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STMicroelectronics N.V. Semi annual Report 2020



Contents

1.	<u>CORPORATE OVERVIEW</u>	3
1.1.	<u>History and development of STMicroelectronics</u>	3
1.2.	<u>Strategy and objectives</u>	3
1.3.	<u>Organizational structure</u>	4
1.4.	<u>Products and activities</u>	4
1.5.	<u>Sales, Marketing and Distribution</u>	5
1.6.	<u>Research & Development</u>	5
1.7.	<u>Sustainability</u>	6
2.	<u>REPORT OF THE MANAGING BOARD</u>	7
2.1.	<u>Business overview</u>	7
2.2.	<u>Segment information</u>	8
2.3.	<u>Liquidity and financial position</u>	9
2.4.	<u>Business and financial outlook</u>	12
2.5.	<u>Other developments</u>	13
2.6.	<u>Related party transactions</u>	14
2.7.	<u>Financial Risk Management</u>	14
2.8.	<u>Business risk information</u>	15
2.9.	<u>Auditor's involvement</u>	16
3.	<u>INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (“SEMI ANNUAL FINANCIAL STATEMENTS”)</u>	17
3.1.	<u>Consolidated income statement</u>	17
3.2.	<u>Consolidated statement of comprehensive income</u>	18
3.3.	<u>Consolidated statement of financial position</u>	19
3.4.	<u>Consolidated statement of changes in equity</u>	20
3.5.	<u>Consolidated statement of cash flows</u>	22
3.6.	<u>Notes to the consolidated financial statements</u>	23
3.6.1.	<u>Corporate information</u>	23
3.6.2.	<u>Basis of preparation</u>	24
3.6.3.	<u>Significant accounting policies</u>	24
3.6.4.	<u>Critical accounting estimates and judgements</u>	25
3.6.5.	<u>Revenues</u>	26
3.6.6.	<u>Segment information</u>	28
3.6.7.	<u>Property, plant and equipment and intangible assets</u>	29
3.6.8.	<u>Business Combination</u>	30
3.6.9.	<u>Goodwill</u>	30
3.6.10.	<u>Other financial assets and financial liabilities</u>	31
3.6.11.	<u>Leases</u>	40
3.6.12.	<u>Inventories</u>	41
3.6.13.	<u>Cash and cash equivalents</u>	41
3.6.14.	<u>Equity</u>	42
3.6.15.	<u>Provisions for restructuring</u>	44
3.6.16.	<u>Expenses by nature</u>	45
3.6.17.	<u>Other income / expenses</u>	45
3.6.18.	<u>Earnings per share</u>	47
3.6.19.	<u>Related-party transactions</u>	47
3.6.20.	<u>Contingencies, claims and legal proceedings</u>	47
3.6.21.	<u>Subsequent events</u>	49
4.	<u>SOLE MEMBER OF THE MANAGING BOARD'S STATEMENT</u>	50
5.	<u>ABOUT STMICROELECTRONICS</u>	51

1. Corporate overview

1.1. History and development of STMicroelectronics

STMicroelectronics N.V. was formed and incorporated in 1987 as a result of the combination of the semiconductor business of SGS Microelettronica (then owned by Società Finanziaria Telefonica (S.T.E.T.), an Italian corporation) and the non-military business of Thomson Semiconducteurs (then owned by the former Thomson-CSF, now Thales, a French corporation). We completed our initial public offering in December 1994 with simultaneous listings on the Bourse de Paris (now known as “Euronext Paris”) and the New York Stock Exchange (“NYSE”). In 1998, we also listed our shares on the Borsa Italiana S.p.A. (“Borsa Italiana”).

We operated as SGS-Thomson Microelectronics N.V. until May 1998, when we changed our name to STMicroelectronics N.V. We are organized under the laws of The Netherlands, with our corporate legal seat in Amsterdam, The Netherlands, and our head offices at WTC Schiphol Airport, Schiphol Boulevard 265, 1118 BH Schiphol, The Netherlands. Our telephone number there is +31-20-654-3210. Our headquarters and operational offices are managed through our wholly owned subsidiary, STMicroelectronics International N.V., and are located at 39 Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva, Switzerland. Our main telephone number there is +41-22-929-2929. Our agent for service of process in the United States related to our registration under the U.S. Securities Exchange Act of 1934, as amended, is Corporation Service Company (CSC), 80 State Street, Albany, New York, 12207. Our operations are also conducted through our various subsidiaries, which are organized and operated according to the laws of their country of incorporation, and consolidated by STMicroelectronics N.V.

1.2. Strategy and objectives

We are a global semiconductor leader, serving over 100,000 customers across a broad range of markets: automotive, industrial, personal electronics, and communications equipment, computers and peripherals. We develop industry-leading technologies that allow us to provide products and solutions that meet and exceed the needs and expectations of our customers now and into the future.

Our strategy focuses on long-term value creation for the Company and its affiliated enterprises and takes into account the short-, medium- and longer-term evolution of the markets we serve and the environment and opportunities we see.

We are focused on application areas which are expected to experience solid growth rates driven by broad, long-term trends in electronic systems. Key for us among these trends are Smart Mobility, power and energy applications, Internet of Things (“IoT”) and 5G. These trends require enablers such as autonomous systems, robotics, securely connected machines and personal devices, electrification of automobiles and infrastructure, advanced communications equipment and networks and more power efficient systems. These enablers drive in turn the demand for the electronic components we develop and manufacture.

Our products are used in a wide variety of applications for the four end-markets we address: automotive, industrial, personal electronics and communications equipment, computers and peripherals. For the automotive and industrial markets we address a wide customer base, particularly in industrial, with a broad and deep product portfolio. In personal electronics and communications equipment, computers and peripherals, we have a selective approach both in terms of the customers we serve, as well as in the technologies and products we offer.

Together with our customers we enable smarter driving by making vehicles safer, more environmentally friendly and more connected. We enable smart industry helping to make factories and workplaces more efficient, more flexible and safer. We enable smarter homes and cities making houses, buildings and city infrastructure more efficient, more convenient and more secure. We help make everything more intelligent, more connected and more secure. In doing this we ensure that ST is found everywhere microelectronics make a positive and innovative contribution to people’s lives. By getting more from technology to get more from life, ST stands for life.augmented.

1.3. Organizational structure

We are organized in a matrix structure with geographic regions interacting with product lines, both supported by shared technology and manufacturing operations and by central functions, designed to enable us to be closer to our customers and to facilitate communication among the R&D, production, marketing and sales organizations.

While STMicroelectronics N.V. is our parent company, we conduct our global business through STMicroelectronics International N.V. and also conduct our operations through service activities from our subsidiaries. We provide certain administrative, human resources, legal, treasury, strategy, manufacturing, marketing and other overhead services to our consolidated subsidiaries pursuant to service agreements for which we recover the cost.

1.4. Products and activities

We are a global independent semiconductor company that designs, develops, manufactures and markets a broad range of products, including discrete and general purpose components, application-specific integrated circuits (“ASICs”), full-custom devices and semi-custom devices and application-specific standard products (“ASSPs”) for analog, digital and mixed-signal applications.

Our diverse product portfolio benefits from a unique, strong foundation of proprietary and differentiated leading-edge technologies. We use all of the prevalent function-oriented process technologies, including complementary metal-on silicon oxide semiconductors (“CMOS”), bipolar and non-volatile memory technologies. In addition, by combining basic processes, we have developed advanced systems-oriented technologies that enable us to produce differentiated and application-specific products, including our pioneering fully depleted silicon-on-insulator (“FD-SOI”) technology offering superior performance and power efficiency compared to bulk CMOS, bipolar CMOS technologies (“Bi-CMOS”) and radio frequency silicon-on-insulator (“RF-SOI”) for mixed-signal and high-frequency applications, as well as a combination of Bipolar, CMOS and DMOS (“BCD”) and vertically integrated power (“VIPower”) technologies for smart power applications, silicon carbide (“SiC”) and gallium-nitride (“GaN”) for high-efficiency systems, Micro-Electro-Mechanical Systems (“MEMS”) technologies for sensors and Actuators, embedded memory technologies for our microcontrollers and differentiated Imaging Technologies for our imaging solutions.

Our reportable segments are as follows:

- Automotive and Discrete Group (ADG), comprised of dedicated automotive ICs (both digital and analog), and discrete and power transistor products for all market segments.
- Analog, MEMS and Sensors Group (AMS), comprised of low-power high-end analog ICs (both custom and general purpose) for all markets, smart power products for Industrial, Computer and personal electronics markets, Touch Screen Controllers, Low Power Connectivity solutions (both wireline and wireless) for IoT, power conversion products, metering solutions for Smart Grid, specialized imaging sensors and modules, and all MEMS products for sensors or Actuators.
- Microcontrollers and Digital ICs Group (MDG), comprised of general purpose and secure microcontrollers, EEPROM memories, Digital ASICs, Aerospace and Defense products including components for microwave and millimeter wave.

