method of settlement, or both, are conditional upon a future event that may or may not be within the control of the Company, but the underlying obligation itself is unconditional and certain. The Company recognizes a provision for these obligations when it is probable that a liability for the clean-up activity has been incurred and a reasonable estimate of its fair value can be made. In some cases, a portion of the costs expected to be incurred to settle these matters may be recoverable. An asset is recorded when it is probable that such amounts are recoverable. Provisions for environmental obligations are not discounted to their present value when the timing of payments cannot be reasonably estimated.

#### **Pensions and other postretirement benefits**

The Company has a number of defined benefit pension and other postretirement plans. The Company recognizes an asset for such a plan's overfunded status or a liability for such a plan's underfunded status in its Consolidated Balance Sheets. Additionally, the Company measures such a plan's assets and obligations that determine its funded status as of the end of the year and recognizes the changes in the funded status in the year in which the changes occur. Those changes are reported in "Accumulated other comprehensive loss".

The Company uses actuarial valuations to determine its pension and postretirement benefit costs and credits. The amounts calculated depend on a variety of key assumptions, including discount rates and expected return on plan assets. Current market conditions are considered in selecting these assumptions.

The Company's various pension plan assets are assigned to their respective levels in the fair value hierarchy in accordance with the valuation principles described in the "Fair value measures" section above.

See Note 17 for further discussion of the Company's employee benefit plans.

#### **Business combinations**

The Company accounts for assets acquired and liabilities assumed in business combinations using the acquisition method and records these at their respective fair values. Contingent consideration is recorded at fair value as an element of purchase price with subsequent adjustments recognized in income.

Identifiable intangibles consist of intellectual property such as trademarks and trade names, customer relationships, patented and unpatented technology, in-process research and development, order backlog and capitalized software; these are amortized over their estimated useful lives. Such intangibles are subsequently subject to evaluation for potential impairment if events or circumstances indicate the carrying amount may not be recoverable. See "Goodwill and other intangible assets" above. Acquisition-related costs are recognized separately from the acquisition and expensed as incurred.

Upon gaining control of an entity in which an equity method or cost basis investment was held by the Company, the carrying value of that investment is adjusted to fair value with the related gain or loss recorded in income.

Deferred tax assets and liabilities based on temporary differences between the financial reporting and the tax base of assets and liabilities as well as uncertain tax positions and valuation allowances on acquired deferred tax assets assumed in connection with a business combination are initially estimated as of the acquisition date based on facts and circumstances that existed at the acquisition date. These estimates are subject to change within the measurement period (a period of up to 12 months after the acquisition date during which the acquirer may adjust the provisional acquisition amounts) with any adjustments to the preliminary estimates being recorded to goodwill. Changes in deferred taxes, uncertain tax positions and valuation allowances on acquired deferred tax assets that occur after the measurement period are recognized in income.

#### **New accounting pronouncements**

##### **Applicable for current period**

###### **Leases**

In January 2019, the Company adopted a new accounting standard that requires lessees to recognize lease assets and corresponding lease liabilities on the balance sheet for all leases with terms of more than 12 months with several practical expedients. The new accounting standard continues to classify leases as either finance or operating, with the classification determining the pattern of expense recognition in the income statement. It also requires additional disclosures about the Company's leasing activities. The Company has elected to not recognize lease assets and lease liabilities for leases with terms of less than 12 months and to not separate lease and non-lease components for leases other than real estate.

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

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

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

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

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

##### **Applicable for future periods**

###### **Measurement of credit losses on financial instruments**

In June 2016, an accounting standard update was issued which replaces the existing incurred loss impairment methodology for most financial assets with a new "current expected credit loss" model. Additional related updates with targeted improvements and clarifications were issued subsequently. The new model will result in the immediate recognition of the estimated credit losses expected to occur over the remaining life of financial assets such as trade and other receivables, held-to-maturity debt securities, loans and other instruments. Measurement of expected credit losses will be based on

historical experience, current conditions, and reasonable and supportable forecasts. The update also requires additional disclosures related to estimates and judgments used to measure credit losses. Credit losses relating to available-for-sale debt securities will be measured in a manner similar to current GAAP, except that the losses will be recorded through an allowance for credit losses rather than as a direct write-down of the security.

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

#### Disclosure Framework – Changes to the disclosure requirements for fair value measurement

In August 2018, an accounting standard update was issued which modifies the disclosure requirements for fair value measurements. The update eliminates the requirements to disclose the amount of and reasons for transfers between Level 1 and 2 of the fair value hierarchy, the timing of transfers between levels and the Level 3 valuation process, while expanding the Level 3 disclosures to include the range and weighted average used to develop significant unobservable inputs and the changes in unrealized gains and losses on recurring fair value measurements. The changes and modifications to the Level 3 disclosures are to be applied prospectively, while all other amendments are to be applied retrospectively. The Company will adopt this update as of January 1, 2020, and does not believe that this update will have a significant impact on its consolidated financial statements.

#### Simplifying the accounting for income taxes

In December 2019, an accounting standard update was issued which simplifies the accounting for income taxes by removing certain exceptions to the general principles in this topic. The amendments also improve consistent application of existing guidance by clarifying certain aspects. This update is effective for the Company for annual and interim periods beginning January 1, 2021, with early adoption in any interim period permitted. Depending on the amendment, adoption may be applied on a retrospective, modified retrospective or prospective basis. The Company is currently evaluating the impact of this update on its consolidated financial statements.

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## Note 3

### Basis of presentation and assets held for sale

#### Discontinued operations

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

As this planned divestment represents a strategic shift that will have a major effect on the Company's operations and financial results, the results of operations for this business have been presented as discontinued operations and the assets and liabilities are reflected as held-for-sale for all periods presented. In addition, amounts relating to stranded corporate costs have been separately disclosed as a component of Corporate and Other (see Note 23). Stranded costs represent overhead and other management costs which were previously included in the measure of segment profit (Operational EBITA) for the former Power Grids operating segment but are not directly attributable to the discontinued operation and thus do not qualify to be recorded as part of income from discontinued operations.

Operating results of the discontinued operations are summarized as follows:

(\$ millions)	2019	2018	2017
Total revenues	9,037	9,698	10,028
Total cost of sales	(6,983)	(7,378)	(7,501)
<b>Gross profit</b>	<b>2,054</b>	<b>2,320</b>	<b>2,527</b>
Expenses	(1,394)	(1,326)	(1,376)
<b>Income from operations</b>	<b>660</b>	<b>994</b>	<b>1,152</b>
Net interest and other finance expense	(61)	(55)	(42)
Non-operational pension (cost) credit	5	12	9
<b>Income from discontinued operations before taxes</b>	<b>605</b>	<b>951</b>	<b>1,119</b>
Provision for taxes	(167)	(228)	(273)
<b>Income from discontinued operations, net of tax</b>	<b>438</b>	<b>723</b>	<b>846</b>

Of the total Income from discontinued operations before taxes in the table above, \$566 million, \$874 million and \$1,034 million in 2019, 2018 and 2017, respectively, are attributable to the Company, while the remainder is attributable to noncontrolling interests.

Income from discontinued operations before taxes excludes the stranded costs previously allocated to the Power Grids operating segment. As a result, \$225 million, \$297 million and \$286 million, for 2019, 2018 and 2017, respectively, of allocated overhead and other management costs which were previously included in the measure of segment profit for the Power Grids operating segment are now reported as part of Corporate and Other. In the table above, Net interest and other finance expense in 2019, 2018 and 2017 includes \$44 million, \$43 million and \$33 million, respectively, of interest expense which has been recorded on an allocated basis in accordance with the Company's accounting policy election. In addition, as required by U.S. GAAP, subsequent to December 17, 2018, the Company has not recorded depreciation or amortization on the property, plant and equipment and intangible assets reported as discontinued operations. In 2018 and 2017, respectively, a total of \$258 million and \$265 million of depreciation and amortization expense was recorded for such assets. In 2019 and 2018, Income from discontinued operations before taxes includes \$28 million and \$18 million, respectively, for costs incurred to execute the transaction.

Included in the reported Total revenues of the Company for 2019, 2018 and 2017 are revenues for sales from the Company's operating segments to the Power Grids business of \$213 million, \$243 million and \$263 million, respectively, which represent intercompany transactions that, prior to Power Grids being classified as a discontinued operation, were eliminated in the Company's Consolidated Financial Statements (see Note 23).

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

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

#### 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.

During 2019, the Company reached an agreement to sell its solar inverters business to FIMER S.p.A. for no consideration. Under the agreement the Company is obligated to transfer cash on the closing date and make additional cash payments to the purchaser through 2025. At December 31, 2019, a total of EUR 266 million (\$299 million) is estimated to be due to the buyer. As a result, in 2019, the Company recorded a loss, of \$421 million in "Other income (expense), net", representing the excess of the carrying value over the estimated fair value of this business. The carrying value at December 31, 2019, includes a loss arising from the cumulative translation adjustment of \$99 million.

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

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

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

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

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

Including the above loss of \$421 million in 2019, Income from continuing operations before taxes includes net losses of \$490 million, from the solar inverters business. In 2018, net losses of \$94 million from this business were included in Income from continuing operations before taxes.

#### Reclassifications and other changes

**Changes in presentation and disclosure relating to the adoption of new accounting pronouncements**  
Improving the presentation of net periodic pension cost and net periodic postretirement benefit cost  
In January 2018, the Company adopted an accounting standard update which changes how employers that sponsor defined benefit pension plans and other postretirement plans present net periodic benefit cost in the income statement. As a result, the Company now presents the total Non-operational pension cost/credit as a total outside of income from operations. The components of Non-operational pension cost/credit are summarized in Note 17. The amounts disclosed for 2017 were previously included as a component of income from operations.

## Note 4

### Acquisitions and business divestments

#### Acquisitions

Acquisitions were as follows:

(\$ in millions, except number of acquired businesses)	2019	2018	2017
Purchase price for acquisitions (net of cash acquired) <sup>(1)</sup>	—	2,638	1,992
Aggregate excess of purchase price over fair value of net assets acquired <sup>(2)</sup>	92	1,472	1,267
Number of acquired businesses	—	3	4

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

(2) Recorded as goodwill (see Note 11). Includes adjustments of \$92 million in 2019 arising during the measurement period of acquisitions, primarily reflecting changes in the valuation of net working capital, deferred tax liabilities and intangible assets acquired.

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

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

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

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

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

On July 6, 2017, the Company acquired the shares of B&R, a worldwide provider of product- and software-based, open-architecture solutions for machine and factory automation. This acquisition closes a gap in the Company's industrial automation portfolio and consequently the goodwill acquired represents the future benefits associated with product portfolio expansion.

The final allocation of purchase consideration for GEIS and the aggregate allocation of the purchase consideration for business acquisitions in 2017, was as follows:

(\$ in millions)	GEIS		2017	
	Allocated amounts	Weighted-average useful life	Allocated amounts <sup>(1)</sup>	Weighted-average useful life
Technology	92	7 years	412	7 years
Customer relationships	178	12 years	264	20 years
Trade names	135	13 years	61	10 years
Supply agreement	32	13 years	—	—
<b>Intangible assets</b>	<b>437</b>		<b>737</b>	
Property, plant and equipment	373		131	
Debt acquired	—		(50)	
Deferred tax liabilities	(45)		(249)	
Inventories	405		176	
Other assets and liabilities, net <sup>(2)</sup>	(19)		(20)	
Goodwill <sup>(3)</sup>	1,534		1,267	
Noncontrolling interest	(63)		—	
<b>Total consideration (net of cash acquired)<sup>(4)</sup></b>	<b>2,622</b>		<b>1,992</b>	

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

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

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

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

The Company's Consolidated Income Statement for 2018, includes total revenues of \$1,317 million and net income of \$1 million in respect of GEIS since the date of acquisition.

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

(\$ in millions)	2018	2017
Total revenues	28,936	27,881
Income from continuing operations, net of tax	1,622	1,631

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

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

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

#### Business divestments

In 2019, the Company recorded net gains (including transactions costs) of \$55 million, primarily due to the divestment of two businesses in China.

In 2017, the Company received proceeds (net of transaction costs and cash disposed) of \$605 million, relating to divestments of consolidated businesses and recorded net gains of \$252 million in "Other income (expense), net" on the sale of such businesses. These are primarily due to the divestment of the Company's high-voltage cables and cable accessories businesses (the Cables business) in March 2017 and the divestment of the Oil & Gas EPC business in December 2017. The assets and liabilities of the Cables business were classified as held for sale in the Company's Consolidated Balance Sheets at December 31, 2016.

The Company has retained certain obligations of the Cables business and thus the Company remains directly or indirectly liable for these liabilities which existed at the date of the divestment. Subsequent to the divestment, the Company recorded a loss of \$94 million in 2017 for changes in the amounts recorded for these obligations. In addition, the Company has provided certain performance guarantees to third parties which guarantee the performance of the buyer under existing contracts with customers as well as for certain capital expenditures of the divested business (see Note 15).

In 2018, there were no significant amounts recognized from divestments of consolidated businesses.

## Note 5

### Cash and equivalents, marketable securities and short-term investments

#### Current assets

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

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

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

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

#### Contractual maturities

Contractual maturities of debt securities consisted of the following:

December 31, 2019 (\$ in millions)	Available-for-sale	
	Cost basis	Fair value
One to five years	125	126
Six to ten years	74	77
Due after ten years	53	59
<b>Total</b>	<b>252</b>	<b>262</b>

At December 31, 2019 and 2018, the Company pledged \$66 million and \$68 million, respectively, of available-for-sale marketable securities as collateral for issued letters of credit and other security arrangements.

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## Note 6

### Derivative financial instruments

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

#### Currency risk

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

#### Commodity risk

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

#### Interest rate risk

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

#### Equity risk

The Company is exposed to fluctuations in the fair value of its warrant appreciation rights (WARs) issued under its MLP (Management Incentive Plan) (see Note 18). A WAR gives its holder the right to receive cash equal to the market price of an equivalent listed warrant on the date of exercise. To eliminate such risk, the Company has purchased cash-settled call options, indexed to the shares of the Company, which entitle the Company to receive amounts equivalent to its obligations under the outstanding WARs.

#### Volume of derivative activity

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

### Foreign exchange and interest rate derivatives

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

Type of derivative (\$ in millions)	Total notional amounts at December 31,		
	2019	2018	2017
Foreign exchange contracts	15,015	13,612	16,261
Embedded foreign exchange derivatives	924	733	899
Interest rate contracts	5,188	3,300	5,706

### Derivative commodity contracts

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

Type of derivative	Unit	Total notional amounts at December 31,		
		2019	2018	2017
Copper swaps	metric tonnes	42,494	46,143	28,976
Silver swaps	ounces	2,508,770	2,861,294	1,966,729
Aluminum swaps	metric tonnes	8,388	9,491	1,869

### Equity derivatives

At December 31, 2019, 2018 and 2017, the Company held 40 million, 41 million and 37 million cash-settled call options indexed to ABB Ltd shares (conversion ratio 5:1) with a total fair value of \$26 million, \$6 million and \$42 million, respectively.