For the computation of the segments’ internal financial measurements, we use certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, selling, general and administrative expenses and a part of research and development expenses. In compliance with the our internal policies, certain costs are not allocated to the segments, but reported in “Others”. Those include impairment, restructuring charges and other related closure costs, management reorganization expenses, unused capacity charges, including reduced manufacturing activity due to COVID-19, phase-out and start-up costs of certain manufacturing facilities, certain one-time corporate items, strategic and special research and development programs or other corporate-sponsored initiatives, including certain corporate-level operating expenses, patent claims and litigations and certain other miscellaneous charges. In addition, depreciation and

amortization expense is part of the manufacturing costs allocated to the segments and is neither identified as part of the inventory variation nor as part of the unused capacity charges; therefore, it cannot be isolated in the costs of goods sold. Finally, R&D grants are allocated to the segments proportionally to the incurred R&D expenses on the sponsored projects.

1.5. Sales, Marketing and Distribution

Our sales and marketing is organized by a combination of country/area coverage and key accounts coverage with the primary objective of accelerating sales growth and gaining market share, particularly with regards to: strengthening the effectiveness of the development of our global and major local accounts; boosting demand creation through an enhanced focus on geographical coverage with strong technical expertise, supported in the mass market by our distribution channel and local initiatives; and establishing regional sales and marketing teams that are fully aligned with our strategic end-markets: automotive, industrial, personal electronics and communications equipment, computers and peripherals.

We have three regional sales organizations reporting to a global head of Sales & Marketing: Americas; Asia Pacific; and EMEA. Our regional sales organizations have a similar structure to enhance coordination in global strategy alignment and go-to-market activities. The sales and marketing teams are strongly focused on profitable revenue growth and business performance as well as on fostering demand, expanding the customer base, maximizing market share, developing new product-roadmaps and providing the best technical support in the field for our customers. The sales and marketing activities are supported by system marketing, product marketing, application labs, field application engineers and quality engineers.

1.6. Research & Development

Since our formation, we have maintained a solid commitment to innovation. About one-sixth of our employees work in R&D on product design/development and technology and, in 2019, we spent approximately 12.6% of our net revenues on R&D. Our innovations in semiconductor technology as well as in hardware and software contribute to the creation of successful products that generate value for us and our customers. Our complete design platforms, including a large selection of IP and silicon-proven models and design rules, enable the fast development of products designed to meet customer expectations in terms of reliability, quality, competitiveness in price and time-to-market. Through our R&D efforts, we contribute to making our customers' products more efficient, more appealing, more reliable and safer. Our technology R&D strategy is based on the development of differentiated technologies, allowing for a unique offer in terms of new products and enabling new applications opportunities.

We draw on a rich pool of chip fabrication technologies, including advanced CMOS, FD-SOI, RF-SOI, specialized imaging, embedded non-volatile memories, mixed-signal, analog, MEMS, Smart power, SiC and GaN processes. This is well embedded in our strong packaging technologies portfolio such as high pin count BGA, Wafer level packaging, highly integrated sensor packages and leadframe package power products. We combine both front-end and back-end manufacturing and technology R&D under the same organization to ensure a smooth flow of information between our R&D and manufacturing organizations. We leverage significant synergies and shared activities between our product groups to cross-fertilize them. We also use silicon foundries, especially for advanced CMOS beyond the 28 nm node that we do not plan to manufacture nor develop internally.

We have advanced R&D centers which offer us a significant advantage in quickly and cost effectively introducing products. Furthermore, we have established a strong culture of partnerships and through the years have created a network of strategic collaborations with key customers, suppliers, competitors, and leading universities and research institutes around the world. We also play leadership roles in numerous projects running under the European Union's IST (Information Society Technologies) programs. We also participate in certain R&D programs established by the EU, individual countries and local authorities in Europe (primarily in France and Italy).

1.7. Sustainability

Sustainability has been a guiding principle for ST for more than 25 years. In line with our vision to be everywhere microelectronics make a positive contribution to people's lives, sustainability is deeply embedded in all of our activities. We believe that sustainability is fundamental to our business, brings new opportunities, improves efficiency, reduces risks and secures long-term profitability. It also brings benefits to our employees and our external stakeholders. Our approach to sustainability is expressed in our Code of Conduct, our policies and in our sustainability strategy.

At the heart of our sustainability strategy is an unceasing focus on what really matters for us and our stakeholders. We identify the most material topics for our stakeholders and their impacts on our business by carrying out an extensive materiality exercise every three to four years. For each material topic identified, we define a specific ambition and long-term goal. The related programs and performance indicators are presented throughout our sustainability report we publish each year and which is available at: www.st.com/company-reports.

We are included in many of the main sustainability indices, such as Dow Jones World and Europe Sustainability Indices, FTSE4Good and Ethibel, and recognized by CDP for our environmental management. In addition, as a member of the Responsible Business Alliance (RBA), we participate in the collective efforts of the industry to find solutions to our global sustainability challenges. We have been a signatory of the UN Global Compact since 2000. Our sustainability programs are aligned with its ten principles and contribute to ten of the 17 UN Sustainable Development Goals.

Further information on ST's Sustainability approach can be found at: www.st.com/st-approach-to-sustainability.

2. Report of the Managing Board

2.1. Business overview

The total available market is defined as the “TAM”, while the serviceable available market, the “SAM”, is defined as the market for products sold by us (which consists of the TAM and excludes major devices such as Microprocessors (“MPUs”), Dynamic random-access memories (“DRAMs”), optoelectronics devices, Flash Memories and the Wireless Application Specific market products such as Baseband and Application Processor).

Based on the data published by World Semiconductor Trade Statistics (WSTS), semiconductor industry revenues increased in the first half of 2020 on a year-over-year basis by approximately 6.0% for the TAM and 0.9% for the SAM to reach approximately \$208 billion and \$93 billion, respectively.

Our first half 2020 was impacted by a weak demand environment, especially in Automotive, as well as some continuing operational and logistics challenges due to governmental regulations related to the COVID-19 outbreak that started in the first quarter of 2020. During the second quarter of 2020, we returned to normal operations, supporting our customers' demand and continuing to ensure the health and safety of our employees.

Our effective average exchange rate for the first half of 2020 was \$1.11 for €1.00 compared to \$1.15 for €1.00 for the first half of 2019.

Our first half 2020 revenues amounted to \$4,318 million, a 1.6% increase on a year-over-year basis. By product group and year-over-year, the first half of 2020 ADG revenues were down 17.2% mainly due to Automotive and, to a lower extent, to Power Discrete. AMS revenues increased 18.4%, on strong growth in Imaging and, to a lower extent in Analog. MDG revenues increased 12.3% entirely driven by Microcontrollers.

Our first half 2020 gross margin reached 32.4% of revenues, representing a decrease of 140 basis points compared to the prior year period mainly due to higher unloading charges and usual price pressure.

Combined selling, general and administrative (SG&A) and research and development (R&D) expenses decreased to \$1,135 million for the first half of 2020, compared to \$1,141 million in the prior year period, positively impacted by favorable currency effects, partially offset by increased R&D activities.

In the first half of 2020, other income and expenses increased to a net income of \$45 million, compared to a net income of \$43 million in the prior year period, mainly due to higher income from R&D funding and higher gain on sale of non-current assets, partially offset by non-recurring expenses associated with the COVID-19 pandemic.

Operating profit in the first half of 2020 decreased by \$27 million to \$309 million compared to \$336 million in the prior year period.

Combined finance income and costs resulted in a net income of \$87 million in the first half of 2020, compared to a net cost of \$116 million in the first half of 2019, and reflect in both periods the fair value measurement of convertible bonds. The first half of 2020 amount includes a net gain of \$93 million for the fair value adjustment of outstanding convertible bond embedded options (compared to a net loss of \$114 million in the first half of 2019).

Our Free Cash Flow (non GAAP measure) increased to positive \$141 million in the first half of 2020 compared to negative \$134 million in the year-ago period, mainly due to higher cash from operating activities and lower payment for purchase of tangible and intangible assets.

2.2. Segment information

We design, develop, manufacture and market a broad range of products, including discrete and standard commodity components, application-specific integrated circuits, full-custom devices and semi-custom devices and application-specific standard products for analog, digital and mixed-signal applications. In addition, we further participate in the manufacturing value chain of Smartcard products, which includes the production and sale of both silicon chips and Smartcards.

Our reportable segments are as follows:

- *Automotive and Discrete Group (ADG)*, comprised of dedicated automotive ICs (both digital and analog), and discrete and power transistor products for all market segments.
- *Analog, MEMS and Sensors Group (AMS)*, comprised of low-power high-end analog ICs (both custom and general purpose) for all markets, smart power products for Industrial, Computer and personal electronics markets, Touch Screen Controllers, Low Power Connectivity solutions (both wireline and wireless) for IoT, power conversion products, metering solutions for Smart Grid, specialized imaging sensors and modules, and all MEMS products for sensors or Actuators.
- *Microcontrollers and Digital ICs Group (MDG)*, comprised of general purpose and secure microcontrollers, EEPROM memories, Digital ASICs, Aerospace and Defense products including components for microwave and millimeter wave.

For the computation of the segments' internal financial measurements, we use certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, selling, general and administrative expenses and a part of research and development expenses. In compliance with our internal policies, certain costs are not allocated to the segments, but reported in "Others". Those include impairment, restructuring charges and other related closure costs, management reorganization expenses, unused capacity charges, including reduced manufacturing activity due to COVID-19, phase-out and start-up costs of certain manufacturing facilities, certain one-time corporate items, strategic and special research and development programs or other corporate-sponsored initiatives, including certain corporate-level operating expenses, patent claims and litigations and certain other miscellaneous charges. In addition, depreciation and amortization expense is part of the manufacturing costs allocated to the segments and is neither identified as part of the inventory variation nor as part of the unused capacity charges; therefore, it cannot be isolated in the costs of goods sold. Finally, R&D grants are allocated to the segments proportionally to the incurred R&D expenses on the sponsored projects.

Wafer costs are allocated to the segments based on actual cost. From time to time, with respect to specific technologies, wafer costs are allocated to segments based on market price.

Please refer to note 3.6.6 of the Semi Annual Financial Statements for further information.

2.3. Liquidity and financial position

We maintain a significant cash position and a low debt-to-equity ratio, which provide us with adequate financial flexibility. As in the past, our cash management policy is to finance our investment needs mainly with net cash generated from operating activities.

During the first half of 2020, our net cash decreased by \$807 million, mainly due to net investments in short-term deposits of \$685 million reported as net cash used in investing activities.

The components of our cash flow for the comparable periods are set forth below:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Net cash from operating activities	959	842
Net cash used in investing activities	(1,480)	(952)
Net cash from / (used in) financing activities	(282)	26
Effect of change in exchange rates	(4)	(3)
Net cash increase (decrease)	(807)	(87)

Net cash from operating activities

Net cash from operating activities is the sum of (i) net income adjusted for non-cash items and (ii) changes in net working capital. The net cash from operating activities for the first half of 2020 was \$959 million, increasing compared to \$842 million in the first half of 2019, mainly due to higher net income and more favorable change in the net working capital.

Net cash used in investing activities

Investing activities used \$1,480 million of cash in the first half of 2020, mainly as a result of net investments in short-term deposits of \$685 million, payments for tangible assets, net of proceeds, for a total of \$578 million and investment in intangible assets for \$186 million of which the largest part is related to the capitalization of development costs.

Net cash from (used in) financing activities

Financing activities used \$282 million in the first half of 2020, compared to positive \$26 million in the first half of 2019, and consisted mainly of \$125 million repurchase of common stock and \$90 million dividends paid to stockholders.

Free cash flow (non GAAP measure)

Free Cash Flow, which is a non GAAP measure, is defined as (i) net cash from operating activities plus (ii) net cash used in investing activities, excluding payment for purchases of (and proceeds from matured) marketable securities, and net investment in short-term deposits, which are considered as temporary financial investments. The result of this definition is ultimately net cash from operating activities plus payment for purchase (and proceeds from sale) of tangible, intangible and financial assets, proceeds received in the sale of businesses and cash paid for business acquisitions. We believe Free Cash Flow, a non GAAP measure, provides useful information for investors and management because it measures our capacity to generate cash from our operating and investing activities to sustain our operations. Free Cash Flow is not a GAAP measure and does not represent total cash flow since it does not include the cash flows generated by or used in financing activities. Free Cash Flow reconciles with the net cash increase (decrease) by including the payment for purchase of (and proceeds from matured) marketable securities and net investment in short-term deposits, the net cash from (used in) financing activities and the effect of changes in exchange rates. In addition, our definition of Free Cash Flow may differ from definitions used by other companies. Our Free Cash Flow is derived from the US GAAP Consolidated Statement of Cash Flows, which differs from the Consolidated Statement of Cash Flows under IFRS. A reconciliation with the Consolidated Statement of Cash Flows under IFRS is provided in the table below:

In millions of USD	June 27, 2020	June 29, 2019
Net cash from operating activities as reported	959	842
Excluding US GAAP/IFRS differences:		
<i>Payment for withholding tax on vested shares</i>	6	4
<i>Payment for leases</i>	(28)	(28)
<i>Other</i>	(1)	—
Net cash from operating activities adjusted	936	818
Net cash used in investing activities as reported	(1,480)	(952)
Excluding:		
Payment for purchase and proceeds from matured marketable securities and net investment in short-term deposits	685	—
Payment for purchase and proceeds from sale of tangible, intangible assets, payment for business acquisitions ⁽¹⁾	(795)	(952)
Free Cash Flow (non GAAP measure)	141	(134)

- (1) Reflects the total of the following line items reconciled with our Consolidated Statement of Cash Flows relating to investing activities: Payment for purchase of tangible assets, Proceeds from sale of tangible assets, Payment for purchase of intangible assets, Payment for purchase of financial assets, Proceeds from sale of financial assets, Proceeds received in sale of businesses, Payment for business acquisitions, net of cash and cash equivalents acquired.

Our free cash flow was positive \$141 million for the first half of 2020, compared to negative \$134 million for the first half of 2019.

Net Financial Position (non GAAP measure)

Our Net Financial Position represents the difference between our total liquidity and our total financial debt. Our total financial resources include cash and cash equivalents, restricted cash, short-term deposits and quoted debt securities; our total financial debt includes interest-bearing loans and borrowings, including current portion, as represented in our consolidated statement of financial position. Net Financial Position is not a GAAP measure but we believe it provides useful information for investors and management because it gives evidence of our global position either in terms of net indebtedness or net cash by measuring our capital resources based on cash and cash equivalents, restricted cash, short-term deposits and quoted debt securities and the total level of our financial indebtedness. In addition, our definition of Net Financial Position may differ from definitions used by other companies and therefore comparability may be limited. Our Net Financial Position is derived from our US GAAP Consolidated Balance Sheets, which differs from the Consolidated Statement of Financial Position under IFRS. A reconciliation with the Consolidated Statement of Financial Position under IFRS is provided in the table below:

In millions of USD	June 27, 2020	December 31, 2019
Cash and cash equivalents	1,800	2,597
Restricted cash	—	10
Short-term deposits	687	4
Government bonds issued by the U.S. Treasury	134	133
Total liquidity	2,621	2,744
Funding program loans from European Investment Bank	(678)	(706)
Dual tranche senior unsecured convertible bonds	(1,371)	(1,351)
Other funding programs and other long-term loans	—	(12)
Total financial debt as reported	(2,049)	(2,069)
US GAAP/IFRS differences on dual tranche senior unsecured convertible bonds valuation	(2)	(3)
Total financial debt adjusted	(2,051)	(2,072)
Net financial position (non GAAP measure)	570	672

Our Net Financial Position as of June 27, 2020 was a net cash position of \$570 million, decreasing compared to the net cash position of \$672 million at December 31, 2019.

At June 27, 2020, our financial debt was \$2,049 million, composed of (i) \$876 million of current portion of long-term debt and (ii) \$1,173 million of long-term debt. The breakdown of our total financial debt included: (i) \$1,371 million in the senior unsecured convertible bonds issued in 2017 and (ii) \$678 million in European Investment Bank loans (the “EIB Loans”).

The EIB Loans are comprised of three long-term amortizing credit facilities as part of our R&D funding programs. The first, signed in 2010, is a €350 million multi-currency loan to support our industrial and R&D programs. It was drawn mainly in U.S. dollars for an amount of \$321 million and only partially in Euros for an amount of €100 million, of which \$55 million remained outstanding as of June 27, 2020. The second, signed in 2013, is a €350 million multi-currency loan which also supports our R&D programs. It was drawn in U.S. dollars for an amount of \$471 million, of which \$118 million is outstanding as of June 27, 2020. The third, signed in August 2017 is a €500 million loan in relation to R&D and capital expenditure investments in the European Union. It was fully drawn in Euros corresponding to \$505 million outstanding as of June 27, 2020. Additionally, on February 2020, we entered in a new €500 million facility agreement with EIB to support R&D and Capex programs in Italy and France, undrawn as at June 27, 2020.

On July 3, 2017, we issued \$1,500 million in principal amount of dual tranche senior unsecured convertible bonds (Tranche A for \$750 million and Tranche B for \$750 million), due 2022 and 2024, respectively. Tranche A bonds were issued at 101.265% as zero-coupon bonds while Tranche B bonds were issued at par and bear a 0.25% per annum nominal interest, payable semi-annually. The conversion price at issuance was \$20.54, equivalent to a 37.5% premium on both tranches, which corresponds to 9,737 equivalent shares per each \$200,000 bond par value. The bonds are convertible by the

bondholders or are callable by the issuer upon certain conditions, on a net-share settlement basis, except if the issuer elects a full-cash or full-share conversion as an alternative settlement. The net proceeds from the bond offering were \$1,502 million, after deducting issuance costs. The call option available to us for the early redemption of Tranche A was exercised in July 2020. We intend to settle Tranche A bonds upon conversion on a net share basis, by redeeming through cash the \$750 million principal amount and by settling the residual consideration through the delivery of shares.

Our long-term debt contains standard conditions but does not impose minimum financial ratios. Committed credit facilities amounted to \$1.1 billion as of June 27, 2020, including the new €500 million long-term line signed with the EIB in the first half of 2020, undrawn as at June 27, 2020.

Our current ratings with the three major rating agencies that report on us on a solicited basis, are as follows: S&P: “BBB” with stable outlook; Moody’s: “Baa3” with stable outlook; Fitch: “BBB” with stable outlook.