### Cash flow hedges

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

At December 31, 2019, 2018 and 2017, "Accumulated other comprehensive loss" included net unrealized losses of \$5 million, \$16 million and net unrealized gains of \$12 million, respectively, net of tax, on derivatives designated as cash flow hedges. Of the amount at December 31, 2019, net losses of \$2 million are expected to be reclassified to earnings in 2020. At December 31, 2019, the longest maturity of a derivative classified as a cash flow hedge was 49 months.

In 2019, 2018 and 2017, the amounts of gains or losses, net of tax, reclassified into earnings due to the discontinuance of cash flow hedge accounting and the amount of ineffectiveness in cash flow hedge relationships directly recognized in earnings were not significant.

The pre-tax effects of derivative instruments, designated and qualifying as cash flow hedges, on "Accumulated other comprehensive loss" (OCI) and the Consolidated Income Statements in 2019, 2018 and 2017, were not significant.

### Fair value hedges

To reduce its interest rate exposure arising primarily from its debt issuance activities, the Company uses interest rate swaps. Where such instruments are designated as fair value hedges, the changes in the fair value of these instruments, as well as the changes in fair value of the risk component of the underlying debt being hedged, are recorded as offsetting gains and losses in "Interest and other finance expense". Hedge ineffectiveness of instruments designated as fair value hedges in 2019, 2018 and 2017, was not significant.

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

(\$ in millions)	2019	2018	2017
Gains (losses) recognized in Interest and other finance expense:			
– on derivatives designated as fair value hedges	38	(4)	(23)
– on hedged item	(38)	5	27

#### 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:

(\$ in millions)	Type of derivative not designated as a hedge	Location	Gains (losses) recognized in income		
			2019	2018	2017
Foreign exchange contracts		Total revenues	(7)	(121)	92
		Total cost of sales	(64)	46	(41)
		SG&A expenses <sup>(1)</sup>	2	10	(18)
		Non-order related research and development	1	(1)	—
		Interest and other finance expense	(122)	40	22
Embedded foreign exchange contracts		Total revenues	17	58	7
		Total cost of sales	(6)	(4)	(2)
		SG&A expenses <sup>(1)</sup>	—	2	5
Commodity contracts		Total cost of sales	12	(33)	31
Other		Interest and other finance expense	—	3	(2)
<b>Total</b>			<b>(167)</b>	<b>—</b>	<b>94</b>

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

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

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

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

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

Although the Company is party to close-out netting agreements with most derivative counterparties, the fair values in the tables above and in the Consolidated Balance Sheets at December 31, 2019 and 2018, have been presented on a gross basis.

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

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

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

December 31, 2018 (\$ 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	181	(121)	—	—	60
Reverse repurchase agreements	206	—	—	(206)	—
<b>Total</b>	<b>387</b>	<b>(121)</b>	<b>—</b>	<b>(206)</b>	<b>60</b>

December 31, 2018 (\$ 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	220	(121)	—	—	99
<b>Total</b>	<b>220</b>	<b>(121)</b>	<b>—</b>	<b>—</b>	<b>99</b>

## Note 7

### Fair values

#### Recurring fair value measures

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

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

December 31, 2018 (\$ in millions)	Level 1	Level 2	Level 3	Total fair value
<b>Assets</b>				
Securities in "Marketable securities and short-term investments":				
Equity securities	—	203	—	203
Debt securities – U.S. government obligations	214	—	—	214
Debt securities – Corporate	—	88	—	88
Derivative assets – current in "Other current assets"	—	143	—	143
Derivative assets – non-current in "Other non-current assets"	—	63	—	63
<b>Total</b>	<b>214</b>	<b>497</b>	<b>—</b>	<b>711</b>
<b>Liabilities</b>				
Derivative liabilities – current in "Other current liabilities"	—	192	—	192
Derivative liabilities – non-current in "Other non-current liabilities"	—	37	—	37
<b>Total</b>	<b>—</b>	<b>229</b>	<b>—</b>	<b>229</b>

During 2019, 2018 and 2017 there have been no reclassifications for any financial assets or liabilities between Level 1 and Level 2.

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

In June 2019, the Company adjusted the carrying value of the solar inverters business which is classified as held for sale (see Note 3). The fair value is based on the estimated current market values using Level 3 inputs, considering the agreed-upon sale terms with the buyer. There were no other significant non-recurring fair value measurements during 2019 and 2018.

### Disclosure about financial instruments carried on a cost basis

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

December 31, 2019 (\$ in millions)	Carrying value	Level 1	Level 2	Level 3	Total fair value
<b>Assets</b>					
Cash and equivalents (excluding securities with original maturities up to 3 months):					
Cash	2,111	2,111	—	—	2,111
Time deposits	1,433	—	1,433	—	1,433
Other non-current assets:					
Loans granted	30	—	31	—	31
Restricted cash and cash deposits	37	37	—	—	37
<b>Liabilities</b>					
Short-term debt and current maturities of long-term debt (excluding finance lease obligations)					
	2,270	1,534	736	—	2,270
Long-term debt (excluding finance lease obligations)					
	6,618	6,267	692	—	6,959

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

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

- Cash and equivalents (excluding securities with original maturities up to 3 months), and Marketable securities and short-term investments (excluding securities): The carrying amounts approximate the fair values as the items are short-term in nature.
- Other non-current assets: Includes (i) loans granted whose fair values are based on the carrying amount adjusted using a present value technique to reflect a premium or discount based on current market interest rates (Level 2 inputs), (ii) restricted cash whose fair values approximate the carrying amounts (Level 1 inputs).
- Short-term debt and current maturities of long-term debt (excluding finance lease obligations): Short-term debt includes commercial paper, bank borrowings and overdrafts. The carrying amounts of short-term debt and current maturities of long-term debt, excluding finance lease obligations, approximate their fair values.

- Long-term debt (excluding finance lease obligations): Fair values of bonds are determined using quoted market prices (Level 1 inputs), if available. For bonds without available quoted market prices and other long-term debt, the fair values are determined using a discounted cash flow methodology based upon borrowing rates of similar debt instruments and reflecting appropriate adjustments for non-performance risk (Level 2 inputs).

## Note 8

### Receivables, net and Contract assets and liabilities

"Receivables, net" consisted of the following:

December 31, (\$ in millions)	2019	2018
Trade receivables	5,967	5,970
Other receivables	695	635
Allowance	(228)	(219)
<b>Total</b>	<b>6,434</b>	<b>6,386</b>

"Trade receivables" in the table above includes contractual retention amounts billed to customers of \$151 million and \$176 million at December 31, 2019 and 2018, respectively. Management expects that the substantial majority of related contracts will be completed and the substantial majority of the billed amounts retained by the customer will be collected. Of the retention amounts outstanding at December 31, 2019, 76 percent and 17 percent are expected to be collected in 2020 and 2021, respectively.

"Other receivables" in the table above consists of value added tax, claims, rental deposits and other non-trade receivables.

The reconciliation of changes in the allowance for doubtful accounts is as follows:

(\$ in millions)	2019	2018	2017
Balance at January 1,	219	202	202
Additions	93	126	61
Deductions	(81)	(93)	(74)
Exchange rate differences	(3)	(16)	13
<b>Balance at December 31,</b>	<b>228</b>	<b>219</b>	<b>202</b>

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

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

Contract assets primarily relate to the Company's right to receive consideration for work completed but for which no invoice has been issued at the reporting date. Contract assets are transferred to receivables when rights to receive payment become unconditional. 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)	2019		2018	
	Contract assets	Contract liabilities	Contract assets	Contract liabilities
Revenue recognized, which was included in the Contract liabilities balance at Jan 1, 2019/2018		(1,158)		(879)
Additions to Contract liabilities - excluding amounts recognized as revenue during the period		1,255		518
Receivables recognized that were included in the Contract assets balance at Jan 1, 2019/2018	(786)		(633)	

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

## Note 9 Inventories, net

"Inventories, net" consisted of the following:

December 31, (\$ in millions)	2019	2018
Raw materials	1,760	1,823
Work in process	819	837
Finished goods	1,499	1,525
Advances to suppliers	106	99
<b>Total</b>	<b>4,184</b>	<b>4,284</b>

## Note 10 Property, plant and equipment, net

"Property, plant and equipment, net" consisted of the following:

December 31, (\$ in millions)	2019	2018
Land and buildings	3,568	3,573
Machinery and equipment	5,620	5,624
Construction in progress	500	464
	<b>9,688</b>	<b>9,661</b>
Accumulated depreciation	(5,716)	(5,528)
<b>Total</b>	<b>3,972</b>	<b>4,133</b>

Assets under finance leases included in "Property, plant and equipment, net" were as follows:

December 31, (\$ in millions)	2019	2018
Land and buildings	142	171
Machinery and equipment	62	69
	<b>204</b>	<b>240</b>
Accumulated depreciation	(99)	(122)
<b>Total</b>	<b>105</b>	<b>118</b>

In 2019, 2018 and 2017 depreciation, including depreciation of assets under finance leases, was \$616 million, \$578 million and \$549 million, respectively. In 2019, 2018 and 2017 there were no significant impairments of property, plant or equipment.

## Note 11

### Goodwill and other intangibles assets

The changes in "Goodwill" below have been recast to reflect the reorganization in 2019 of the Company's operating segments as outlined in Note 23:

(\$ in millions)	2019					Total
	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	
Cost at January 1, 2018	2,969	1,631	2,470	2,445	39	9,554
Accumulated impairment charges	—	—	—	—	(18)	(18)
<b>Balance at January 1, 2018</b>	<b>2,969</b>	<b>1,631</b>	<b>2,470</b>	<b>2,445</b>	<b>21</b>	<b>9,536</b>
Goodwill acquired during the year	1,442	—	—	30	—	1,472
Goodwill allocated to disposals	(31)	—	—	—	—	(31)
Exchange rate differences and other	(104)	(15)	(29)	(65)	—	(213)
<b>Balance at December 31, 2018</b>	<b>4,276</b>	<b>1,616</b>	<b>2,441</b>	<b>2,410</b>	<b>21</b>	<b>10,764</b>
Goodwill acquired during the year <sup>(1)</sup>	92	—	—	—	—	92
Goodwill allocated to disposals	(18)	—	—	—	—	(18)
Exchange rate differences and other	22	(1)	(5)	(29)	—	(13)
<b>Balance at December 31, 2019</b>	<b>4,372</b>	<b>1,615</b>	<b>2,436</b>	<b>2,381</b>	<b>21</b>	<b>10,825</b>

(1) Amount consists of adjustments arising during the twelve-month measurement period subsequent to the respective acquisition date (see Note 4).

In 2018, goodwill acquired primarily relates to GEIS, acquired in June 2018, which has been allocated to the Electrification Business.

Intangible assets other than goodwill consisted of the following:

December 31, (\$ in millions)	2019			2018		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Capitalized software for internal use	790	(628)	162	779	(586)	193
Capitalized software for sale	29	(29)	—	30	(30)	—
Intangibles other than software:						
Customer-related	2,513	(1,005)	1,508	2,609	(909)	1,700
Technology-related	1,056	(722)	334	1,131	(701)	430
Marketing-related	501	(286)	215	483	(240)	243
Other	59	(26)	33	67	(26)	41
<b>Total</b>	<b>4,948</b>	<b>(2,696)</b>	<b>2,252</b>	<b>5,099</b>	<b>(2,492)</b>	<b>2,607</b>

Additions to intangible assets other than goodwill consisted of the following:

(\$ in millions)	2019	2018
Capitalized software for internal use	42	139
Intangibles other than software:		
Customer-related	—	214
Technology-related	—	87
Marketing-related	—	122
Other	—	34
<b>Total</b>	<b>42</b>	<b>596</b>

The additions of \$42 million in 2019 were not related to business combinations. Included in the additions of \$596 million in 2018 were the following intangible assets other than goodwill related to business combinations:

(\$ in millions)	2018	
	Amount acquired	Weighted-average useful life
Capitalized software for internal use	65	2 years
Intangibles other than software:		
Customer-related	214	14 years
Technology-related	87	7 years
Marketing-related	122	13 years
Other	34	13 years
<b>Total</b>	<b>522</b>	

Amortization expense of intangible assets other than goodwill consisted of the following:

(\$ in millions)	2019	2018	2017
Capitalized software for internal use	74	59	50
Intangibles other than software	271	279	237
<b>Total</b>	<b>345</b>	<b>338</b>	<b>287</b>

In 2019, 2018 and 2017, impairment charges on intangible assets other than goodwill were not significant.

At December 31, 2019, future amortization expense of intangible assets other than goodwill is estimated to be:

(\$ in millions)	
2020	337
2021	301
2022	253
2023	233
2024	211
Thereafter	917
<b>Total</b>	<b>2,252</b>

## Note 12 Debt

The Company's total debt at December 31, 2019 and 2018, amounted to \$9,059 million and \$8,618 million, respectively.

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

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

December 31, (\$ in millions)	2019	2018
Short-term debt		
(weighted-average interest rate of 2.8% and 2.3%, respectively)	838	561
Current maturities of long-term debt		
(weighted-average nominal interest rate of 0.7% and 2.7%, respectively)	1,449	1,470
<b>Total</b>	<b>2,287</b>	<b>2,031</b>

Short-term debt primarily represents short-term loans from various banks and issued commercial paper.

At December 31, 2019, the Company had in place two commercial paper programs: a \$2 billion Euro-commercial paper program for the issuance of commercial paper in a variety of currencies, and a \$2 billion commercial paper program for the private placement of U.S. dollar denominated commercial paper in the United States. At December 31, 2018, \$172 million was outstanding under the \$2 billion Euro-commercial paper program. No amount was outstanding under this program at December 31, 2019. At December 31, 2019 and 2018, \$706 million and \$292 million, respectively, was outstanding under the \$2 billion program in the United States.

In addition, in December 2019, the Company replaced its \$2 billion multicurrency revolving credit facility, maturing in 2021, with a new \$2 billion 5-year multicurrency credit facility maturing in 2024. The new credit facility provides an option in 2020 and 2021 to extend the maturity to 2025 and 2026, respectively. The facility is for general corporate purposes. Interest costs on drawings under the facility are LIBOR or EURIBOR (depending on the currency of the drawings) plus a margin of 0.175 percent, while commitment fees (payable on the unused portion of the facility) amount to 35 percent of the margin, which represents commitment fees of 0.06125 percent per annum. Utilization fees, payable on drawings, amount to 0.075 percent per annum on drawings up to one-third of the facility, 0.15 percent per annum on drawings in excess of one-third but less than or equal to two-thirds of the facility, or 0.30 percent per annum on drawings over two-thirds of the facility. The facility contains cross-default clauses whereby an event of default would occur if the Company were to default on indebtedness as defined in the facility, at or above a specified threshold. No amount was drawn at December 31, 2019 and 2018, under either the new or the old facility. The old facility was terminated in December 2019.

#### Long-term debt

The Company raises long-term debt in various currencies, maturities and on various interest rate terms. For certain of its debt obligations, the Company utilizes derivative instruments to modify its interest rate exposure. In particular, the Company uses interest rate swaps to effectively convert certain fixed-rate long-term debt into floating rate obligations. The carrying value of debt, designated as being hedged by fair value hedges, is adjusted for changes in the fair value of the risk component of the debt being hedged.