2.4. Business and financial outlook

We expect net revenues for the full year 2020 to be in the range of about \$9.25 to \$9.65 billion.

Our policy is to modulate our capital spending according to the evolution of the semiconductor market. Based on current market visibility and its evolution, based on the capability to recover from COVID-19, the combination of new products, customer demand in 2020 and ongoing strategic initiatives, we confirm our capital investment in 2020 to approximately \$1.2 billion. A portion of this capital expenditure will be devoted to support strategic initiatives: (i) in Agrate, Italy the construction of a new 300 mm fab to support next generation mixed signal, IGBT and power technologies; (ii) R&D for GaN power technologies in Tours 200 mm and prototyping for GaN RF devices in Catania 150 mm and (iii) investments for Silicon Carbide. These include the kick-off of substrates activities, following the Norstel acquisition. In addition to our strategic initiatives, our main capital investment in front-end is in (i) our 300 mm fab in Crolles, optimizing existing infrastructure to support production ramp up on our main runner technologies; (ii) mix evolution, and a few selected programs of capacity growth and infrastructure preparation in some of our most advanced 200 mm fabs. The most important 2020 capital investments for our back-end facilities are expected to be: (i) capacity growth on certain package families, including the SiC technology, next generation Imaging sensor technologies and new generation of Intelligent Power Modules (IPM) for Automotive and Industrial applications; (ii) modernization and rationalization of package lines targeting cost savings benefits; and (iii) specific investments in the areas of factory automation, quality, environment and energy savings. In addition, we will invest in overall capacity adjustment in final testing and wafers probing (EWS) to support demand and a changed product mix as well as invest in quality, safety, maintenance, productivity and cost savings in both 150 mm, 200 mm front-end fabs and back-end plants.

We will continue to invest to support revenues growth and new products introduction, taking into consideration factors such as trends in the semiconductor industry and capacity utilization. We expect to need significant financial resources in the coming years for capital expenditures and for our investments in manufacturing and R&D. We plan to fund our capital requirements from cash provided by operating activities, available funds and support from third parties, and may have recourse to borrowings under available credit lines and, to the extent necessary or attractive based on market conditions prevailing at the time, the issuance of debt, convertible bonds or additional equity securities. A substantial deterioration of our economic results, and consequently of our profitability, could generate a deterioration of the cash generated by our operating activities. Therefore, there can be no assurance that, in future periods, we will generate the same level of cash as in prior years to fund our capital expenditure plans for expanding/upgrading our production facilities, our working capital requirements, our R&D and manufacturing costs.

We believe that we have the financial resources needed to meet our currently projected business requirements for the next twelve months, including capital expenditures for our manufacturing activities, working capital requirements, approved dividend payments and the repayment of our debts in line with their maturity dates.

2.5. Other developments

On July 28, 2020, we launched and priced a \$1.5 billion dual-tranche offering of new convertible bonds. The Bonds were launched in two \$750 million tranches, one with a maturity of 5 years (47.5% conversion premium, negative 1.12% yield to maturity, 0% coupon) and the other with a maturity of 7 years (52.5% conversion premium, negative 0.63% yield to maturity, 0% coupon). Under the terms of the Bonds, we can satisfy the conversion rights either in cash or shares, or a combination of the two, at our selection. Proceeds from the issuance of the Bonds will be used for general corporate purposes, including the early redemption of the outstanding \$750 million convertible bond due 2022. The issuance of the new Bonds occurred on August 4, 2020.

On July 28, 2020, we also announced the issuance of a redemption notice to inform bondholders that we will redeem all of the Tranche A bonds issued in July 2017 at their principal amount on August 27, 2020. We intend to settle the bonds through the payment of cash for the principal amount and the residual consideration through the delivery of shares. For such delivery of shares in connection with the net share settlement, we will use existing shares held as treasury shares as of June 27, 2020.

On July 16, we announced the signature of two M&A agreements related to the acquisitions of the entire share capital of Ultra Wide Band specialist BeSpoon and of the cellular IoT connectivity assets of Riot Micro. After closing of the two transactions, subject to customary regulatory approvals, we will further strengthen our offer for wireless connectivity and, in particular, the roadmap for our STM32 microcontrollers and secure MCUs.

On June 17, we held our Annual General Meeting of Shareholders (AGM) in Schiphol, the Netherlands. The main resolutions, approved by the Shareholders, were:

- The adoption of the Company's statutory annual accounts for the year ended December 31, 2019, prepared in accordance with International Financial Reporting Standards (IFRS). The 2019 statutory annual accounts were filed with the Dutch Authority for the Financial Markets (AFM) on March 25, 2020 and are posted on the Company's website (www.st.com) and on the AFM's website (www.afm.nl);
- The distribution of a cash dividend of \$0.168 per outstanding share of the Company's common stock, to be distributed in quarterly installments of \$0.042 in each of the second, third and fourth quarters of 2020 and first quarter of 2021;
- The authorization to the Supervisory Board to consider during September 2020 to increase such authorized dividend up to a maximum of \$0.24 per outstanding share of the Company's common stock;
- The appointment of Ms. Ana de Pro Gonzalo as member of the Supervisory Board, for a three-year term expiring at the 2023 AGM, in replacement of Ms. Martine Verluyten whose mandate expired at the end of the 2020 AGM;
- The appointment of Mr. Yann Delabrière as member of the Supervisory Board, for a three-year term expiring at the 2023 AGM, in replacement of Mr. Jean-Georges Malcor whose mandate expired at the end of the 2020 AGM;
- The reappointment, for a three-year term expiring at the 2023 AGM, of the following members of the Supervisory Board: Ms. Heleen Kersten and Messrs. Alessandro Rivera, Frédéric Sanchez and Maurizio Tamagnini;
- The adoption of the Company's remuneration policy for the members of the Supervisory Board, in line with recent changes in Dutch corporate law and the EU's shareholder rights directive; and

- The re-appointment of EY as external auditor for the 2020, 2021, 2022 and 2023 financial years.

Following the conclusion of the AGM, the members of the Supervisory Board appointed Mr. Maurizio Tamagnini as the Chairman and Mr. Nicolas Dufourcq as the Vice-Chairman of the Supervisory Board, respectively, for a 3-year term to expire at the end of the 2023 AGM.

On May 12, we announced the publication of our 2020 Sustainability Report.

On April 7, we closed the acquisition of a majority stake in French Gallium Nitride (GaN) innovator Exagan. The transaction was funded with available cash.

2.6. Related party transactions

Please refer to note 3.6.19 of the Semi Annual Financial Statements.

2.7. Financial Risk Management

We are exposed to changes in financial market conditions in the normal course of business due to our operations in different foreign currencies and our ongoing investing and financing activities. Market risk is the uncertainty to which future earnings or asset/liability values are exposed due to operating cash flows denominated in foreign currencies and various financial instruments used in the normal course of operations. The major financial risks to which we are exposed are the foreign exchange risks related to the fluctuations of the U.S. dollar exchange rate compared to the Euro and the other major currencies in which costs are incurred, the variation of the interest rates and the risks associated to the investments of our available cash. We have established policies, procedures and internal processes governing our management of market risks and the use of financial instruments to manage our exposure to such risks. See note 3.6.10.4 of the Semi Annual Financial Statements for further information.

Our financial risk management is carried out by a central treasury department (Corporate Treasury). Additionally, a Treasury Committee, chaired by our CFO, steers treasury activities and ensures compliance with our corporate policies. Treasury activities are thus regulated by our policies, which define procedures, objectives and controls. The policies focus on the management of financial risk in terms of exposure to market risk, credit risk and liquidity risk. Treasury controls are subject to internal audits. Most treasury activities are centralized, with any local treasury activities subject to oversight from Corporate Treasury. Corporate Treasury identifies, evaluates and hedges financial risks in close cooperation with our operating units. It provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, price risk, credit risk, use of derivative financial instruments, and investments of excess liquidity. The majority of cash and cash equivalents is held in U.S. dollars and Euros and is placed with financial institutions rated at least a single "A" long-term rating from two of the major rating agencies, meaning at least A3 from Moody's Investor Service and A- from Standard & Poor's and Fitch Ratings, or better. These ratings are closely and continuously monitored in order to manage exposure to the counterparty's risk. Hedging transactions are performed only to hedge exposures deriving from operating, investing and financing activities conducted in the normal course of business.

The Semi Annual Financial Statements do not include all financial risk management information and disclosures required in the annual financial statements; they should be read in conjunction with the Group's annual consolidated financial statements as at December 31, 2019. There have been no changes in the risk management department or in any risk management policies since year end.

Foreign exchange risk

We conduct our business on a global basis in various major international currencies. As a result, we are exposed to adverse movements in foreign currency exchange rates, primarily with respect to the Euro. Foreign exchange risk mainly arises from recognized assets and liabilities at our subsidiaries and future commercial transactions.

Cash flow and fair value interest rate risk

Our interest rate risk arises from long-term borrowings. Borrowings issued at variable rates expose us to cash flow interest rate risk. Borrowings issued at fixed rates expose us to fair value interest rate risk.

Credit risk

We select banks and/or financial institutions that operate with the Group based on the criteria of long-term rating from at least two major rating agencies and keeping a maximum outstanding amount per instrument with each bank not to exceed 20% of the total.

We monitor the creditworthiness of our customers to which we grant credit terms in the normal course of business. If certain customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal and external ratings in accordance with limits set by management. The utilization of credit limits is regularly monitored.

Liquidity risk

Prudent liquidity risk management includes maintaining sufficient cash equivalents and marketable securities, the availability of funding from committed credit facilities and the ability to close out market positions. Our objective is to maintain a significant cash position and a low debt-to-equity ratio, which ensures adequate financial flexibility. Our liquidity management policy is to finance our investments with net cash generated from operating activities.

2.8. Business risk information

Our risk appetite depends on the nature of risks. We determine, on a regular basis, the amount of risk we are willing to eliminate, mitigate, pursue or retain, depending on associated expected rewards, opportunities and cost of risk optimization.

Below is a list of the main risk factors related to the semiconductor industry and specifically related to our operations, which may affect our result and performance and the ability of management to predict the future:

- Changes in global trade policies, including the adoption and expansion of tariffs and trade barriers, that could affect the macro-economic environment and adversely impact the demand for our products;
- Uncertain macro-economic and industry trends, which may impact end-market demand for our products;
- Customer demand that differs from projections;
- The ability to design, manufacture and sell innovative products in a rapidly changing technological environment;
- Changes in economic, social, public health, labor, political, or infrastructure conditions in the locations where we, our customers, or our suppliers operate, including as a result of macroeconomic or regional events, military conflicts, social unrest, labor actions, or terrorist activities;
- Unanticipated events or circumstances, which may impact our ability to execute our plans and/or meet the objectives of our R&D and manufacturing programs, which benefit from public funding;
- The Brexit vote and the impact of the withdrawal of the U.K. may adversely affect business activity, political stability and economic conditions in the U.K., the Eurozone, the EU and elsewhere. The U.K. withdrawal from the EU took place on January 31, 2020 and the UK majority government is expected to complete Brexit even if no formal withdrawal agreement is in place with the EU by the end of the transition period running until December 31, 2020. The specific terms of the U.K. withdrawal from the EU are still uncertain and while we do not have material operations in the U.K. and have not experienced any material impact from Brexit on our underlying business to date, we cannot predict its future implications;

- Financial difficulties with any of our major distributors or significant curtailment of purchases by key customers;
- The loading, product mix, and manufacturing performance of our production facilities and/or our required volume to fulfill capacity reserved with suppliers or third party manufacturing providers;
- Availability and costs of equipment, raw materials, utilities, third-party manufacturing services and technology, or other supplies required by our operations;
- The functionalities and performance of our IT systems, which are subject to cybersecurity threats and which support our critical operational activities including manufacturing, finance and sales, and any breaches of our IT systems or those of our customers or suppliers;
- Theft, loss, or misuse of personal data about our employees, customers, or other third parties, and breaches of global and local privacy legislation, including the EU's General Data Protection Regulation ("GDPR");
- The impact of intellectual property ("IP") claims by our competitors or other third parties, and our ability to obtain required licenses on reasonable terms and conditions;
- Changes in our overall tax position as a result of changes in tax rules, new or revised legislation, the outcome of tax audits or changes in international tax treaties which may impact our results of operations as well as our ability to accurately estimate tax credits, benefits, deductions and provisions and to realize deferred tax assets;
- Variations in the foreign exchange markets and, more particularly, the U.S. dollar exchange rate as compared to the Euro and the other major currencies we use for our operations;
- The outcome of ongoing litigation as well as the impact of any new litigation to which we may become a defendant;
- Product liability or warranty claims, claims based on epidemic or delivery failure, or other claims relating to our products, or recalls by our customers for products containing our parts;
- Natural events such as severe weather, earthquakes, tsunamis, volcano eruptions or other acts of nature, the effects of climate change, health risks and epidemics such as the novel coronavirus COVID-19 in locations where we, our customers or our suppliers operate;
- Industry changes resulting from vertical and horizontal consolidation among our suppliers, competitors, and customers; and
- The ability to successfully ramp up new programs that could be impacted by factors beyond our control, including the availability of critical third party components and performance of subcontractors in line with our expectations.

2.9. Auditor's involvement

The Interim Condensed Consolidated Financial Statements and Interim Report of the Managing Board have not been audited or reviewed by an external auditor.

This report of the Managing Board is dated August 19, 2020.

3. Interim Condensed Consolidated Financial Statements (“Semi Annual Financial Statements”)

The Semi Annual Financial Statements of the Group for the six months ended June 27, 2020, as presented by the Managing Board, have not been audited nor reviewed by an external auditor.

3.1. Consolidated income statement

In millions of USD, except per share amounts	Notes	(unaudited)	
		Six-month period ended	
		June 27, 2020	June 29, 2019
Sales		4,312	4,232
Other revenues		6	17
Total revenues	3.6.5	4,318	4,249
Cost of sales	3.6.16	(2,919)	(2,815)
Gross profit		1,399	1,434
Selling, general and administrative	3.6.16	(534)	(548)
Research and development	3.6.16	(601)	(593)
Other income	3.6.17	76	58
Other expenses	3.6.17	(31)	(15)
Operating profit		309	336
Finance income		128	45
Finance costs		(41)	(161)
Share of profit (loss) of joint ventures		—	1
Profit before income tax		396	221
Income tax expense		(21)	(40)
Net profit		375	181
Attributable to:			
The equity holders of the parent		376	180
Non-controlling interests		(1)	1
Net profit		375	181
Earnings per share attributable to the equity holders of the parent			
Earnings per share (Basic)	3.6.18	0.42	0.20
Earnings per share (Diluted)	3.6.18	0.42	0.20

The accompanying notes are an integral part of these interim consolidated financial statements

3.2. Consolidated statement of comprehensive income

In millions of USD	(unaudited)	
	Six-month period ended	
	June 27, 2020	June 29, 2019
Net result	375	181
Other comprehensive income (loss), net of tax:		
Items that will not be reclassified to profit or loss		
Re-measurements of employee benefit obligations	(7)	(36)
Income tax effect	—	6
Re-measurements of employee benefit obligations, net of tax	(7)	(30)
Total items that will not be reclassified to profit or loss	(7)	(30)
Items that may be subsequently reclassified to profit or loss		
Exchange differences on translation of foreign operations	(11)	(14)
Cash flow hedges	5	11
Income tax effect	(1)	(2)
Net movement on cash flow hedges	4	9
Changes in fair value of debt instruments at FVOCI	1	3
Income tax effect	—	—
Net changes in fair value of debt instruments at FVOCI	1	3
Total items that may be reclassified subsequently to profit or loss	(6)	(2)
Other comprehensive income (loss), net of tax	(13)	(32)
Total comprehensive income (loss), net of tax	362	149
Attributable to:		
The equity holders of the parent	363	148
Non-controlling interests	(1)	1
Total comprehensive income (loss), net of tax	362	149

The accompanying notes are an integral part of these interim consolidated financial statements

3.3. Consolidated statement of financial position

In millions of USD	Notes	June 27, 2020 (unaudited)	December 31, 2019
Assets			
Non-current assets			
Property, plant and equipment	3.6.7	4,386	4,219
Goodwill	3.6.9	179	144
Intangible assets	3.6.7	1,202	1,191
Other non-current financial assets	3.6.10.1	104	57
Deferred tax assets		428	387
Other non-current assets		513	414
Total non-current assets		6,812	6,412
Current assets			
Inventories	3.6.12	1,964	1,693
Trade accounts receivable		1,170	1,380
Other current financial assets	3.6.10.1	226	156
Other receivable and assets		430	434
Short-term deposits		687	4
Restricted cash		—	10
Cash and cash equivalents	3.6.13	1,800	2,597
Total current assets		6,277	6,274
Total assets		13,089	12,686
Equity			
Equity attributable to the equity holders of the parent		7,245	7,086
Non-controlling interests		67	68
Total equity	3.6.14	7,312	7,154
Non-current liabilities			
Interest-bearing loans and borrowings	3.6.10.3	1,173	1,200
Other non-current financial liabilities	3.6.10.2	529	532
Employee benefits		584	566
Deferred tax liabilities		51	31
Non-current provisions		1	1
Other non-current liabilities		113	94
Total non-current liabilities		2,451	2,424
Current liabilities			
Interest-bearing loans and borrowings – current portion	3.6.10.3	876	869
Trade accounts payable		1,079	950
Other payables and accrued liabilities		355	260
Employee benefits – current portion		547	572
Current provisions		13	13
Other current financial liabilities	3.6.10.2	387	392
Income tax payable		69	52
Total current liabilities		3,326	3,108
Total equity and liabilities		13,089	12,686

The accompanying notes are an integral part of these interim consolidated financial statements