The following table summarizes the Company's long-term debt considering the effect of interest rate swaps. Consequently, a fixed-rate debt subject to a fixed-to-floating interest rate swap is included as a floating rate debt in the table below:

December 31, (\$ in millions, except % data)	2019			2018		
	Balance	Nominal rate	Effective rate	Balance	Nominal rate	Effective rate
Floating rate	2,221	1.5%	1.1%	3,106	1.7%	1.1%
Fixed rate	6,000	2.8%	2.4%	4,951	3.6%	3.6%
	<b>8,221</b>			<b>8,057</b>		
Current portion of long-term debt	(1,449)	0.7%	0.6%	(1,470)	2.7%	2.7%
<b>Total</b>	<b>6,772</b>			<b>6,587</b>		

At December 31, 2019, the principal amounts of long-term debt repayable (excluding finance lease obligations) at maturity were as follows:

(\$ in millions)	
2020	1,433
2021	1,273
2022	1,259
2023	1,237
2024	1,136
Thereafter	1,681
<b>Total</b>	<b>8,019</b>

Details of the Company's outstanding bonds were as follows:

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

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

During 2019, the Company repaid at maturity its 2.625% EUR Instruments. The 2.625% EUR Instruments paid fixed rate interest annually in arrears.

The 2.8% USD Notes, due 2020, pay interest semi-annually in arrears at a fixed rate of 2.8 percent per annum.

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

The 4.0% USD Notes, due 2021, pay interest semi-annually in arrears, at a fixed annual rate of 4.0 percent. The Company may redeem these notes prior to maturity, in whole or in part, at the greater of (i) 100 percent of the principal amount of the notes to be redeemed and (ii) the sum of the present values of remaining scheduled payments of principal and interest (excluding interest accrued to the redemption date) discounted to the redemption date at a rate defined in the note terms, plus interest accrued at the redemption date.

The 2.25% CHF Bonds, due 2021, pay interest annually in arrears, at a fixed annual rate of 2.25 percent. The Company has the option to redeem the bonds prior to maturity, in whole, at par plus accrued interest, if 85 percent of the aggregate principal amount of the bonds has been redeemed or purchased and cancelled. The Company entered into interest rate swaps to hedge its interest obligations on these bonds. After considering the impact of such swaps, these bonds effectively became floating rate Swiss franc obligations and consequently have been shown as floating rate debt in the table of long-term debt above.

The 5.625% USD Notes, due 2021, pay interest semi-annually in arrears at a fixed annual rate of 5.625 percent. The Company has the option to redeem the notes prior to maturity at the greater of (i) 100 percent of the principal amount of the notes to be redeemed, and (ii) the sum of the present values of remaining scheduled payments of principal and interest (excluding interest accrued to the redemption date) discounted to the redemption date at a rate defined in the note terms, plus interest accrued at the redemption date.

The 2.875% USD Notes, due 2022, pay interest semi-annually in arrears at a fixed annual rate of 2.875 percent. The 4.375% USD Notes, due 2042, pay interest semi-annually in arrears at a fixed annual rate of 4.375 percent. The Company may redeem both of these notes (which were issued together in

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May 2012) prior to maturity, in whole or in part, at the greater of (i) 100 percent of the principal amount of the notes to be redeemed and (ii) the sum of the present values of remaining scheduled payments of principal and interest (excluding interest accrued to the redemption date) discounted to the redemption date at a rate defined in the note terms, plus interest accrued at the redemption date. These notes, registered with the U.S. Securities and Exchange Commission, were issued by ABB Finance (USA) Inc., a 100 percent owned finance subsidiary, and were fully and unconditionally guaranteed by ABB Ltd. There are no significant restrictions on the ability of the parent company to obtain funds from its subsidiaries by dividend or loan. In reliance on Rule 3-10 of Regulation S-X, the separate financial statements of ABB Finance (USA) Inc. are not provided. The Company has entered into interest rate swaps for an aggregate nominal amount of \$1,050 million to partially hedge its interest obligations on the 2.875% USD Notes, due 2022. After considering the impact of such swaps, \$1,050 million of the outstanding principal is shown as floating rate debt in the table of long-term debt above.

The 0.625% EUR Instruments, due 2023, were issued in May 2016, with total net issuance proceeds of EUR 697 million (equivalent to approximately \$807 million on date of issuance). These Instruments pay interest annually in arrears at a fixed rate of 0.625 percent per annum. The Company may redeem these notes three months prior to maturity (Par call date), in whole or in part, at the greater of (i) 100 percent of the principal amount of the notes to be redeemed and (ii) the sum of the present values of remaining scheduled payments of principal and interest (excluding interest accrued to the redemption date) discounted to the redemption date at a rate defined in the note terms, plus interest accrued at the redemption date. The Company may redeem these instruments in whole or in part, after the Par call date at 100 percent of the principal amount of the notes to be redeemed. The Company entered into interest rate swaps to hedge its interest on these bonds. After considering the impact of such swaps, these notes effectively became floating rate euro obligations and consequently have been shown as floating rate debt, in the table of long-term debt above.

The 0.75% EUR Instruments, due 2024, were issued in May 2017, with total net issuance proceeds of EUR 745 million (equivalent to approximately \$824 million on date of issuance). These Instruments pay interest annually in arrears at a fixed rate of 0.75 percent per annum and have the same early redemption terms as the 0.625% EUR Instruments above. The Company entered into interest rate swaps to hedge its interest on these bonds. After considering the impact of such swaps, these bonds effectively became floating rate euro obligations and consequently have been shown as floating rate debt in the table of long-term debt above.

In April 2018, the Company issued the following notes (i) \$300 million of 2.8% USD Notes, due 2020, (ii) \$450 million of 3.375% USD Notes, due 2023, and (iii) \$750 million of 3.8% USD Notes, due 2028. Each of the respective notes pays interest semi-annually in arrears. The aggregate net proceeds of these bond issues, after underwriting discount and other fees, amounted to \$1,494 million. The Company may redeem the notes at any time prior to their maturity date in the case of the 2020 Notes, up to one month prior to their maturity date in the case of the 2023 Notes, and up to three months prior to their maturity date in the case of the 2028 Notes, in whole or in part, at the greater of (i) 100 percent of the principal amount of the notes to be redeemed and (ii) the sum of the present values of remaining scheduled payments of principal and interest (excluding interest accrued to the redemption date) discounted to the redemption date at a rate defined in the Notes terms, plus interest accrued at the redemption date. On or after March 3, 2023 (one month prior to their maturity date) in the case of the 2023 Notes and on or after January 3, 2028 (three months prior to their maturity date) in the case of the 2028 Notes, the Company may also redeem the notes of the applicable series, in whole or in part, at any time at a redemption price equal to 100 percent of the principal amount of the notes to be redeemed plus unpaid accrued interest to, but excluding, the redemption date. These notes, registered with the U.S. Securities and Exchange Commission, were issued by ABB Finance (USA) Inc., a 100 percent owned finance subsidiary, and were fully and unconditionally guaranteed by ABB Ltd. There are no significant restrictions on the ability of the parent company to obtain funds from its subsidiaries by dividend or loan. In reliance on Rule 3-10 of Regulation S-X, the separate financial statements of ABB Finance (USA) Inc. are not provided.

In February 2019, the Company issued the following notes: (i) CHF 280 million of 0.3% CHF Notes, due 2024 and (ii) CHF 170 million of 1.0% CHF Notes, due 2029. Each of the respective notes pays interests annually in arrears. The Company recorded aggregate net proceeds, after underwriting discount and other fees, of CHF 449 million (equivalent to approximately \$449 million on date of issuance).

The Company's various debt instruments contain cross-default clauses which would allow the bondholders to demand repayment if the Company were to default on any borrowing at or above a specified threshold. Furthermore, all such bonds constitute unsecured obligations of the Company and rank pari passu with other debt obligations.

In addition to the bonds described above, included in long-term debt at December 31, 2019 and 2018, are finance lease obligations, bank borrowings of subsidiaries and other long-term debt, none of which is individually significant.

## Note 13

### Other provisions, other current liabilities and other non-current liabilities

"Other provisions" consisted of the following:

December 31, (\$ in millions)	2019	2018
Contract-related provisions	607	590
Restructuring and restructuring-related provisions	234	277
Provisions for contractual penalties and compliance and litigation matters	209	209
Provision for insurance-related reserves	168	166
Other	157	130
<b>Total</b>	<b>1,375</b>	<b>1,372</b>

"Other current liabilities" consisted of the following:

December 31, (\$ in millions)	2019	2018
Employee-related liabilities	1,396	1,506
Accrued expenses	592	546
Non-trade payables	442	477
Income taxes payable	355	260
Accrued customer rebates	287	299
Other tax liabilities	282	277
Derivative liabilities (see Note 6)	143	192
Accrued interest	44	73
Pension and other employee benefits	36	34
Deferred income	25	36
Other	159	80
<b>Total</b>	<b>3,761</b>	<b>3,780</b>

"Other non-current liabilities" consisted of the following:

December 31, (\$ in millions)	2019	2018
Income tax related liabilities	1,218	1,111
Provisions for contractual penalties and compliance and litigation matters	112	132
Employee-related liabilities	72	74
Environmental provisions	48	56
Derivative liabilities (see Note 6)	23	37
Deferred income	7	12
Other	189	267
<b>Total</b>	<b>1,669</b>	<b>1,689</b>

## Note 14

### Leases

The Company's lease obligations primarily relate to real estate, machinery and equipment. Prior to the adoption of the new lease standard in 2019, rent expense was \$364 million and \$385 million in 2018 and 2017, respectively. Sublease income received by the Company on leased assets was \$7 million and \$11 million in 2018 and 2017, respectively.

Under the new accounting standard, adopted in January 2019, the components of lease expense were as follows:

(\$ in millions)	2019		Total
	Land and buildings	Machinery and equipment	
<b>Finance lease cost:</b>			
Amortization of right-of-use assets	13	20	33
Interest on lease liabilities	1	2	3
Variable lease cost <sup>(1)</sup>	—	5	5
Short-term lease cost	19	29	48
Sub-lease income	(2)	—	(2)
<b>Total lease expense</b>	<b>299</b>	<b>157</b>	<b>456</b>

(1) Primarily relates to variable payments that are tied to the consumer price index and are therefore included in the measurement of the right-of-use asset or lease liability.

The following table presents supplemental cash flow information related to leases:

(\$ in millions)	2019		Total
	Land and buildings	Machinery and equipment	
<b>Cash paid for amounts included in the measurement of lease liabilities:</b>			
Operating cash flows from operating leases	252	96	348
Operating cash flows from finance leases	1	2	3
Financing cash flows from finance leases	8	12	20
<b>Right-of-use assets obtained in exchange for new liabilities:</b>			
Under operating leases	153	52	205
Under finance leases	23	18	41

At December 31, 2019, the future net minimum lease payments for operating and finance leases and the related present value of the net minimum lease payments consisted of the following:

(\$ in millions)	Operating Leases		Finance Leases	
	Land and buildings	Machinery and equipment	Land and buildings	Machinery and equipment
2020	222	86	23	14
2021	178	41	24	11
2022	137	21	23	8
2023	105	10	20	4
2024	86	8	21	1
Thereafter	226	5	84	—
<b>Total minimum lease payments</b>	<b>954</b>	<b>171</b>	<b>195</b>	<b>38</b>
Less amount representing estimated executory costs included in total minimum lease payments	—	—	(1)	—
<b>Net minimum lease payments</b>	<b>954</b>	<b>171</b>	<b>194</b>	<b>38</b>
Difference between undiscounted cash flows and discounted cash flows	(98)	(5)	(59)	(2)
<b>Present value of minimum lease payments</b>	<b>856</b>	<b>166</b>	<b>135</b>	<b>36</b>

The following table presents certain information related to lease terms and discount rates for leases as of December 31, 2019:

(\$ in millions)	Operating Leases		Finance Leases	
	Land and buildings	Machinery and equipment	Land and buildings	Machinery and equipment
Weighted-average remaining term (months)	78	29	110	33
Weighted-average discount rate	3.0%	2.2%	8.2%	2.8%

Minimum lease payments have not been reduced by minimum sublease rentals due in the future under non-cancelable subleases. Such minimum sublease rentals were not significant. The present value of minimum finance lease payments included in "Short-term debt and current maturities of long-term debt" and "Long-term debt" in the Consolidated Balance Sheets at December 31, 2019, amounts to \$17 million and \$154 million, respectively.

## Note 15 Commitments and contingencies

### Contingencies – Regulatory, Compliance and Legal

#### Regulatory

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

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

As a result of an internal investigation, the Company self-reported to the Securities and Exchange Commission (SEC) and the Department of Justice (DoJ) in the United States as well as to the Serious Fraud Office (SFO) in the United Kingdom concerning certain of its past dealings with Unaoil and its subsidiaries, including alleged improper payments made by these entities to third parties. The SFO has commenced an investigation into this matter. The Company is cooperating fully with the authorities. At this time, it is not possible for the Company to make an informed judgment about the outcome of these matters.

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

#### General

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

#### Liabilities recognized

At December 31, 2019 and 2018, the Company had aggregate liabilities of \$157 million and \$221 million, respectively, included in "Other provisions" and "Other non-current liabilities", for the above regulatory,

compliance and legal contingencies, and none of the individual liabilities recognized was significant. As it is not possible to make an informed judgment on, or reasonably predict, the outcome of certain matters and as it is not possible, based on information currently available to management, to estimate the maximum potential liability on other matters, there could be material adverse outcomes beyond the amounts accrued.

### Guarantees

#### General

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

December 31, (\$ in millions)	Maximum potential payments <sup>(1)</sup>	
	2019	2018
Performance guarantees	1,860	1,584
Financial guarantees	10	10
Indemnification guarantees	64	64
<b>Total</b>	<b>1,934</b>	<b>1,658</b>

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

The carrying amount of liabilities recorded in the Consolidated Balance Sheets reflects the Company's best estimate of future payments, which it may incur as part of fulfilling its guarantee obligations. In respect of the above guarantees, the carrying amounts of liabilities at December 31, 2019 and 2018, were not significant.

The Company is party to various guarantees providing financial or performance assurances to certain third parties. These guarantees, which have various maturities up to 2027, mainly consist of performance guarantees whereby (i) the Company guarantees the performance of a third party's product or service according to the terms of a contract and (ii) as member of a consortium/joint venture that includes third parties, the Company guarantees not only its own performance but also the work of third parties. Such guarantees may include guarantees that a project will be completed within a specified time. If the third party does not fulfill the obligation, the Company will compensate the guaranteed party in cash or in kind. The original maturity dates for the majority of these performance guarantees range from one to eight years.

In conjunction with the divestment of the high-voltage cable and cables accessories businesses, the Company has entered into various performance guarantees with other parties with respect to certain liabilities of the divested business. At December 31, 2019 and 2018, the maximum potential payable under these guarantees amounts to \$898 million and \$771 million, respectively, and these guarantees have various maturities ranging from one to ten years.

#### Commercial commitments

In addition, in the normal course of bidding for and executing certain projects, the Company has entered into standby letters of credit, bid/performance bonds and surety bonds (collectively "performance bonds") with various financial institutions. Customers can draw on such performance bonds in the event that the Company does not fulfill its contractual obligations. The Company would then have an obligation to reimburse the financial institution for amounts paid under the performance bonds. At December 31, 2019 and 2018, the total outstanding performance bonds aggregated to \$6.8 billion and \$7.4 billion, respectively, of which \$3.7 billion and \$4.3 billion, respectively, relate to discontinued operations. There have been no significant amounts reimbursed to financial institutions under these types of arrangements in 2019, 2018 and 2017.

#### Product and order-related contingencies

The Company calculates its provision for product warranties based on historical claims experience and specific review of certain contracts.

The reconciliation of the "Provisions for warranties", including guarantees of product performance, was as follows:

(\$ in millions)	2019	2018	2017
Balance at January 1,	948	909	815
Net change in warranties due to acquisitions, divestments and liabilities held for sale <sup>(1)</sup>	(88)	41	30
Claims paid in cash or in kind	(310)	(307)	(243)
Net increase in provision for changes in estimates, warranties issued and warranties expired	276	341	234
Exchange rate differences	(10)	(36)	73
Balance at December 31,	816	948	909

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

During 2018, the Company recorded changes in the estimated amount for a product warranty relating to a divested business which is included within Corporate and Other. The relevant product had an unexpected level of product failure which requires higher than expected costs to remediate. As a result, warranty expenses of \$92 million, were recorded in "Cost of sales of products" in 2018. As these costs relate to a divested business, in accordance with the definition of the Company's primary measure of segment performance, Operational EBITA (see Note 23), the costs have been excluded from this measure.

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

#### Related party transactions

The Company conducts business with certain companies where members of the Company's Board of Directors or Executive Committee act, or in recent years have acted, as directors or senior executives. The Company's Board of Directors has determined that the Company's business relationships with those companies do not constitute material business relationships. This determination was made in accordance with the Company's related party transaction policy which was prepared based on the Swiss Code of Best Practice and the independence criteria set forth in the corporate governance rules of the New York Stock Exchange.

## Note 16

### Income taxes

"Provision for taxes" consisted of the following:

(\$ in millions)	2019	2018	2017
Current taxes	855	686	782
Deferred taxes	(83)	(142)	(199)
<b>Tax expense from continuing operations</b>	<b>772</b>	<b>544</b>	<b>583</b>
<b>Tax expense from discontinued operations</b>	<b>167</b>	<b>228</b>	<b>273</b>

Income tax expense from continuing operations is reconciled below from the Company's weighted-average global tax rate (rather than from the Swiss domestic statutory tax rate) as the parent company of the ABB Group, ABB Ltd, is domiciled in Switzerland and income generated in jurisdictions outside of Switzerland (hereafter "foreign jurisdictions") which has already been subject to corporate income tax in those foreign jurisdictions is, to a large extent, tax exempt in Switzerland. There is no requirement in Switzerland for any parent company of a group to file a tax return of the consolidated group determining domestic and foreign pre-tax income. As the Company's consolidated income from continuing operations is predominantly earned outside of Switzerland, corporate income tax in foreign jurisdictions largely determines the weighted-average global tax rate of the Company.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code. The SEC staff issued Staff Accounting Bulletin No. 118, which allowed the Company to record provisional amounts in income tax expense from continuing operations in the 2017 financial statements. The estimated impact included a benefit of \$30 million due to changes in tax rates, valuation allowance on foreign tax credits and undistributed earnings of subsidiaries, offset by \$26 million charge for one-time transition tax. The amounts were finalized in 2018 and no material change to the estimated figures was recorded.

The reconciliation of "Tax expense from continuing operations" at the weighted-average tax rate to the effective tax rate is as follows:

(\$ in millions, except % data)	2019	2018	2017
<b>Income from continuing operations before taxes</b>	<b>1,862</b>	<b>2,119</b>	<b>2,102</b>
<b>Weighted-average global tax rate</b>	<b>18.3%</b>	<b>22.2%</b>	<b>23.6%</b>
Income taxes at weighted-average tax rate	341	470	497
Items taxed at rates other than the weighted-average tax rate	(7)	(43)	(114)
Changes in valuation allowance, net	198	41	763
Effects of changes in tax laws and (enacted) tax rates	63	1	(747)
Non-deductible expenses	44	86	58
Other, net	133	(11)	126
<b>Tax expense from continuing operations</b>	<b>772</b>	<b>544</b>	<b>583</b>
<b>Effective tax rate for the year</b>	<b>41.5%</b>	<b>25.7%</b>	<b>27.7%</b>

The allocation of consolidated income from continued operations, which is predominantly earned outside of Switzerland, impacts the "weighted-average global tax rate". In 2019, based on the enacted tax rates in the applicable jurisdictions, the loss recorded for the planned sale of the solar inverters business reduced the weighted-average global tax rate by approximately 2 percent.

In 2018 and 2017, the benefit reported in "Items taxed at rates other than the weighted-average tax rate" included positive impacts of \$17 million and \$72 million, respectively, relating to non-taxable amounts for net gains from sale of businesses. In 2019, the amount was not significant.

In 2019, "Changes in valuation allowance, net" includes adjustments to the valuation allowance in certain jurisdictions where the Company updated its assessment that it was more likely than not that such deferred tax assets would be realized. In 2019, the Company recorded an increase of \$158 million

to the valuation allowance in certain operations in North America including an amount to provide for certain deferred tax assets arising in 2019.

In 2018, the "Changes in valuation allowance, net" included adjustments in valuation allowance recorded in certain jurisdictions where the Company updated its assessment that it was more likely than not that such deferred tax assets would be realized. The amount included an increase of \$40 million relating to certain operations in Central Europe.

In 2019, "Effects of changes in tax laws and (enacted) tax rates" primarily reflects a change in tax law applicable to a country in Europe. The benefit was mostly offset by a related change in the valuation allowance, resulting in a net benefit of \$17 million. In 2017, the relevant tax rate applicable to one of the Company's subsidiaries increased and in connection with this change, the Company benefited from an increase of \$721 million in deferred tax assets relating to certain long-term assets. This benefit was also offset by a related change in the valuation allowance of \$668 million as the Company determined that it was more likely than not that such deferred tax assets would not be realized.

In 2019, 2018 and 2017, "Non-deductible expenses" includes \$44 million, \$86 million and \$58 million, respectively, in relation to items that were deducted for financial accounting purposes but were not tax deductible, such as interest expense, local taxes on productive activities, disallowed meals and entertainment expenses and other similar items.

In 2019 and 2017, "Other, net" in the table above included net charges of \$91 million and \$148 million, respectively, related to the interpretation for tax law and double tax treaty agreements by competent tax authorities while in 2018, "Other, net" included a net benefit of \$22 million.

Deferred income tax assets and liabilities (excluding amounts held for sale and in discontinued operations) consisted of the following:

December 31, (\$ in millions)	2019	2018
<b>Deferred tax assets:</b>		
Unused tax losses and credits	507	600
Provisions and other accrued liabilities	650	769
Pension	592	476
Inventories	463	253
Intangibles and other non-current assets	972	1,031
Other	300	122
<b>Total gross deferred tax asset</b>	<b>3,484</b>	<b>3,251</b>
Valuation allowance	(1,632)	(1,535)
<b>Total gross deferred tax asset, net of valuation allowance</b>	<b>1,852</b>	<b>1,716</b>
<b>Deferred tax liabilities:</b>		
Property, plant and equipment	(244)	(202)
Intangibles and other assets	(679)	(770)
Pension and other liabilities	(538)	(153)
Inventories	(39)	(67)
Unremitted earnings	(353)	(445)
<b>Total gross deferred tax liability</b>	<b>(1,853)</b>	<b>(1,637)</b>
<b>Net deferred tax asset (liability)</b>	<b>(1)</b>	<b>79</b>
<b>Included in:</b>		
"Deferred taxes" – non-current assets	910	1,006
"Deferred taxes" – non-current liabilities	(911)	(927)
<b>Net deferred tax asset (liability)</b>	<b>(1)</b>	<b>79</b>

Certain entities have deferred tax assets related to net operating loss carry-forwards and other items. As recognition of these assets in certain entities did not meet the more likely than not criterion, valuation allowances have been recorded and amount to \$1,632 million and \$1,535 million, at December 31, 2019 and 2018, respectively. "Unused tax losses and credits" at December 31, 2019 and 2018, in the table above, included \$126 million and \$145 million, respectively, for which the Company has established a full valuation allowance as, due to limitations imposed by the relevant tax law, the Company determined that, more likely than not, such deferred tax assets would not be realized.

The valuation allowance at December 31, 2019, 2018 and 2017 was \$1,632 million, \$1,535 million and \$1,303 million, respectively.

At December 31, 2019 and 2018, deferred tax liabilities totaling \$353 million and \$445 million, respectively, have been provided for primarily in respect of withholding taxes, dividend distribution taxes or additional corporate income taxes (hereafter "withholding taxes") on unremitted earnings which will be payable in foreign jurisdictions on the repatriation of earnings to Switzerland. Income which has been generated outside of Switzerland and has already been subject to corporate income tax in such foreign jurisdictions is, to a large extent, tax exempt in Switzerland. Therefore, generally no or only limited Swiss income tax has to be provided for on the repatriated earnings of foreign subsidiaries.

Certain countries levy withholding taxes on dividend distributions. Such taxes cannot always be fully reclaimed by the shareholder, although they have to be declared and withheld by the subsidiary. In 2019 and 2018, certain taxes arose in certain foreign jurisdictions for which the technical merits do not allow utilization of benefits. At December 31, 2019 and 2018, foreign subsidiary retained earnings subject to withholding taxes upon distribution of approximately \$100 million and \$100 million, respectively, were considered as indefinitely reinvested, as these funds are used for financing current operations as well as business growth through working capital and capital expenditure in those countries and, consequently, no deferred tax liability was recorded.

At December 31, 2019, net operating loss carry-forwards of \$1,999 million and tax credits of \$78 million were available to reduce future taxes of certain subsidiaries. Of these amounts, \$1,203 million of loss carry-forwards and \$52 million of tax credits will expire in varying amounts through 2039, while the remainder will not expire. The largest amount of these carry-forwards related to the Company's Europe operations.

Unrecognized tax benefits consisted of the following:

(\$ in millions)	Unrecognized tax benefits	Penalties and interest related to unrecognized tax benefits	Total
<b>Classification as unrecognized tax items on January 1, 2017</b>	<b>760</b>	<b>172</b>	<b>932</b>
Increase relating to prior year tax positions	115	103	218
Decrease relating to prior year tax positions	(76)	(37)	(113)
Increase relating to current year tax positions	223	—	223
Decrease due to settlements with tax authorities	(23)	(2)	(25)
Decrease as a result of the applicable statute of limitations	(75)	(12)	(87)
Exchange rate differences	101	18	119
<b>Balance at December 31, 2017, which would, if recognized, affect the effective tax rate</b>	<b>1,025</b>	<b>242</b>	<b>1,267</b>
Net change due to acquisitions and divestments	8	—	8
Increase relating to prior year tax positions	35	37	72
Decrease relating to prior year tax positions	(99)	14	(85)
Increase relating to current year tax positions	126	5	131
Decrease due to settlements with tax authorities	(44)	(17)	(61)
Decrease as a result of the applicable statute of limitations	(66)	(31)	(97)
Exchange rate differences	(24)	(11)	(35)
<b>Balance at December 31, 2018, which would, if recognized, affect the effective tax rate</b>	<b>961</b>	<b>239</b>	<b>1,200</b>
Net change due to acquisitions and divestments	11	7	18
Increase relating to prior year tax positions	202	85	287
Decrease relating to prior year tax positions	(82)	(63)	(145)
Increase relating to current year tax positions	163	6	169
Decrease due to settlements with tax authorities	(57)	(8)	(65)
Decrease as a result of the applicable statute of limitations	(83)	(28)	(111)
Exchange rate differences	(9)	(5)	(14)
<b>Balance at December 31, 2019, which would, if recognized, affect the effective tax rate</b>	<b>1,106</b>	<b>233</b>	<b>1,339</b>

In 2019, 2018 and 2017, the "Increase relating to current year tax positions" included a total of \$163 million, \$111 million and \$193 million, respectively, in taxes related to the interpretation of tax law and double tax treaty agreements by competent tax authorities.

In 2019, the "Increase relating to prior year tax positions" is predominantly related to the interpretation of tax law and double tax treaty agreements by competent tax authorities.

At December 31, 2019, the Company expected the resolution, within the next twelve months, of unrecognized tax benefits related to pending court cases amounting to \$76 million for taxes, penalties and interest. Otherwise, the Company had not identified any other significant changes which were considered reasonably possible to occur within the next twelve months.

At December 31, 2019, the earliest significant open tax years that remained subject to examination were the following:

Region	Year
Europe	2011
The Americas	2016
Asia, Middle East and Africa	2010

## Note 17

### Employee benefits

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

The Company recognizes in its Consolidated Balance Sheets the funded status of its defined benefit pension plans, postretirement plans, and other employee-related benefits measured as the difference between the fair value of the plan assets and the benefit obligation.

Unless otherwise indicated, the following tables include amounts relating to both continuing and discontinued operations.

#### Obligations and funded status of the plans

The change in benefit obligation, change in fair value of plan assets, and funded status recognized in the Consolidated Balance Sheets were as follows:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International		International	
	2019	2018	2019	2018	2019	2018
<b>Benefit obligations at January 1,</b>	<b>3,993</b>	<b>4,055</b>	<b>7,429</b>	<b>7,892</b>	<b>120</b>	<b>132</b>
Service cost	76	92	113	122	1	1
Interest cost	15	30	174	198	4	4
Contributions by plan participants	75	69	19	16	—	—
Benefit payments	(244)	(239)	(404)	(318)	(10)	(11)
Benefit obligations of businesses acquired (divested)	—	10	(21)	60	—	8
Actuarial (gain) loss	323	6	617	(92)	(1)	(12)
Plan amendments and other	—	(4)	9	(119)	(5)	—
Exchange rate differences	70	(26)	(58)	(330)	1	(2)
<b>Benefit obligation at December 31,</b>	<b>4,308</b>	<b>3,993</b>	<b>7,878</b>	<b>7,429</b>	<b>110</b>	<b>120</b>
<b>Fair value of plan assets at January 1,</b>	<b>3,879</b>	<b>4,020</b>	<b>5,866</b>	<b>6,514</b>	<b>—</b>	<b>—</b>
Actual return on plan assets	320	(41)	689	(184)	—	—
Contributions by employer	91	89	115	152	10	11
Contributions by plan participants	75	69	19	16	—	—
Benefit payments	(244)	(239)	(404)	(318)	(10)	(11)
Plan assets of businesses acquired (divested)	—	7	(12)	39	—	—
Plan amendments and other	—	—	—	(94)	—	—
Exchange rate differences	68	(26)	(27)	(259)	—	—
<b>Fair value of plan assets at December 31,</b>	<b>4,189</b>	<b>3,879</b>	<b>6,246</b>	<b>5,866</b>	<b>—</b>	<b>—</b>
<b>Funded status — underfunded</b>	<b>(119)</b>	<b>(114)</b>	<b>(1,632)</b>	<b>(1,563)</b>	<b>(110)</b>	<b>(120)</b>

The amounts recognized in "Accumulated other comprehensive loss" and "Noncontrolling interests" were:

December 31, (\$ in millions)	Defined pension benefits			Other postretirement benefits		
	2019	2018	2017	2019	2018	2017
Net actuarial (loss) gain	(2,777)	(2,628)	(2,321)	28	30	20
Prior service credit	62	74	99	13	23	27
<b>Amount recognized in OCI<sup>(1)</sup> and NCI<sup>(2)</sup></b>	<b>(2,715)</b>	<b>(2,554)</b>	<b>(2,222)</b>	<b>41</b>	<b>53</b>	<b>47</b>
Taxes associated with amount recognized in OCI and NCI	571	535	503	—	—	—
<b>Amount recognized in OCI and NCI, net of tax<sup>(3)</sup></b>	<b>(2,144)</b>	<b>(2,019)</b>	<b>(1,719)</b>	<b>41</b>	<b>53</b>	<b>47</b>

(1) OCI represents "Accumulated other comprehensive loss".