3.4. Consolidated statement of changes in equity

For the six-month period ended June 27, 2020

In millions of USD	Ordinary shares	Capital surplus	Treasury shares	Other reserves	Retained earnings	Equity attributable to the equity holders of the parent	Non-controlling interests	Total equity
As at January 1, 2020	1,157	2,189	(328)	1,317	2,751	7,086	68	7,154
Net profit	—	—	—	—	376	376	(1)	375
Other comprehensive income, net of tax	—	—	—	(13)	—	(13)	—	(13)
Total comprehensive income	—	—	—	(13)	376	363	(1)	362
Transfer of cash flow hedge reserve to inventories	—	—	—	2	—	2	—	2
Repurchase of common stock	—	—	(125)	—	—	(125)	—	(125)
Employee share award scheme, net of tax	—	—	81	70	(81)	70	—	70
Dividends	—	—	—	—	(151)	(151)	—	(151)
As at June 27, 2020 (unaudited)	1,157	2,189	(372)	1,376	2,895	7,245	67	7,312

The accompanying notes are an integral part of these interim consolidated financial statements

For the six-month period ended June 29, 2019

In millions of USD	Ordinary shares	Capital surplus	Treasury shares	Other reserves	Retained earnings	Equity attributable to the equity holders of the parent	Non-controlling interests	Total equity
As at January 1, 2019	1,157	2,185	(141)	1,221	2,640	7,062	65	7,127
Net profit					180	180	1	181
Other comprehensive income, net of tax				(32)	—	(32)	—	(32)
Total comprehensive income	—	—	—	(32)	180	148	1	149
Contribution of noncontrolling interest	—	—	—	—	—	—	7	7
Business combination	—	—	—	—	—	—	61	61
Transfer of cash flow hedge reserve to inventories	—	—	—	3	—	3	—	3
Repurchase of common stock	—	—	(125)	—	—	(125)	—	(125)
Employee share award scheme, net of tax	—	—	50	72	(50)	72	—	72
Dividends	—	—	—	—	(214)	(214)	—	(214)
As at June 29, 2019 (unaudited)	1,157	2,185	(216)	1,264	2,556	6,946	134	7,080

The accompanying notes are an integral part of these interim consolidated financial statements

3.5. Consolidated statement of cash flows

In millions of USD	Note	(unaudited)	
		Six-month period ended	
		June 27, 2020	June 29, 2019
Cash flows from operating activities			
Net profit		375	181
Items to reconcile net result and cash flows from operating activities:			
Depreciation and amortization		605	599
Interests and amortization of issuance costs on convertible bonds		20	20
Senior convertible bonds and related conversion options adjustments		(93)	115
Share-based compensation		68	77
Other non-cash items		(64)	(68)
Deferred income tax		(34)	(11)
Share of profit of joint ventures, impairments or reversal of impairments on investments in joint ventures		—	(1)
Impairment, restructuring and other related closure costs		39	53
Changes in net working capital:			
Movement of trade receivables, net		211	117
Movement of inventories, net		(271)	(331)
Movement of trade payables		102	(19)
Movement of other assets and liabilities, net		11	129
Interests paid		(5)	(9)
Interest received		24	30
Income tax paid		(29)	(40)
Net cash from operating activities		959	842
Cash flows from investing activities			
Payments for purchases of tangible assets		(580)	(700)
Proceeds from sale of tangible assets		2	6
Investment in short-term deposits, net		(685)	—
Payments for purchase of intangible assets		(186)	(180)
Payments for purchase of financial assets		—	(2)
Payment for business acquisitions, net of cash and cash equivalents acquired		(31)	(76)
Net cash used in investing activities		(1,480)	(952)
Cash flows from financing activities			
Proceeds from interest-bearing loans and borrowing		1	281
Repayment of interest-bearing loans and borrowings		(40)	(2)
Payment of lease liabilities		(28)	(28)
Repurchase of common stock		(125)	(125)
Proceeds from noncontrolling interests		—	7
Dividends paid to equity holders of the parent Company		(90)	(107)
Net cash from / (used in) financing activities		(282)	26
Effect of changes in exchange rates		(4)	(3)
Net cash decrease		(807)	(87)
Cash, cash equivalents and restricted cash at the beginning of the period		2,607	2,266
Cash, cash equivalents and restricted cash at the end of the period	3.6.13	1,800	2,179

The accompanying notes are an integral part of these interim consolidated financial statements

3.6. Notes to the consolidated financial statements

3.6.1. Corporate information

STMicroelectronics N.V. (“the Company”), with Commercial Register No. 33194537 and RSIN 008751171, is organized under the laws of the Netherlands with its corporate legal seat in Amsterdam, the Netherlands, and head offices at WTC Schiphol Airport, Schiphol Boulevard 265, 1118 BH Schiphol, the Netherlands. Headquarters and operational offices are managed through STMicroelectronics International N.V., a wholly owned subsidiary of STMicroelectronics N.V., and are located at 39, Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva, Switzerland.

The Company and its subsidiaries (together “the Group”) are a global independent semiconductor group that designs, develops, manufactures and markets a broad range of products, including discrete and standard commodity components, application-specific integrated circuits (“ASICs”), full custom devices and semi-custom devices and application-specific standard products (“ASSPs”) for analog, digital and mixed-signal applications. In addition, the Group participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

The Group’s products are used in a wide variety of applications for the four end-markets the Group addresses: automotive, industrial, personal electronics and communications equipment, computers and peripherals. For the automotive and industrial markets, the Group addresses a wide customer base, particularly in industrial, with a broad and deep product portfolio. In personal electronics and communications equipment, computers and peripherals the Group has a selective approach both in terms of the customers the Group serves, as well as in the technologies and products it offers. Together with its customers the Group enables smarter driving by making vehicles safer, more environmentally friendly and more connected. The Group enables smart industry helping to make factories and workplaces more efficient, more flexible and safer. The Group enables smarter homes and cities making houses, buildings and city infrastructure more efficient, more convenient and more secure. The Group helps make everything more intelligent, more connected and more secure. In doing this the Group ensures that ST is found everywhere microelectronics make a positive and innovative contribution to people’s lives. By getting more from technology to get more from life, ST stands for life.augmented.

The Company is a publicly traded company, listed on the New York Stock Exchange, on Euronext Paris and on the Borsa Italiana (Italian Stock Exchange).

These unaudited Semi Annual Financial Statements were approved by ST’s Supervisory Board on August 19, 2020.

3.6.2. Basis of preparation

These unaudited Semi Annual Financial Statements for the six-month period ended June 27, 2020 have been prepared in accordance with IAS 34 Interim Financial Reporting, as adopted by the European Union.

The unaudited Semi Annual Financial Statements do not include all the information and disclosures required in the annual financial statements. They should be read in conjunction with the annual financial statements for the year ended December 31, 2019, prepared in accordance with IFRS, as adopted in the European Union, filed with the Autoriteit Financiële Markten (“AFM”) on March 25, 2020 and adopted by our Annual General Meeting of Shareholders on June 17, 2020.

3.6.3. Significant accounting policies

The accounting policies adopted are consistent with those followed in the preparation of the Group's annual financial statements for the year ended December 31, 2019. New accounting guidance was effective and adopted by the Group on January 1, 2020, with no material effect on the Group's consolidated financial statements. Changes to significant accounting policies are described below:

Amendments to existing standards adopted in 2020

The Group adopted the following new or amended standards on January 1, 2020:

Amendment to IFRS 3 Business Combinations: the amendment provides a revised definition of a business and is intended to reduce the number of transactions that qualify as business combinations and for which the acquisition method is mandatory. IFRS 3, as amended, was endorsed by the European Union, with January 1, 2020 as the effective date. The amendment was adopted with no material effect on the Group's consolidated financial statements.

Amendments to IFRS 9 and IFRS 7, Interest Rate Benchmark Reform: the amendments provide temporary reliefs which enable hedge accounting to continue during the period of uncertainty before the replacement of an existing interest rate benchmark with an alternative nearly risk-free interest rate. The amendments were endorsed by the European Union, with January 1, 2020 as the effective date. The amendment was adopted with no material effect on the Group's consolidated financial statements on the Group's accounting policies and consolidated financial statements as the Group does not report any hedging relationships or critical financial contracts that are directly affected by the interest rate benchmark reform.

The following amendments were also adopted on January 1, 2020, with no material effect on the accounting policies, financial position or performance of the Group:

- Amendments to References to the Conceptual Framework in IFRS Standards
- Amendments to IAS 1 and IAS 8: Definition of Material

Standards and amendments to existing standards issued but not yet effective

Standards and amended standards issued but not yet effective up to the date of issuance of the Group's financial statements are listed below. The detailed descriptions of new or amended standards and interpretations issued are those that the Group reasonably expects to have an impact on disclosures, financial position or performance when applied at a future date. The Group intends to adopt these standards when they become effective.

Amendments to IAS 1, Presentation of Financial Statements: the amendments specify the requirements for classifying liabilities as current or non-current by clarifying the requirements of IAS 1 when an entity expects to refinance or roll over an obligation under an existing loan facility. The amendments also have implications on the requirements related to covenant breaches. The amendments clarify: what is meant by a right to defer settlement; that a right to defer must exist at the end of the reporting period and that the classification is not affected by the likelihood that an entity will exercise its deferral right and; that only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification. IAS 1, as amended, has not been endorsed by the European Union yet. The Group will apply these amendments when effective. The presentation of the convertible bonds issued in 2017 on the consolidated statement of financial positions is in the scope of the amended guidance, which is not expected to have a significant impact upon adoption.

The following new standard and amendments to existing standards are not expected to have a material impact on the accounting policies, financial position or performance of the Group:

- IFRS 17: Insurance Contracts
- Amendments to IFRS 3 Business Combinations, IAS 16 Property, Plant and Equipment, IAS 37 Provisions, Contingent Liabilities and Contingent Assets and Improvements to IFRS (2018-2020)

- Amendments to IFRS 16 Leases COVID-19 - Related Rent Concessions
- Amendments to IFRS 4 Insurance Contracts – deferral of IFRS 9

3.6.4. Critical accounting estimates and judgements

In preparing these unaudited Semi Annual Financial Statements, management has made estimates and judgements that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expenses. Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under current circumstances. Actual results may differ from those estimates.

Estimates and assumptions used in these unaudited Semi Annual Financial Statements are consistent with those applied in the preparation of the Group's annual financial statements for the year ended December 31, 2019. However, the COVID-19 outbreak declared by the World Health Organization in March 2020 and the measures taken worldwide by governments to limit the spread of the pandemic have generated uncertainties on future economic conditions, with a direct impact on the Group's forward looking growth and financial outlook. Despite these uncertainties and some markets being hit by closures and lockdowns extended in some regions, the Group did not report in the first half of 2020 major disruptions in the supply chain or in its operations. The Group returned to normal operations in the second quarter of 2020, with solid fundamentals and a strong capital structure, while taking the necessary measures to protect the health and safety of its employees. There are no conditions and events, despite the COVID-19 outbreak, which raise substantial doubt about the Group's ability to continue as a going concern, in light with: its current financial condition, including its liquidity sources; its obligations – due or anticipated; the funds necessary to maintain the Group's operations and; other conditions and events, if any.

The uncertainties arisen from these unprecedented business conditions have been factored in the critical accounting estimates and judgements made in preparing these unaudited Semi Annual Financial Statements, on the basis of all known consequences of the pandemic and reasonable and supportable forecast of future conditions. However, the impact on future economic performance cannot be fully determined and is closely monitored on an on-going basis by means of different scenarios, which are highly dependent on the further development of the pandemic.

No events or changes in circumstances, including the COVID-19 pandemic, have indicated in the first half of 2020 that the carrying amount of major tangible assets, including lease right-of-use assets, might not be recoverable or that useful lives might not be appropriate. The Group did not enter into any significant rent concessions as a direct consequence of the COVID-19 pandemic or significant modifications to existing lease agreements. The Group concluded that no material impairment was to be recorded on its tangible assets as at June 27, 2020. The Group also reviewed the recoverability of its intangible assets, including capitalized development costs. On the latter, the Group recorded a total impairment charge of \$38 million. Refer to note 3.6.7 for further details on amounts capitalized, amortized and impaired during the period.

There is no major contingency to be reported as at June 27, 2020 related to the COVID-19 outbreak. The tax loss carryforwards capitalized as deferred tax assets are deemed recoverable in all major tax jurisdictions. To consider any potentially increased risk of default on accounts receivable, the Group adjusted the credit loss to reflect current conditions, reasonable and supportable forecast of future conditions and how current uncertainties due to the COVID-19 pandemic may impact customers' and other debtors' future credit quality. This reassessment did not have any material effect on the expected credit loss allowances reported by the Group on its major categories of financial assets as at June 27, 2020.

These assessments highly depend on the further extent of the pandemic and are closely monitored.

3.6.5. Revenues

3.6.5.1. *Nature of goods and services*

The Group designs, develops, manufactures and markets a broad range of products, including discrete and standard commodity components, application-specific integrated circuits (“ASICs”), full-custom devices and semi-custom devices and application specific standard products (“ASSPs”) for analog, digital and mixed-signal applications. In addition, the Group participates in the manufacturing value chain of Smartcard products, which includes the production and sale of both silicon chips and Smartcards.

The principal activities – separated by reportable segments – from which the Group generates its revenues are described in note 3.6.6.

Other revenues consist of license revenue, service revenue related to transferring licenses, patent royalty income, sale of scrap materials and manufacturing by-products.

While the majority of the Group’s sales agreements contain standard terms and conditions, the Group may, from time to time, enter into agreements that contain multiple performance obligations or terms and conditions. Those agreements concern principally the revenues from services, where the performance obligation is satisfied over time. The objective when allocating the transaction price is to allocate the transaction price to each performance obligation (or distinct good or service) in an amount that depicts the amount of consideration to which the Group expects to be entitled in exchange for transferring the promised goods or services to the customer.

3.6.5.2. Revenue recognition and disaggregation

The Group recognizes revenue from products sold to a customer, including distributors, when it satisfies a performance obligation at a point in time by transferring control over a product to the customer. This usually occurs at the time of shipment. The performance obligations linked to the sale of goods contracts have the original expected length of less than one year. The transaction price is determined based on the contract terms, adjusted for price protection if applicable. The revenues from services are usually linked to performance obligations transferred over time and are recognized in line with the contract terms.

The payment terms typically range between 30 and 90 days.

The Group's consolidated net revenues disaggregated by product group are presented in Note 3.6.6. The following table presents the Group's consolidated net revenues disaggregated by geographical region of shipment, nature and market channel.

In millions of USD	Six-month period ended	
	June 27, 2020	June 29, 2019
Net revenues by geographical region of shipment⁽¹⁾		
EMEA	885	1,178
Americas	531	665
Asia Pacific	2,902	2,406
Total revenues	4,318	4,249
Net revenues by nature		
Revenues from sale of products	4,257	4,158
Revenues from sale of services	55	74
Other revenues	6	17
Total revenues	4,318	4,249
Net revenues by market channel⁽²⁾		
Original Equipment Manufacturers ("OEM")	3,050	2,891
Distribution	1,268	1,358
Total revenues	4,318	4,249

(1) Net revenues by geographical region of shipment are classified by location of customer invoiced or reclassified by shipment destination in line with customer demand. For example, products ordered by U.S.-based companies to be invoiced to Asia Pacific affiliates are classified as Asia Pacific revenues.

(2) OEM are the end-customers to which the Group provides direct marketing application engineering support, while Distribution customers refers to the distributors and representatives that the Group engages to distribute its products around the world.

The Group does not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which the Group recognizes revenue at the amount to which the Group has the right to invoice for services performed.

3.6.6. Segment information

The Group designs, develops, manufactures and markets a broad range of products, including discrete and standard commodity components, application-specific integrated circuits (“ASICs”), full custom devices and semi-custom devices and application-specific standard products (“ASSPs”) for analog, digital, and mixed-signal applications. In addition, the Group further participates in the manufacturing value chain of Smartcard products, which includes the production and sale of both silicon chips and Smartcards.

The Group’s operating segments are as follows:

- Automotive and Discrete Group (ADG), comprised of dedicated automotive ICs (both digital and analog), and discrete and power transistor products for all market segments.
- Analog, MEMS and Sensors Group (AMS), comprised of low-power high-end analog ICs (both custom and general purpose) for all markets, smart power products for Industrial, Computer and personal electronics markets, Touch Screen Controllers, Low Power Connectivity solutions (both wireline and wireless) for IoT, power conversion products, metering solutions for Smart Grid, specialized imaging sensors and modules, and all MEMS products for sensors or Actuators.
- Microcontrollers and Digital ICs Group (MDG), comprised of general purpose and secure microcontrollers, EEPROM memories, Digital ASICs, Aerospace & Defense products including components for microwave and millimeter wave.

For the computation of the segments’ internal financial measurements, the Group uses certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, selling, general and administrative expenses and a part of research and development expenses. In compliance with the Group’s internal policies, certain costs are not allocated to the segments, but reported in “Others”. Those include impairment, restructuring charges and other related closure costs, management reorganization expenses, unused capacity charges, including reduced manufacturing activity due to COVID-19, phase-out and start-up costs of certain manufacturing facilities, certain one-time corporate items, strategic and special research and development programs or other corporate-sponsored initiatives, including certain corporate-level operating expenses, patent claims and litigations and certain other miscellaneous charges. In addition, depreciation and amortization expense is part of the manufacturing costs allocated to the segments and is neither identified as part of the inventory variation nor as part of the unused capacity charges; therefore, it cannot be isolated in the costs of goods sold. Finally, R&D grants are allocated to the Group’s segments proportionally to the incurred R&D expenses on the sponsored projects.

Wafer costs are allocated to the segments based on actual cost. From time to time, with respect to specific technologies, wafer costs are allocated to segments based on market price.

The following tables present the Group’s consolidated revenues and consolidated operating profit by operating segment.