(2) NCI represents "Noncontrolling Interests".

(3) NCI, net of tax, amounted to \$0 million, \$(1) million, and \$0 million at December 31, 2019, 2018 and 2017.

In addition, the following amounts were recognized in the Company's Consolidated Balance Sheets:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International		International	
	2019	2018	2019	2018	2019	2018
Overfunded plans	62	24	71	59	—	—
Underfunded plans – current	(78)	—	(295)	(19)	(14)	(11)
Underfunded plans – non-current	(103)	(138)	(1,408)	(1,603)	(96)	(109)
<b>Funded status – underfunded</b>	<b>(119)</b>	<b>(114)</b>	<b>(1,632)</b>	<b>(1,563)</b>	<b>(110)</b>	<b>(120)</b>
Amounts reported as assets and liabilities held for sale	(78)	(93)	(277)	(120)	(5)	—

December 31, (\$ in millions)	2019	2018
<b>Non-current assets</b>		
Overfunded pension plans	132	83
Other employee-related benefits	1	1
<b>Pension and other employee benefits</b>	<b>133</b>	<b>84</b>

December 31, (\$ in millions)	2019	2018
<b>Current liabilities</b>		
Underfunded pension plans	(374)	(19)
Underfunded other postretirement benefit plans	(14)	(11)
Other employee-related benefits	(72)	(10)
<b>Pension and other employee benefits</b>	<b>(460)</b>	<b>(40)</b>
Amounts reported as Current liabilities held for sale	(424)	(4)

December 31, (\$ in millions)	2019	2018
<b>Non-current liabilities</b>		
Underfunded pension plans	(1,510)	(1,741)
Underfunded other postretirement benefit plans	(96)	(109)
Other employee-related benefits	(186)	(246)
<b>Pension and other employee benefits</b>	<b>(1,792)</b>	<b>(2,096)</b>
Amounts reported as Non-current liabilities held for sale	—	(266)

The accumulated benefit obligation (ABO) for all defined benefit pension plans was \$11,981 million and \$11,249 million at December 31, 2019 and 2018, respectively. The projected benefit obligation (PBO), ABO and fair value of plan assets, for pension plans with a PBO in excess of fair value of plan assets or ABO in excess of fair value of plan assets, was:

December 31, (\$ in millions)	PBO exceeds fair value of plan assets				ABO exceeds fair value of plan assets			
	Switzerland		International		Switzerland		International	
	2019	2018	2019	2018	2019	2018	2019	2018
PBO	3,769	3,482	7,346	6,897	3,769	3,482	7,228	6,872
ABO	3,769	3,482	7,156	6,743	3,769	3,482	7,054	6,724
Fair value of plan assets	3,588	3,344	5,643	5,275	3,588	3,344	5,537	5,254

All of the Company's other postretirement benefit plans are unfunded.

#### Components of net periodic benefit cost

Net periodic benefit cost consisted of the following:

(\$ in millions)	Defined pension benefits						Other postretirement benefits		
	Switzerland		International		International				
	2019	2018	2017	2019	2018	2017	2019	2018	2017
<b>Operational pension cost:</b>									
Service cost	76	92	106	113	122	122	1	1	1
<b>Operational pension cost</b>	<b>76</b>	<b>92</b>	<b>106</b>	<b>113</b>	<b>122</b>	<b>122</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Non-operational pension cost (credit):</b>									
Interest cost	15	30	41	174	198	208	4	4	5
Expected return on plan assets	(112)	(117)	(112)	(276)	(305)	(295)	—	—	—
Amortization of prior service cost (credit)	(14)	(15)	10	2	1	1	(5)	(5)	(5)
Amortization of net actuarial loss	—	—	—	108	92	91	(3)	(1)	(1)
Curtailments, settlements and special termination benefits	11	—	—	27	23	16	(10)	—	(1)
<b>Non-operational pension cost (credit)</b>	<b>(100)</b>	<b>(102)</b>	<b>(61)</b>	<b>35</b>	<b>9</b>	<b>21</b>	<b>(14)</b>	<b>(2)</b>	<b>(2)</b>
<b>Net periodic benefit cost</b>	<b>(24)</b>	<b>(10)</b>	<b>45</b>	<b>148</b>	<b>131</b>	<b>143</b>	<b>(13)</b>	<b>(1)</b>	<b>(1)</b>

The components of net periodic benefit cost other than the service cost component are included in the line "Non-operational pension (cost) credit" in the income statement. Net periodic benefit cost includes \$47 million, \$45 million and \$55 million in 2019, 2018 and 2017, respectively, related to discontinued operations.

#### Assumptions

The following weighted-average assumptions were used to determine benefit obligations:

December 31, (In %)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International		International	
	2019	2018	2019	2018	2019	2018
Discount rate	0.2	0.8	2.0	2.8	2.8	3.9
Rate of compensation increase	—	—	2.2	2.4	0.2	0.2
Rate of pension increase	—	—	1.3	1.4	—	—
Cash balance interest credit rate	1.0	1.0	1.6	1.6	—	—

For the Company's significant benefit plans, the discount rate used at each measurement date is set based on a high-quality corporate bond yield curve – derived based on bond universe information sourced from reputable third-party index and data providers and rating agencies – reflecting the timing, amount and currency of the future expected benefit payments for the respective plan. Consistent discount rates are used across all plans in each currency zone, based on the duration of the applicable plan(s) in that zone. For plans in the other countries, the discount rate is based on high quality corporate or government bond yields applicable in the respective currency, as appropriate at each measurement date with a duration broadly consistent with the respective plan's obligations.

At the end of 2018, the Company changed the approach used to calculate the service and interest components of net periodic benefit cost for its significant benefit plans to provide a more precise measurement of service and interest costs. This change compared to the previous approach resulted in a net decrease in the service and interest components for benefit cost in 2019. Previously, the Company calculated the service and interest cost components utilizing a single weighted-average discount rate derived from the yield curve used to measure the benefit obligation at the beginning of the period. The Company has elected to utilize an approach that discounts the individual expected cash flows using the applicable spot rates derived from the yield curve over the projected cash flow period. This change does not affect the measurement of our total benefit obligations.

The following weighted-average assumptions were used to determine the "Net periodic benefit cost":

(in %)	Defined pension benefits						Other postretirement benefits		
	Switzerland			International			International		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Discount rate	0.8	0.8	1.1	2.8	2.6	2.9	3.9	3.2	3.3
Expected long-term rate of return on plan assets	3.0	3.0	3.0	4.9	4.9	5.0	—	—	—
Rate of compensation increase	—	—	—	2.4	2.5	2.5	0.2	—	—
Cash balance interest credit rate	1.0	1.0	1.0	1.6	1.7	1.7	—	—	—

The "Expected long-term rate of return on plan assets" is derived for each benefit plan by considering the expected future long-term return assumption for each individual asset class. A single long-term return assumption is then derived for each plan based upon the plan's target asset allocation.

The Company maintains other postretirement benefit plans, which are generally contributory with participants' contributions adjusted annually. The assumptions used were:

December 31,	2019	2018
Health care cost trend rate assumed for next year	6.3%	6.7%
Rate to which the trend rate is assumed to decline (the ultimate trend rate)	5.0%	5.0%
Year that the rate reaches the ultimate trend rate	2028	2028

#### Plan assets

The Company has pension plans in various countries with the majority of the Company's pension liabilities deriving from a limited number of these countries.

The pension plans are typically funded by regular contributions from employees and the Company. These plans are typically administered by boards of trustees (which include Company representatives) whose primary responsibilities include ensuring that the plans meet their liabilities through contributions and investment returns. The boards of trustees have the responsibility for making key investment strategy decisions within a risk-controlled framework.

The pension plan assets are invested in diversified portfolios that are managed by third-party asset managers, in accordance with local statutory regulations, pension plan rules and the respective plans' investment guidelines, as approved by the boards of trustees.

Plan assets are generally segregated from those of the Company and invested with the aim of meeting the respective plans' projected future pension liabilities. Plan assets are measured at fair value at the balance sheet date.

The boards of trustees manage the assets of the pension plans in a risk-controlled manner and assess the risks embedded in the pension plans through asset/liability management studies. Asset/liability management studies typically take place every three years. However, the risks of the plans are monitored on an ongoing basis.

The board of trustees' investment goal is to maximize the long-term returns of plan assets within specified risk parameters, while considering the future liabilities and liquidity needs of the individual plans. Risk measures taken into account include the funding ratio of the plan, the likelihood of

extraordinary cash contributions being required, the risk embedded in each individual asset class, and the plan asset portfolio as a whole.

The Company's global pension asset allocation is the result of the asset allocations of the individual plans, which are set by the respective boards of trustees. The target asset allocation of the Company's plans on a weighted-average basis is as follows:

(In %)	Target	
	Switzerland	International
<b>Asset class</b>		
Equity	19	19
Fixed income	54	64
Real estate	22	7
Other	5	10
<b>Total</b>	<b>100</b>	<b>100</b>

The actual asset allocations of the plans are in line with the target asset allocations.

Equity securities primarily includes investments in large-cap and mid-cap publicly traded companies. Fixed income assets primarily include corporate bonds of companies from diverse industries and government bonds. Both fixed income and equity assets are invested either via funds or directly in segregated investment mandates, and include an allocation to emerging markets. Real estate consists primarily of investments in real estate in Switzerland held in the Swiss plans. The "Other" asset class includes investments in private equity, hedge funds, commodities, and cash, and reflects a variety of investment strategies.

Based on the above global asset allocation and the fair values of the plan assets, the expected long-term return on assets at December 31, 2019, is 3.8 percent. The Company and the local boards of trustees regularly review the investment performance of the asset classes and individual asset managers. Due to the diversified nature of the investments, the Company is of the opinion that no significant concentration of risks exists in its pension fund assets.

At December 31, 2019 and 2018, plan assets include ABB Ltd's shares (as well as an insignificant amount of the Company's debt instruments) with a total value of \$10 million and \$8 million, respectively.

The fair values of the Company's pension plan assets by asset class are presented below. For further information on the fair value hierarchy and an overview of the Company's valuation techniques applied, see the "Fair value measures" section of Note 2.

December 31, 2019 (\$ in millions)	Level 1	Level 2	Not subject to leveling <sup>(1)</sup>	Total fair value
<b>Asset class</b>				
<b>Equity</b>				
Equity securities	224	7	—	231
Mutual funds / commingled funds	—	1,687	23	1,710
Emerging market mutual funds / commingled funds	—	339	—	339
<b>Fixed income</b>				
Government and corporate securities	521	1,013	—	1,534
Government and corporate – mutual funds / commingled funds	—	3,738	31	3,769
Emerging market bonds – mutual funds / commingled funds	—	805	—	805
Real estate	—	—	1,433	1,433
Insurance contracts	—	123	—	123
Cash and short-term investments	101	152	—	253
Private equity	—	—	211	211
Hedge funds	—	—	1	1
Commodities	—	26	—	26
<b>Total</b>	<b>846</b>	<b>7,890</b>	<b>1,699</b>	<b>10,435</b>

December 31, 2018 (\$ in millions)	Level 1	Level 2	Not subject to leveling <sup>(1)</sup>	Total fair value
<b>Asset class</b>				
<b>Equity</b>				
Equity securities	209	—	—	209
Mutual funds / commingled funds	—	1,433	39	1,472
Emerging market mutual funds / commingled funds	—	363	—	363
<b>Fixed income</b>				
Government and corporate securities	524	997	—	1,521
Government and corporate – mutual funds / commingled funds	—	3,496	—	3,496
Emerging market bonds – mutual funds / commingled funds	—	729	—	729
Real estate	—	—	1,381	1,381
Insurance contracts	—	121	—	121
Cash and short-term investments	202	86	—	288
Private equity	—	—	139	139
Hedge funds	—	—	2	2
Commodities	—	24	—	24
<b>Total</b>	<b>935</b>	<b>7,249</b>	<b>1,561</b>	<b>9,745</b>

(1) Amounts relate to assets measured using the NAV practical expedient which are not subject to leveling.

The Company applies accounting guidance related to the presentation of certain investments using the net asset value (NAV) practical expedient. This accounting guidance exempts investments using this practical expedient from categorization within the fair value hierarchy.

#### Contributions

Employer contributions were as follows:

(\$ in millions)	Defined pension benefits				Other postretirement benefits	
	Switzerland		International		International	
	2019	2018	2019	2018	2019	2018
Total contributions to defined benefit pension and other postretirement benefit plans	91	89	115	152	10	11
Of which, discretionary contributions to defined benefit pension plans	2	—	8	25	—	—

In 2019, 2018 and 2017, total contributions included non-cash contributions totaling \$13 million, \$31 million and \$31 million, respectively, of available-for-sale debt securities to certain of the Company's pension plans.

The Company expects to contribute approximately \$356 million, including \$167 million in discretionary contributions, to its defined benefit pension plans in 2020. Of these discretionary contributions \$156 million are expected to be non-cash contributions. The Company expects to contribute approximately \$10 million to its other postretirement benefit plans in 2020.

The Company also contributes to a number of defined contribution plans. The aggregate expense for these plans was \$245 million, \$245 million and \$233 million in 2019, 2018 and 2017, respectively. Contributions to multi-employer plans were not significant in 2019, 2018 and 2017. Defined contribution expense includes \$55 million, \$59 million and \$61 million in 2019, 2018 and 2017, respectively, related to discontinued operations.

### Estimated future benefit payments

The expected future cash flows to be paid by the Company's plans in respect of pension and other postretirement benefit plans at December 31, 2019, are as follows:

(\$ in millions)	Defined pension benefits		Other postretirement benefits
	Switzerland	International	International
2020	335	341	10
2021	254	347	9
2022	239	346	9
2023	226	343	9
2024	215	344	8
Years 2025–2029	961	1,727	34

## Note 18

### Share-based payment arrangements

The Company has three principal share-based payment plans, as more fully described in the respective sections below. Compensation cost for equity-settled awards is recorded in "Total cost of sales" and in "Selling, general and administrative expenses" and totaled \$46 million, \$50 million and \$49 million in 2019, 2018 and 2017, respectively. Compensation cost for cash-settled awards is recorded in "Selling, general and administrative expenses" and is disclosed in the "WARs", "LTIP" and "Other share-based payments" sections of this note. The total tax benefit recognized in 2019, 2018 and 2017 was not significant.

At December 31, 2019, the Company had the ability to issue up to 94 million new shares out of contingent capital in connection with share-based payment arrangements. In addition, 35 million shares held by the Company as treasury stock at December 31, 2019, could be used to settle share-based payment arrangements.

As the primary trading market for the shares of ABB Ltd is the SIX Swiss Exchange (on which the shares are traded in Swiss francs) and substantially all the share-based payment arrangements with employees are based on the Swiss franc share or have strike prices set in Swiss francs, certain data disclosed below related to the instruments granted under share-based payment arrangements are presented in Swiss francs.

#### MIP

Under the MIP, the Company offers options and cash-settled WARs to key employees for no consideration.

The options granted under the MIP allow participants to purchase shares of ABB Ltd at predetermined prices. Participants may sell the options rather than exercise the right to purchase shares. Equivalent warrants are listed by a third-party bank on the SIX Swiss Exchange, which facilitates pricing and transferability of options granted under this plan. The options entitle the holder to request that the third-party bank purchase such options at the market price of equivalent listed warrants related to that MIP launch. If the participant elects to sell the options, the options will thereafter be held by a third party and, consequently, the Company's obligation to deliver shares will be toward this third party.

Each WAR gives the participant the right to receive, in cash, the market price of an equivalent listed warrant on the date of exercise of the WAR. Participants may exercise or sell options and exercise WARs after the vesting period, which is three years from the date of grant. All options and WARs expire six years from the date of grant.

#### Options

The fair value of each option is estimated on the date of grant using a lattice model that uses the assumptions noted in the table below. Expected volatilities are based on implied volatilities from equivalent listed warrants on ABB Ltd shares. The expected term of the options granted is the contractual six-year life of each option, based on the fact that after the vesting period, a participant can

elect to sell the option rather than exercise the right to purchase shares, thereby also realizing the time value of the options. The risk-free rate is based on a six-year Swiss franc interest rate, reflecting the six-year contractual life of the options. In estimating forfeitures, the Company has used the data from previous comparable MIP launches.

	2019	2018	2017
Expected volatility	19%	17%	19%
Dividend yield	4.7%	3.1%	4.7%
Expected term	6 years	6 years	6 years
Risk-free interest rate	-0.9%	-0.1%	-0.1%

Presented below is a summary of the activity related to options under the MIP:

	Number of options (in millions)	Number of shares (in millions) <sup>(1)</sup>	Weighted-average exercise price (in Swiss francs) <sup>(2)</sup>	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in millions of Swiss francs) <sup>(3)</sup>
<b>Outstanding at January 1, 2019</b>	<b>444.9</b>	<b>89.0</b>	<b>21.54</b>		
Granted	63.5	12.7	19.00		
Forfeited	(9.9)	(2.0)	22.87		
Expired	(81.0)	(16.2)	21.50		
<b>Outstanding at December 31, 2019</b>	<b>417.6</b>	<b>83.5</b>	<b>21.13</b>	<b>3.0</b>	<b>189</b>
<b>Vested and expected to vest at December 31, 2019</b>	<b>413.6</b>	<b>82.7</b>	<b>21.15</b>	<b>3.0</b>	<b>185</b>
<b>Exercisable at December 31, 2019</b>	<b>239.6</b>	<b>47.9</b>	<b>20.78</b>	<b>1.8</b>	<b>124</b>

(1) Information presented reflects the number of ABB Ltd shares that can be received upon exercise, as options have a conversion ratio of 5:1.

(2) Information presented reflects the exercise price per ABB Ltd share.

(3) Computed using the closing price, in Swiss francs, of ABB Ltd shares on the SIX Swiss Exchange and the exercise price of each option in Swiss francs.

At December 31, 2019, there was \$39 million of total unrecognized compensation cost related to non-vested options granted under the MIP. That cost is expected to be recognized over a weighted-average period of 2.0 years. The weighted-average grant-date fair value (per option) of options granted during 2019, 2018 and 2017 was 0.34 Swiss francs, 0.46 Swiss francs and 0.47 Swiss francs, respectively. In 2018 and 2017, the aggregate intrinsic value (on the date of exercise) of options exercised was \$13 million and \$38 million, respectively, while the amount in 2019 was not significant.

Presented below is a summary, by launch, related to options outstanding at December 31, 2019:

Exercise price (in Swiss francs) <sup>(1)</sup>	Number of options (in millions)	Number of shares (in millions) <sup>(2)</sup>	Weighted-average remaining contractual term (in years)
21.00	72.3	14.5	0.7
19.50	78.1	15.6	1.6
21.50	72.7	14.5	2.7
22.50	66.1	13.2	3.6
23.50	65.0	13.0	4.7
19.00	63.4	12.7	5.7
<b>Total number of options and shares</b>	<b>417.6</b>	<b>83.5</b>	<b>3.0</b>

(1) Information presented reflects the exercise price per share of ABB Ltd.

(2) Information presented reflects the number of shares of ABB Ltd that can be received upon exercise.

#### WARs

As each WAR gives the holder the right to receive cash equal to the market price of the equivalent listed warrant on date of exercise, the Company records a liability based upon the fair value of outstanding WARs at each period end, accreted on a straight-line basis over the three-year vesting period. In "Selling, general and administrative expenses", the Company recorded income of \$14 million in 2018 and an expense of \$19 million in 2017, as a result of changes in both the fair value and vested portion of the outstanding WARs. The amount in 2019 was not significant. To hedge its exposure to fluctuations in the

fair value of outstanding WARs, the Company purchased cash-settled call options, which entitle the Company to receive amounts equivalent to its obligations under the outstanding WARs. The cash-settled call options are recorded as derivatives measured at fair value (see Note 6), with subsequent changes in fair value recorded in earnings to the extent that they offset the change in fair value of the liability for the WARs. In "Selling, general and administrative expenses", the Company recorded an expense of \$18 million in 2018 and income of \$15 million in 2017, related to the cash-settled call options. The amount in 2019 was not significant.

The aggregate fair value of outstanding WARs was \$26 million and \$6 million at December 31, 2019 and 2018, respectively. The fair value of WARs was determined based upon the trading price of equivalent warrants listed on the SIX Swiss Exchange.

Presented below is a summary of the activity related to WARs:

(in millions)	Number of WARs
<b>Outstanding at January 1, 2019</b>	<b>41.2</b>
Granted	10.9
Exercised	(8.9)
Forfeited	(0.3)
Expired	(3.0)
<b>Outstanding at December 31, 2019</b>	<b>39.9</b>
<b>Exercisable at December 31, 2019</b>	<b>11.5</b>

The aggregate fair value at date of grant of WARs granted in 2019, 2018 and 2017 was not significant. In 2018 and 2017, share-based liabilities of \$6 million and \$10 million, respectively, were paid upon exercise of WARs by participants. The amount in 2019 is not significant.

#### ESAP

The employee share acquisition plan (ESAP) is an employee stock-option plan with a savings feature. Employees save over a twelve-month period, by way of regular payroll deductions. At the end of the savings period, employees choose whether to exercise their stock options using their savings plus interest, if any, to buy ABB Ltd shares (American Depositary Shares (ADS) in the case of employees in the United States and Canada – each ADS representing one registered share of the Company) at the exercise price set at the grant date, or have their savings returned with any interest. The savings are accumulated in bank accounts held by a third-party trustee on behalf of the participants and earn interest, where applicable. Employees can withdraw from the ESAP at any time during the savings period and will be entitled to a refund of their accumulated savings.

The fair value of each option is estimated on the date of grant using the same option valuation model as described under the MIP, using the assumptions noted in the table below. The expected term of the option granted has been determined to be the contractual one-year life of each option, at the end of which the options vest and the participants are required to decide whether to exercise their options or have their savings returned with interest. The risk-free rate is based on one-year Swiss franc interest rates, reflecting the one-year contractual life of the options. In estimating forfeitures, the Company has used the data from previous ESAP launches.

	2019	2018	2017
Expected volatility	18%	19%	17%
Dividend yield	4.1%	4.1%	3.1%
Expected term	1 year	1 year	1 year
Risk-free interest rate	-0.7%	-0.6%	-0.6%

Presented below is a summary of activity under the ESAP:

	Number of shares (in millions) <sup>(1)</sup>	Weighted- average exercise price (in Swiss francs) <sup>(2)</sup>	Weighted- average remaining contractual term (in years)	Aggregate intrinsic value (in millions of Swiss francs) <sup>(2)(3)</sup>
<b>Outstanding at January 1, 2019</b>	3.6	20.38		
Granted	2.3	20.78		
Forfeited	(0.3)	20.38		
Exercised <sup>(4)</sup>	(0.5)	20.38		
Not exercised (savings returned plus interest)	(2.8)	20.38		
<b>Outstanding at December 31, 2019</b>	<b>2.3</b>	<b>20.78</b>	<b>0.8</b>	<b>6.0</b>
<b>Vested and expected to vest at December 31, 2019</b>	<b>2.2</b>	<b>20.78</b>	<b>0.8</b>	<b>5.7</b>
<b>Exercisable at December 31, 2019</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

(1) Includes shares represented by ADS.

(2) Information presented for ADS is based on equivalent Swiss franc denominated awards.

(3) Computed using the closing price, in Swiss francs, of ABB Ltd shares on the SIX Swiss Exchange and the exercise price of each option in Swiss francs.

(4) The cash received upon exercise was approximately \$10 million. The shares were delivered out of treasury stock.

The exercise prices per ABB Ltd share and per ADS of 20.78 Swiss francs and \$21.17, respectively, for the 2019 grant, 20.38 Swiss francs and \$20.37, respectively, for the 2018 grant, and 26.26 Swiss francs and \$26.24, respectively, for the 2017 grant were determined using the closing price of the ABB Ltd share on the SIX Swiss Exchange and ADS on the New York Stock Exchange on the respective grant dates.

At December 31, 2019, the total unrecognized compensation cost related to non-vested options granted under the ESAP was not significant. The weighted-average grant-date fair value (per option) of options granted during 2019, 2018 and 2017 was 1.05 Swiss francs, 1.10 Swiss francs and 1.37 Swiss francs, respectively. The total intrinsic value (on the date of exercise) of options exercised in 2017 was \$17 million, while in 2019 and 2018 it was not significant.

#### LTIP

The Company has a long-term incentive plan (LTIP) for members of its Executive Committee and selected other senior executives (Eligible Participants), as defined in the terms of the LTIP. The LTIP involves annual conditional grants of the Company's stock to such Eligible Participants that are subject to certain conditions. The ultimate amount delivered under the LTIP is based on achieving certain results against targets, as set out below, over a three-year period from grant and the final amount is delivered to Eligible Participants at the end of this period.

The 2019 and 2018 LTIP launches are composed of a performance component, based on the Company's earnings per share performance, and a market component, based on the Company's relative total shareholder return. The 2017 LTIP launch is composed of two performance components: (i) a component which is based on the average percentage achievement of income from continuing operations, net of tax, versus budget and (ii) a component which is based on the Company's earnings per share performance.

For the relative total shareholder return component of the 2019 and 2018 LTIP launches, the actual number of shares that will be delivered at a future date is based on the Company's total shareholder return performance relative to a peer group of companies over a three-year period starting with the year of grant. The actual number of shares that will ultimately be delivered will vary depending on the relative total shareholder return outcome achieved between a lower threshold (no shares delivered) and an upper threshold (the number of shares delivered is capped at 200 percent of the conditional grant). For the average percentage achievement of income versus budget component of the 2017 LTIP launch, the actual number of shares that will be delivered at a future date is dependent on the average percentage (of each year in a three-year period starting with the year of grant) of the Company's income from continuing operations, net of tax, divided by the Company's budgeted income from operations, net of tax. The actual number of shares that will ultimately be delivered will vary depending on the average percentage that is achieved between a lower threshold (no shares delivered) and an upper threshold (the number of shares delivered is capped at 150 percent of the conditional grant).

For the earnings per share performance component of the 2019 and 2018 LTIP launches, the actual number of shares that will be delivered at a future date is based on the Company's average earnings per share over three financial years, beginning with the year of launch. For the earnings per share performance component of the 2017 LTIP launch, the actual number of shares that will be delivered at a future date is dependent on the Company's weighted cumulative earnings per share performance over three financial years, beginning with the year of launch. The cumulative earnings per share performance is weighted as follows: 33 percent of the first year's result, 67 percent of the second year's result and 100 percent of the third year's result. Under all LTIP launches, the actual number of shares that will ultimately be delivered will vary depending on the earnings per share outcome as computed under each LTIP launch, interpolated between a lower threshold (no shares delivered) and an upper threshold (the number of shares delivered is capped at 200 percent of the conditional grant).

Under each component of the 2019 and 2018 LTIP launches, an Eligible Participant receives 65 percent of the shares that have vested in the form of shares and 35 percent of the value of the shares that have vested in cash, with the possibility to elect to also receive the 35 percent portion in shares rather than in cash. Under each component of the 2017 LTIP launch, an Eligible Participant receives 70 percent of the shares that have vested in the form of shares and 30 percent of the value of the shares that have vested in cash, with the possibility to elect to also receive the 30 percent portion in shares rather than in cash.

In addition, for certain awards to vest, the Eligible Participant has to fulfill a three-year service condition as defined in the terms and conditions of the LTIP.

Presented below is a summary of activity under the LTIP:

	Number of Shares Conditionally Granted (in millions)	Weighted-average grant-date fair value per share (Swiss francs)
<b>Nonvested at January 1, 2019</b>	<b>1.3</b>	<b>21.61</b>
Granted	1.1	15.94
Vested	(1.1)	18.49
Forfeited	(0.3)	19.68
<b>Nonvested at December 31, 2019</b>	<b>1.0</b>	<b>19.26</b>

Equity-settled awards are recorded in the "Additional paid-in capital" component of stockholders' equity, with compensation cost recorded in "Selling, general and administrative expenses" over the vesting period (which is from grant date to the end of the vesting period) based on the grant-date fair value of the shares. Cash-settled awards are recorded as a liability, remeasured at fair value at each reporting date for the percentage vested, with changes in the liability recorded in "Selling, general and administrative expenses".

At December 31, 2019, total unrecognized compensation cost related to equity-settled awards under the LTIP was not significant. The compensation cost recorded in 2019, 2018 and 2017 for cash-settled awards was not significant.

The aggregate fair value, at the dates of grant, of shares granted in 2019, 2018 and 2017 was \$18 million, \$19 million and \$22 million, respectively. The total grant-date fair value of shares that vested during 2019, 2018 and 2017 was \$21 million, \$17 million and \$22 million, respectively. The weighted-average grant-date fair value (per share) of shares granted during 2019, 2018 and 2017 was 15.94 Swiss francs, 21.97 Swiss francs and 22.13 Swiss francs, respectively.

For the relative total shareholder return component of the 2019 and 2018 LTIP launches, the fair value of granted shares at grant date, for equity-settled awards, and at each reporting date, for cash-settled awards, is determined using a Monte Carlo simulation model. The main inputs to this model are the Company's share price and dividend yield, the volatility of the Company's and the peer group's share price as well as the correlation between the peer companies. For the average percentage achievement of income versus budget component of the 2017 LTIP launch the fair value of granted shares is based on the market price of the ABB Ltd share at grant date for equity-settled awards and at each reporting date for cash-settled awards, as well as the probable outcome of the average percentage achievement of income versus budget, as computed using a Monte Carlo simulation model. The main inputs to this model are the Company's and external financial analysts' revenue growth rates and Operational EBITA margin expectations. For the earnings per share component of the LTIP launches, the fair value of

granted shares is based on the market price of the ABB Ltd share at grant date for equity-settled awards and at each reporting date for cash-settled awards, as well as the probable outcome of the earnings per share achievement, as computed using a Monte Carlo simulation model. The main inputs to this model are the Company's and external financial analysts' revenue growth rates and Operational EBITA margin expectations.

#### Other share-based payments

The Company has other minor share-based payment arrangements with certain employees. The compensation cost related to these arrangements in 2019, 2018 and 2017 was not significant.

## Note 19

### Stockholders' equity

At both December 31, 2019 and 2018, the Company had 2,672 million authorized shares, of which 2,168 million were registered and issued.

At the Annual General Meeting of Shareholders (AGM) in May 2019, shareholders approved the proposal of the Board of Directors to distribute a total of 0.80 Swiss francs per share. The approved dividend distribution amounted to \$1,675 million and was paid in May 2019. At the AGM in March 2018, shareholders approved the proposal of the Board of Directors to distribute a total of 0.78 Swiss francs per share. The approved dividend distribution amounted to \$1,736 million and was paid in April 2018. At the AGM in April 2017, shareholders approved the proposal of the Board of Directors to distribute a total of 0.76 Swiss francs per share. The approved dividend distribution amounted to \$1,622 million and was paid in April 2017.

In the first quarter of 2018, the Company purchased on the open market an aggregate of 10 million of its own shares to be available for delivery under its employee share programs. These transactions resulted in an increase in Treasury stock of \$249 million. In the second quarter of 2017, the Company purchased on the open market an aggregate of 10 million of its own shares to be available for delivery under its employee share programs. These transactions resulted in an increase in Treasury stock of \$251 million.

At the AGM in April 2017, shareholders approved the proposal of the Board of Directors to reduce the share capital of the Company by cancelling 46,595,000 treasury shares which were acquired under a \$4 billion share buyback program (executed between September 2014 and September 2016). This cancellation was completed in July 2017, resulting in a decrease in Treasury stock of \$953 million and a corresponding combined decrease in Capital stock, Additional paid-in capital and Retained earnings.

Upon and in connection with each launch of the Company's MIP, the Company sold call options to a bank at fair value, giving the bank the right to acquire shares equivalent to the number of shares represented by the MIP WAR awards to participants. Under the terms of the agreement with the bank, the call options can only be exercised by the bank to the extent that MIP participants have exercised their WARs. At December 31, 2019, such call options representing 11.8 million shares and with strike prices ranging from 19.00 to 23.50 Swiss francs (weighted-average strike price of 21.11 Swiss francs) were held by the bank. The call options expire in periods ranging from August 2020 to August 2025. However, only 3.9 million of these instruments, with strike prices ranging from 19.50 to 23.50 Swiss francs (weighted-average strike price of 20.69 Swiss francs), could be exercised at December 31, 2019, under the terms of the agreement with the bank.

In addition to the above, at December 31, 2019, the Company had further outstanding obligations to deliver:

- up to 14.5 million shares relating to the options granted under the 2014 launch of the MIP, with a strike price of 21.00 Swiss francs, vested in August 2017 and expiring in August 2020,
- up to 15.6 million shares relating to the options granted under the 2015 launch of the MIP, with a strike price of 19.50 Swiss francs, vested in August 2018 and expiring in August 2021,
- up to 14.5 million shares relating to the options granted under the 2016 launch of the MIP, with a strike price of 21.50 Swiss francs, vested in August 2019 and expiring in August 2022,

- up to 13.2 million shares relating to the options granted under the 2017 launch of the MIP, with a strike price of 22.50 Swiss francs, vesting in August 2020 and expiring in August 2023,
- up to 13.0 million shares relating to the options granted under the 2018 launch of the MIP, with a strike price of 23.50 Swiss francs, vesting in August 2021 and expiring in August 2024,
- up to 12.7 million shares relating to the options granted under the 2019 launch of the MIP, with a strike price of 19.00 Swiss francs, vesting in August 2022 and expiring in August 2025,
- up to 2.3 million shares relating to the ESAP, vesting and expiring in October 2020,
- up to 4.7 million shares to Eligible Participants under the 2019, 2018 and 2017 launches of the LTIP, vesting and expiring in May 2022, April 2021 and June 2020, respectively, and
- approximately 1 million shares in connection with certain other share-based payment arrangements with employees.

See Note 18 for a description of the above share-based payment arrangements.

In 2018 and 2017, the Company delivered 2.4 million and 6.3 million shares, respectively, out of treasury stock, for options exercised in relation to the MIP, while in 2019 the amount was not significant. In addition, in 2019 and 2017 the Company delivered 0.5 million and 2.8 million shares from treasury stock under the ESAP. No shares were delivered in 2018 under the ESAP.

Amounts available to be distributed as dividends to the stockholders of ABB Ltd are based on the requirements of Swiss law and ABB Ltd's Articles of Incorporation, and are determined based on amounts presented in the unconsolidated financial statements of ABB Ltd, prepared in accordance with Swiss law. At December 31, 2019, the total unconsolidated stockholders' equity of ABB Ltd was 8,420 million Swiss francs (\$8,696 million), including 260 million Swiss francs (\$269 million) representing share capital, 8,920 million Swiss francs (\$9,212 million) representing reserves and 760 million Swiss francs (\$785 million) representing a reduction of equity for own shares (treasury stock). Of the reserves, 760 million Swiss francs (\$785 million) relating to own shares and 52 million Swiss francs (\$54 million) representing 20 percent of share capital, are restricted and not available for distribution.

In February 2020, the Company announced that a proposal will be put to the 2020 AGM for approval by the shareholders to distribute 0.80 Swiss francs per share to shareholders.

## Note 20

### Earnings per share

Basic earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the year. Diluted earnings per share is calculated by dividing income by the weighted-average number of shares outstanding during the year, 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. In 2019, 2018 and 2017, outstanding securities representing a maximum of 81 million, 88 million and 31 million shares, respectively, were excluded from the calculation of diluted earnings per share as their inclusion would have been antidilutive.

#### Basic earnings per share:

(\$ in millions, except per share data in \$)	2019	2018	2017
Amounts attributable to ABB shareholders:			
Income from continuing operations, net of tax	1,043	1,514	1,441
Income from discontinued operations, net of tax	396	659	772
<b>Net income</b>	<b>1,439</b>	<b>2,173</b>	<b>2,213</b>
<b>Weighted-average number of shares outstanding (in millions)</b>	<b>2,133</b>	<b>2,132</b>	<b>2,138</b>
Basic earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.49	0.71	0.67
Income from discontinued operations, net of tax	0.19	0.31	0.36
<b>Net income</b>	<b>0.67</b>	<b>1.02</b>	<b>1.04</b>

#### Diluted earnings per share:

(\$ in millions, except per share data in \$)	2019	2018	2017
Amounts attributable to ABB shareholders:			
Income from continuing operations, net of tax	1,043	1,514	1,441
Income from discontinued operations, net of tax	396	659	772
<b>Net income</b>	<b>1,439</b>	<b>2,173</b>	<b>2,213</b>
<b>Weighted-average number of shares outstanding (in millions)</b>	<b>2,133</b>	<b>2,132</b>	<b>2,138</b>
Effect of dilutive securities:			
Call options and shares	2	7	10
<b>Adjusted weighted-average number of shares outstanding (in millions)</b>	<b>2,135</b>	<b>2,139</b>	<b>2,148</b>
Diluted earnings per share attributable to ABB shareholders:			
Income from continuing operations, net of tax	0.49	0.71	0.67
Income from discontinued operations, net of tax	0.19	0.31	0.36
<b>Net income</b>	<b>0.67</b>	<b>1.02</b>	<b>1.03</b>

## Note 21

### Other Comprehensive Income

The following table includes amounts recorded within "Total other comprehensive income (loss)" including the related income tax effects:

(\$ in millions)	2019			2018			2017		
	Before tax	Tax effect	Net of tax	Before tax	Tax effect	Net of tax	Before tax	Tax effect	Net of tax
<b>Foreign currency translation adjustments:</b>									
Foreign currency translation adjustments	(130)	—	(130)	(641)	14	(627)	911	1	912
Gain on liquidation of foreign subsidiary	—	—	—	(31)	—	(31)	—	—	—
Changes attributable to divestments <sup>(1)</sup>	(2)	—	(2)	12	—	12	12	—	12
<b>Net change during the year</b>	<b>(132)</b>	<b>—</b>	<b>(132)</b>	<b>(660)</b>	<b>14</b>	<b>(646)</b>	<b>923</b>	<b>1</b>	<b>924</b>
<b>Available-for-sale securities:</b>									
Net unrealized gains (losses) arising during the year	16	(2)	14	(5)	1	(4)	1	—	1
Reclassification adjustments for net (gains) losses included in net income	1	(1)	—	1	—	1	—	—	—
<b>Net change during the year</b>	<b>17</b>	<b>(3)</b>	<b>14</b>	<b>(4)</b>	<b>1</b>	<b>(3)</b>	<b>1</b>	<b>—</b>	<b>1</b>
<b>Pension and other postretirement plans:</b>									
Prior service (costs) credits arising during the year	3	3	6	(11)	4	(7)	(20)	4	(16)
Net actuarial gains (losses) arising during the year	(293)	73	(220)	(411)	59	(352)	(184)	45	(139)
Amortization of prior service cost (credit) included in net income	(25)	(3)	(28)	(19)	(5)	(24)	6	—	6
Amortization of net actuarial loss included in net income	99	(31)	68	91	(22)	69	90	(27)	63
Net losses from pension settlements included in net income	38	(6)	32	23	(4)	19	13	(4)	9
Changes attributable to divestments <sup>(1)</sup>	—	—	—	—	—	—	8	(2)	6
<b>Net change during the year</b>	<b>(178)</b>	<b>36</b>	<b>(142)</b>	<b>(327)</b>	<b>32</b>	<b>(295)</b>	<b>(87)</b>	<b>16</b>	<b>(71)</b>
<b>Cash flow hedge derivatives:</b>									
Net gains (losses) arising during the year	20	—	20	(51)	2	(49)	45	(7)	38
Reclassification adjustments for net (gains) losses included in net income	(9)	—	(9)	20	1	21	(26)	4	(22)
Changes attributable to divestments <sup>(1)</sup>	—	—	—	—	—	—	(4)	1	(3)
<b>Net change during the year</b>	<b>11</b>	<b>—</b>	<b>11</b>	<b>(31)</b>	<b>3</b>	<b>(28)</b>	<b>15</b>	<b>(2)</b>	<b>13</b>
<b>Total other comprehensive income (loss)</b>	<b>(282)</b>	<b>33</b>	<b>(249)</b>	<b>(1,022)</b>	<b>50</b>	<b>(972)</b>	<b>852</b>	<b>15</b>	<b>867</b>

(1) Changes attributable to divestments are included in the computation of the net gain or loss on sale of businesses (see Note 4).

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 post-retirement plan adjustments	Unrealized gains (losses) of cash flow hedge derivatives	Accumulated other comprehensive loss
Balance at January 1, 2017	(3,592)	7	(1,601)	(1)	(5,187)
Other comprehensive (loss) income before reclassifications	912	1	(155)	38	796
Amounts reclassified from OCI	—	—	78	(22)	56
Changes attributable to divestments	12	—	6	(3)	15
<b>Total other comprehensive (loss) income</b>	<b>924</b>	<b>1</b>	<b>(71)</b>	<b>13</b>	<b>867</b>
Less:					
Amounts attributable to noncontrolling interests	25	—	—	—	25
Balance at December 31, 2017	(2,693)	8	(1,672)	12	(4,345)
Cumulative effect of changes in accounting principles <sup>(1)</sup>	—	(9)	—	—	(9)
Other comprehensive (loss) income before reclassifications	(627)	(4)	(359)	(49)	(1,039)
Amounts reclassified from OCI	(31)	1	64	21	55
Changes attributable to divestments	12	—	—	—	12
<b>Total other comprehensive (loss) income</b>	<b>(646)</b>	<b>(3)</b>	<b>(295)</b>	<b>(28)</b>	<b>(972)</b>
Less:					
Amounts attributable to noncontrolling interests	(15)	—	—	—	(15)
Balance at December 31, 2018	(3,324)	(4)	(1,967)	(16)	(5,311)
Adoption of an accounting standard update <sup>(2)</sup>	—	—	(36)	—	(36)
Other comprehensive (loss) income before reclassifications	(130)	14	(214)	20	(310)
Amounts reclassified from OCI	—	—	72	(9)	63
Changes attributable to divestments	(2)	—	—	—	(2)
<b>Total other comprehensive (loss) income</b>	<b>(132)</b>	<b>14</b>	<b>(142)</b>	<b>11</b>	<b>(249)</b>
Less:					
Amounts attributable to noncontrolling interests	(6)	—	—	—	(6)
Balance at December 31, 2019	(3,450)	10	(2,145)	(5)	(5,590)

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

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

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

(\$ in millions)	Location of (gains) losses reclassified from OCI	2019	2018	2017
<b>Details about OCI components</b>				
Foreign currency translation adjustments:				
Gain on liquidation of foreign subsidiary	Other Income (expense), net	—	(31)	—
Pension and other postretirement plan adjustments:				
Amortization of prior service cost (credit)	Non-operational pension (cost) credit <sup>(1)</sup>	(25)	(19)	6
Amortization of net actuarial loss	Non-operational pension (cost) credit <sup>(1)</sup>	99	91	90
Net losses from pension settlements	Non-operational pension (cost) credit <sup>(1)</sup>	38	23	13
<b>Total before tax</b>		<b>112</b>	<b>95</b>	<b>109</b>
Tax	Provision for taxes	(40)	(31)	(31)
<b>Amounts reclassified from OCI</b>		<b>72</b>	<b>64</b>	<b>78</b>

(1) Amounts include a total of \$6 million, \$12 million and \$9 million in 2019, 2018 and 2017, respectively, reclassified from OCI to Income from discontinued operations.

The amounts reclassified out of OCI in respect of Unrealized gains (losses) on available-for-sale securities and Unrealized gains (losses) of cash flow hedge derivatives were not significant in 2019, 2018 and 2017.

## Note 22

### Restructuring and related expenses

#### OS program

In December 2018, the Company announced a two-year restructuring program with the objective of simplifying its business model and structure through the implementation of a new organizational structure driven by its Businesses. The program includes the planned elimination of the country and regional structures within the current matrix organization, including the elimination of the three regional Executive Committee roles. The Businesses will each be responsible for both their customer-facing activities and business support functions, while the remaining Group-level corporate activities will primarily focus on Group strategy, portfolio and performance management, capital allocation, core technologies and the ABB Ability™ platform. The program is expected to be performed over two years and incur restructuring expenses of \$350 million, primarily relating to employee severance costs.

The following table outlines the costs incurred in 2019 and 2018, the cumulative costs incurred to date and the total amount of costs expected to be incurred under the program per operating segment:

(\$ in millions)	Costs incurred in <sup>(1)</sup>		Cumulative costs incurred up to December 31, 2019 <sup>(1)</sup>	Total expected costs <sup>(1)</sup>
	2019	2018		
Electrification	18	32	50	80
Industrial Automation	3	21	24	40
Motion	6	1	7	50
Robotics & Discrete Automation	8	—	8	20
Corporate and Other	54	11	65	160
<b>Total</b>	<b>89</b>	<b>65</b>	<b>154</b>	<b>350</b>

(1) Amounts in the table above have been recast to reflect the reorganization of the Company's operating segments in 2019 as outlined in Note 23.

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

(\$ in millions)	Costs incurred in		Cumulative costs incurred up to December 31, 2019
	2019	2018	
Employee severance costs	81	65	146
Estimated contract settlement, loss order and other costs	1	—	1
Inventory and long-lived asset impairments	7	—	7
<b>Total</b>	<b>89</b>	<b>65</b>	<b>154</b>

Restructuring expenses recorded for this program are included in the following line items in the Consolidated Income Statements:

(\$ in millions)	2019	2018
Total cost of sales	8	35
Selling, general and administrative expenses	46	23
Non-order related research and development expenses	1	3
Other income (expense), net	34	4
<b>Total</b>	<b>89</b>	<b>65</b>

Liabilities associated with the OS program are primarily included in "Other provisions". The following table shows the activity from the beginning of the program to December 31, 2019:

(\$ in millions)	Employee severance costs	Contract settlement, loss order and other costs	Total
Liability at January 1, 2018	—	—	—
Expenses	65	—	65
Liability at December 31, 2018	65	—	65
Expenses	111	1	112
Cash payments	(44)	(1)	(45)
Change in estimates	(30)	—	(30)
Exchange rate differences	(3)	—	(3)
Liability at December 31, 2019	99	—	99

### White Collar Productivity program

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

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

The following table shows the activity from the beginning of the program to December 31, 2018:

(\$ in millions)	Employee severance costs	Contract settlement, loss order and other costs	Total
Liability at January 1, 2015	—	—	—
Expenses	300	3	303
Cash payments	(27)	—	(27)
Liability at December 31, 2015	273	3	276
Expenses	182	3	185
Cash payments	(91)	(2)	(93)
Change in estimates	(85)	(1)	(86)
Exchange rate differences	(17)	(1)	(18)
Liability at December 31, 2016	262	2	264
Expenses	28	3	31
Cash payments	(92)	(4)	(96)
Change in estimates	(118)	—	(118)
Exchange rate differences	21	—	21
Liability at December 31, 2017	101	1	102
Cash payments	(55)	—	(55)
Change in estimates and exchange rate differences	(13)	—	(13)
Liability at December 31, 2018	33	1	34

The change in estimates during 2017 of \$118 million is mainly due to higher than expected rates of attrition and internal redeployment. The reduction in the liability was recorded in income from operations, primarily as reductions in "Total cost of sales" of \$53 million and in "Selling, general and administrative expenses" of \$55 million.

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

The following table outlines the net costs incurred in 2017 and the cumulative net costs incurred up to December 31, 2017:

(\$ in millions)	Net costs incurred in 2017 <sup>(1)</sup>	Cumulative costs incurred up to December 31, 2017 <sup>(1)</sup>
Electrification	(17)	72
Industrial Automation	(23)	106
Motion	(10)	42
Robotics & Discrete Automation	(4)	14
Corporate and Other	(32)	91
<b>Total</b>	<b>(86)</b>	<b>325</b>

(1) Amounts in the table above have been recast to reflect the reorganization of the Company's operating segments in 2019 as outlined in Note 23.

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

(\$ in millions)	2017	Cumulative costs incurred up to December 31, 2017
Employee severance costs	(90)	307
Estimated contract settlement, loss order and other costs	3	8
Inventory and long-lived asset impairments	1	10
<b>Total</b>	<b>(86)</b>	<b>325</b>

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

(\$ in millions)	2017
Total cost of sales	(47)
Selling, general and administrative expenses	(35)
Non-order related research and development expenses	(5)
Other income (expense), net	1
<b>Total</b>	<b>(86)</b>

#### Other restructuring-related activities

In 2019, 2018 and 2017, the Company executed various other restructuring-related activities and incurred charges of \$114 million, \$116 million and \$181 million, respectively.

(\$ in millions)	2019	2018	2017
Employee severance costs	55	74	130
Estimated contract settlement, loss order and other costs	37	29	32
Inventory and long-lived asset impairments	22	13	19
<b>Total</b>	<b>114</b>	<b>116</b>	<b>181</b>

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

(\$ in millions)	2019	2018	2017
Total cost of sales	46	24	119
Selling, general and administrative expenses	4	52	10
Non-order related research and development expenses	—	2	—
Other income (expense), net	64	38	52
<b>Total</b>	<b>114</b>	<b>116</b>	<b>181</b>

At December 31, 2019 and 2018, \$189 million and \$245 million, respectively, was recorded for other restructuring-related liabilities and is primarily included in "Other provisions".

## Note 23

### Operating segment and geographic data

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

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

The segment information for 2018 and 2017, and at December 31, 2018 and 2017, has been recast to reflect these changes. In addition, the segment level information for restructuring and related expenses included in Note 22 has been recast to reflect these changes.

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

- **Electrification:** manufactures and sells products and solutions which are designed to provide smarter and safer electrical flow from the substation to the socket. The portfolio of increasingly digital and connected solutions includes electric vehicle charging infrastructure, solar power solutions, modular substation packages, distribution automation products, switchboard and panelboards, switchgear, UPS solutions, circuit breakers, measuring and sensing devices, control products, wiring accessories, enclosures and cabling systems and intelligent home and building solutions, designed to integrate and automate lighting, heating, ventilation, security and data communication networks.
- **Industrial Automation:** develops and sells integrated automation and electrification systems and solutions, such as process and discrete control solutions, advanced process control software and manufacturing execution systems, sensing, measurement and analytical instrumentation and solutions, electric ship propulsion systems, as well as large turbochargers. In addition, the Business offers a comprehensive range of services ranging from repair to advanced services such as remote monitoring, preventive maintenance and cybersecurity services.
- **Motion:** manufactures and sells motors, generators, drives, wind converters, mechanical power transmissions, complete electrical powertrain systems and related services and digital solutions for a wide range of applications in industry, transportation, infrastructure, and utilities.
- **Robotics & Discrete Automation:** develops and sells robotics and machinery automation solutions, including robots, controllers, software, function packages, cells, programmable logic controllers (PLC), industrial PCs (IPC), servo motion, engineered manufacturing solutions, turn-key solutions and collaborative robot solutions for a wide range of applications. In addition, the Business offers a comprehensive range of digital solutions as well as field and after sales service.
- **Corporate and Other:** includes headquarters, central research and development, the Company's real estate activities, Corporate Treasury Operations, historical operating activities of certain divested businesses and other non-core operating activities.

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

- amortization expense on intangibles arising upon acquisitions (acquisition-related amortization),
- restructuring, related and implementation costs,
- changes in the amount recorded for obligations related to divested businesses occurring after the divestment date (changes in obligations related to divested businesses),
- changes in estimates relating to opening balance sheets of acquired businesses (changes in pre-acquisition estimates),
- gains and losses from sale of businesses (including fair value adjustment on assets and liabilities held for sale),

- acquisition- and divestment-related expenses and integration costs,
- certain other non-operational items, as well as
- foreign exchange/commodity timing differences in income from operations consisting of:
  - (a) unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives),
  - (b) realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized, and
  - (c) unrealized foreign exchange movements on receivables/payables (and related assets/liabilities).

Certain other non-operational items generally includes: certain regulatory, compliance and legal costs, certain asset write downs/impairments as well as other items which are determined by management on a case-by-case basis.

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

The following tables present disaggregated segment revenues from contracts with customers for 2019, 2018 and 2017.

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

2018						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
<b>Geographical markets</b>						
Europe	3,881	2,475	1,862	1,737	58	10,013
The Americas	3,650	1,467	2,389	476	21	8,003
Asia, Middle East and Africa	3,680	2,449	1,699	1,339	236	9,403
	<b>11,211</b>	<b>6,391</b>	<b>5,950</b>	<b>3,552</b>	<b>315</b>	<b>27,419</b>
<b>End Customer Markets</b>						
Utilities	2,452	1,174	746	—	176	4,548
Industry	4,395	3,573	3,877	3,510	98	15,453
Transport and infrastructure	4,364	1,644	1,327	42	41	7,418
	<b>11,211</b>	<b>6,391</b>	<b>5,950</b>	<b>3,552</b>	<b>315</b>	<b>27,419</b>
<b>Product type</b>						
Products	9,679	1,528	5,111	2,019	118	18,455
Systems	617	1,853	—	1,001	197	3,668
Services and software	915	3,010	839	532	—	5,296
	<b>11,211</b>	<b>6,391</b>	<b>5,950</b>	<b>3,552</b>	<b>315</b>	<b>27,419</b>
Third-party revenues	11,211	6,391	5,950	3,552	315	27,419
Intersegment revenues <sup>(1)</sup>	475	109	513	59	(913)	243
<b>Total Revenues</b>	<b>11,686</b>	<b>6,500</b>	<b>6,463</b>	<b>3,611</b>	<b>(598)</b>	<b>27,662</b>

2017						
(\$ in millions)	Electrification	Industrial Automation	Motion	Robotics & Discrete Automation	Corporate and Other	Total
<b>Geographical markets</b>						
Europe	3,514	2,470	1,657	1,259	132	9,032
The Americas	2,613	1,349	2,219	534	116	6,831
Asia, Middle East and Africa	3,464	2,515	1,473	1,125	493	9,070
	<b>9,591</b>	<b>6,334</b>	<b>5,349</b>	<b>2,918</b>	<b>741</b>	<b>24,933</b>
<b>End Customer Markets</b>						
Utilities	2,597	1,273	628	—	575	5,073
Industry	4,022	3,398	3,488	2,891	155	13,954
Transport and infrastructure	2,972	1,663	1,233	27	11	5,906
	<b>9,591</b>	<b>6,334</b>	<b>5,349</b>	<b>2,918</b>	<b>741</b>	<b>24,933</b>
<b>Product type</b>						
Products	8,322	1,406	4,595	1,489	169	15,981
Systems	614	2,089	—	926	565	4,194
Services and software	655	2,839	754	503	7	4,758
	<b>9,591</b>	<b>6,334</b>	<b>5,349</b>	<b>2,918</b>	<b>741</b>	<b>24,933</b>
Third-party revenues	9,591	6,334	5,349	2,918	741	24,933
Intersegment revenues <sup>(1)</sup>	503	138	528	39	(945)	263
<b>Total Revenues</b>	<b>10,094</b>	<b>6,472</b>	<b>5,877</b>	<b>2,957</b>	<b>(204)</b>	<b>25,196</b>

(1) Intersegment revenues include sales to the Power Grids business which is presented as discontinued operations and are not eliminated from Total revenues (see Note 3).

Revenues by geography reflect the location of the customer. Approximately 24 percent, 22 percent and 20 percent of the Company's total revenues in 2019, 2018 and 2017, respectively, came from customers in the United States. In each of 2019, 2018 and 2017 approximately 15 percent of the Company's total revenues were generated from customers in China. In each of 2019, 2018 and 2017 more than 98 percent of the Company's total revenues were generated from customers outside Switzerland.

The following tables present Operational EBITA, the reconciliations of consolidated Operational EBITA to Income from continuing operations before taxes, as well as Depreciation and amortization, and Capital expenditure for 2019, 2018 and 2017, as well as Total assets at December 31, 2019, 2018 and 2017.

(\$ in millions)	2019	2018	2017
<b>Operational EBITA:</b>			
Electrification	1,688	1,626	1,510
Industrial Automation	732	914	902
Motion	1,082	1,023	838
Robotics & Discrete Automation	393	528	473
Corporate and Other:			
- Non-core and divested businesses	(145)	(291)	(163)
- Stranded corporate costs	(225)	(297)	(286)
- Corporate costs and Other intersegment elimination	(418)	(498)	(457)
<b>Total</b>	<b>3,107</b>	<b>3,005</b>	<b>2,817</b>
Acquisition-related amortization	(265)	(273)	(229)
Restructuring, related and implementation costs <sup>(1)</sup>	(300)	(172)	(300)
Changes in obligations related to divested businesses	(36)	(106)	(94)
Changes in pre-acquisition estimates	(22)	(8)	(8)
Gains and losses from sale of businesses	55	57	252
Fair value adjustment on assets and liabilities held for sale	(421)	—	—
Acquisition- and divestment-related expenses and integration costs	(121)	(204)	(81)
<b>Foreign exchange/commodity timing differences in income from operations:</b>			
Unrealized gains and losses on derivatives (foreign exchange, commodities, embedded derivatives)	20	(1)	56
Realized gains and losses on derivatives where the underlying hedged transaction has not yet been realized	8	(23)	8
Unrealized foreign exchange movements on receivables/payables (and related assets/liabilities)	(7)	(9)	(30)
<b>Certain other non-operational items:</b>			
Costs for planned divestment of Power Grids	(141)	—	—
Regulatory, compliance and legal costs	(7)	(34)	(102)
Business transformation costs	(19)	(17)	—
Executive Committee transition costs	(14)	—	—
Favorable resolution of an uncertain purchase price adjustment	92	—	—
Gain on sale of investments	15	—	—
Gain on liquidation of a foreign subsidiary	—	31	—
Asset write downs/Impairments	(4)	(25)	(40)
Other non-operational items	(2)	5	(19)
<b>Income from operations</b>	<b>1,938</b>	<b>2,226</b>	<b>2,230</b>
Interest and dividend income	67	72	73
Interest and other finance expense	(215)	(262)	(234)
Non-operational pension (cost) credit	72	83	33
<b>Income from continuing operations before taxes</b>	<b>1,862</b>	<b>2,119</b>	<b>2,102</b>

(1) Amounts in 2019 include \$97 million of implementation costs in relation to the OS Program.

(\$ in millions)	Depreciation and amortization			Capital expenditure <sup>(1)</sup>			Total assets <sup>(2),(2)</sup> at December 31,		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Electrification	414	355	315	279	244	218	11,671	12,052	8,881
Industrial Automation	55	57	61	64	58	54	4,559	4,287	4,478
Motion	169	184	193	110	93	89	6,149	6,016	6,051
Robotics & Discrete Automation	124	127	73	59	74	44	4,661	4,760	4,848
Corporate and Other	199	193	194	250	303	347	19,068	17,326	19,200
<b>Consolidated</b>	<b>961</b>	<b>916</b>	<b>836</b>	<b>762</b>	<b>772</b>	<b>752</b>	<b>46,108</b>	<b>44,441</b>	<b>43,458</b>

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

(2) At December 31, 2019, 2018 and 2017, Corporate and Other includes \$9,840 million, \$8,591 million and \$8,603 million, respectively, of assets in the Power Grids business which is reported as discontinued operations (see Note 3).

### Other geographic information

Geographic information for long-lived assets was as follows:

(\$ in millions)	Long-lived assets at December 31,	
	2019	2018
Europe	2,565	2,110
The Americas	1,469	1,168
Asia, Middle East and Africa	932	855
<b>Total</b>	<b>4,966</b>	<b>4,133</b>

Long-lived assets represent "Property, plant and equipment, net" and, with effect from 2019 as a result of adopting the new leasing standard (see Note 2), "Operating lease right-of-use assets" and are shown by location of the assets. At December 31, 2019, approximately 23 percent, 10 percent and 10 percent of the Company's long-lived assets were located in the U.S., China, and Switzerland, respectively. At December 31, 2018, approximately 22 percent, 11 percent and 11 percent of the Company's long-lived assets were located in the U.S., China and Switzerland, respectively.

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