Consolidated total revenues by operating segment:

In millions of USD	(unaudited)	
	Six-month period ended	
	June 27, 2020	June 29, 2019
ADG	1,480	1,788
AMS	1,476	1,246
MDG	1,356	1,208
Total revenues of operating segments	4,312	4,242
Others	6	7
Consolidated total revenues	4,318	4,249

Consolidated operating profit by operating segment:

In millions of USD	(unaudited)	
	Six-month period ended	
	June 27, 2020	June 29, 2019
ADG	37	167
AMS	232	117
MDG	186	125
Sub-total operating profit of operating segments	455	409
Impairment, restructuring charges and other related closure costs	(9)	(2)
Unused capacity charges	(98)	(8)
Other unallocated manufacturing results	(15)	—
Gain on sale of non-current assets	10	—
Strategic and other research and development programs and other non-allocated provisions ⁽¹⁾	(10)	2
IFRS/US GAAP Adjustments:		
Net impact of capitalized development costs	(2)	(41)
Derivative instruments not designated as hedge instruments under IFRS	5	8
IFRIC 21 adjustment on levies	(6)	(6)
Employee benefits adjustments	2	3
Asset acquisition tax incentives	(23)	(21)
IFRS 16 adjustment on lease expenses	—	2
Other non-allocated expenses and IFRS adjustments impact	—	(10)
Total operating profit	309	336

- (1) Includes unallocated income and expenses such as certain corporate-level operating expenses and other costs/income that are not allocated to the operating segments.

3.6.7. Property, plant and equipment and intangible assets

Changes in the net carrying amount of property, plant and equipment and intangible assets are detailed as follows:

In millions of USD	Property, plant and equipment	Intangible assets
Net book value as at January 1, 2020	4,219	1,191
Additions	619	183
Impairment / Write-Offs	—	(38)
Amortization / Depreciation expense	(450)	(155)
Business combination	—	22
Foreign currency translation	(2)	(1)
Net book value as at June 27, 2020 (unaudited)	4,386	1,202

The Group has commitments to purchase property, plant and equipment after the end of the interim period in the amount of \$623 million.

The impairment and write-offs for the first half of 2020 amounted to \$38 million (first half 2019: \$68 million), including \$34 million recorded in cost of sales, resulting from write-offs of the capitalized development costs related to certain businesses and related projects that were cancelled, and \$4 million recorded in research and development, consisting of impairment of licenses with no alternative future use.

Refer to notes 3.6.8 for more details on business combinations and note 3.6.11 for more details on lease right-of-use assets.

3.6.8. Business Combinations

In 2019, the Group acquired the Swedish silicon carbide (SiC) wafer manufacturer Norstel AB (“Norstel”). This acquisition extends the Group’s silicon carbide ecosystem and strengthens the Group’s flexibility to serve fast growing automotive and industrial applications. The purchase consideration, net of \$1 million of cash acquired, was funded with available cash. The full acquisition was executed in two stages. On February 6, 2019, the Group acquired 55% of Norstel’s common stock, obtaining control over the entity. The fair value of the business as a whole was estimated at \$138 million, of which \$77 million was paid by the Group for its majority stake, with an option to acquire the remaining 45% at a later date, subject to certain conditions. On December 2, 2019, the Group exercised its option to acquire the remaining 45% stake. The Group paid \$51 million to complete the closing of the full acquisition. An amount of \$10 million was held in an escrow account as protection for any claims and reported as current restricted cash in the consolidated statement of financial positions as at December 31, 2019. The escrow amount was released to the seller in 2020 and the amount paid was reported in the line “Payment for business acquisitions, net of cash and cash equivalents acquired” in the consolidated statement of cash flows for the period ended June 27, 2020.

Norstel acquisition has been accounted for as a business combination. The activities of this business are included in the Automotive and Discrete Group (ADG) reportable segment. The purchase price allocation was finalized in the first half of 2020 and resulted in recognition of a deferred tax liability of \$18 million associated with the acquired technology in process, as well as a deferred tax asset of \$4 million arising from Norstel’s net operating losses. A corresponding \$14 million increase in goodwill was recorded in the first half of 2020, resulting in \$57 million of total goodwill recognized on the acquisition. The fair value of the identifiable assets and assumed liabilities acquired from Norstel were as follows:

	Fair value recognized at acquisition date	Measurement period adjustments	Fair value recognized as a result of acquisition
Property, plant and equipment	11	—	11
Technology in process	86	—	86
Deferred tax assets	—	4	4
Deferred tax liabilities	—	(18)	(18)
Net working capital	(2)	—	(2)
Goodwill ⁽¹⁾	43	14	57
Total net assets at fair value	138	—	138
Purchase consideration	138	—	138

- (1) The primary item that generated goodwill is the value of the future synergies between Norstel technology in silicon carbide and the Group, which do not qualify as a separately identified intangible asset. The goodwill is allocated to the ADG reportable segment.

The Group also reported other business acquisition activities in the first half of 2020 for a total amount paid for \$21 million.

3.6.9. Goodwill

Goodwill allocated to reportable segments and changes in the carrying amount of goodwill were as follows:

In millions of USD	ADG	MDG	AMS	Total
As at January 1, 2020	43	99	2	144
Business combination	36	—	—	36
Foreign currency translation	(1)	—	—	(1)
As at June 27, 2020 (unaudited)	78	99	2	179

3.6.10. Other financial assets and financial liabilities

3.6.10.1. Other financial assets

In millions of USD	(unaudited) June 27, 2020	December 31, 2019
Other financial assets (including derivatives)		
Other financial assets		
Quoted debt securities at FVOCI	134	133
Unquoted equity securities at FVOCI	12	12
Quoted equity securities at FVPL	12	12
Other trading financial assets at FVPL	10	11
Total other financial assets	168	168
Current	134	133
Non-current	34	35
Derivative financial instruments		
Cash flow hedges		
Foreign exchange forward contracts	7	3
Currency collars	2	1
Derivatives not designated as hedges		
Foreign exchange forward contracts	8	4
Currency collars	1	—
Embedded call option - Tranche A	74	15
Embedded call option - Tranche B	70	22
Total derivatives financial instruments	162	45
Current	92	23
Non-current	70	22
Total other financial assets (including derivatives)	330	213
Total current	226	156
Total non-current	104	57

Movements in other financial assets (excluding derivatives) recorded in the first half of 2020 are summarized as follows:

In millions of USD	Jan 1, 2020	Change in fair value included in OCI*	Change in fair value included in income statement	Increase	Sale / Settlement	Foreign exchange result recognized in OCI*	(unaudited) June 27, 2020
Government bonds issued by the U.S. Treasury	133	1	—	—	—	—	134
Quoted equity instruments at FVPL	12	—	—	—	—	—	12
Sub-total Quoted debt and equity securities	145	1	—	—	—	—	146
Unquoted equity securities at FVOCI	12	—	—	—	—	—	12
Other trading financial assets at FVPL	11	—	(1)	—	—	—	10
Total other financial assets (excluding derivatives)	168	1	(1)	—	—	—	168

*OCI: Other comprehensive income

Investments held in debt securities

As at June 27, 2020, the Group held \$134 million of U.S. Treasury debt securities, all transferred to a financial institution with high credit rating. These transactions were concluded in compliance with the Group's policy to optimize the return yield on its short-term investments, always placed with institutions with high credit rating. The Group, acting as the securities lender, does not hold any collateral on the unsecured securities lending transactions.

The debt securities have an average rating of Aaa/AA+/AAA from Moody's, S&P and Fitch, respectively and an average maturity of 1.0 year. The debt securities were reported as current assets on the line "Other current financial assets" on the consolidated statement of financial position as at June 27, 2020, since they represented investments of funds available for current operations. The bonds were measured at FVOCI as at June 27, 2020. This fair value measurement corresponds to a Level 1 fair value hierarchy measurement.

The Group applies a forward-looking expected credit loss (ECL) approach on all debt financial assets not held at FVPL. For debt securities at FVOCI, the ECL is based on a 12-month expected credit loss basis. The 12-month ECL is the portion of lifetime ECLs that results from default events on a financial instrument that are possible within 12 months after the reporting date. Since the Group's quoted debt instruments at FVOCI comprise solely U.S. Treasury debt securities, the Group has considered that the ECLs on these investments are insignificant.

To optimize the return yield on its short-term investments, the Group also invested \$687 million of available cash in short-term deposits in the first half of 2020. These short-term deposits represent cash equivalents with original maturity beyond three months and no significant risk of changes in fair value.

3.6.10.2. Other financial liabilities

In millions of USD	(unaudited) June 27, 2020	December 31, 2019
Lease financial liabilities	188	207
Derivative financial instruments		
Cash flow hedges		
Foreign exchange forward contracts	2	2
Currency collars	1	1
Derivatives not designated as hedges		
Foreign exchange forward contracts	1	3
Currency collars	—	1
Embedded conversion option - Tranche A	331	330
Embedded conversion option - Tranche B	393	380
Total other financial liabilities (including derivatives)	916	924
Total current	387	392
Total non-current	529	532

Refer to notes 3.6.10.3 and 3.6.10.5 for further explanations on other types of financial liabilities. Refer to note 3.6.11 for further explanations on lease liabilities.

3.6.10.3. Interest-bearing loans and borrowings

In millions of USD	(unaudited) June 27, 2020	December 31, 2019
Funding program loans with European Investment Bank:		
2.20% due 2020, floating interest rate at Libor + 1.099%	13	13
1.27% due 2020, floating interest rate at Libor + 0.956%	28	28
0.57% due 2020, floating interest rate at Euribor + 0.817%	14	14
1.45% due 2021, floating interest rate at Libor + 0.525%	60	60
1.15% due 2021, floating interest rate at Libor + 0.572%	58	58
0.40% due 2028, floating interest rate at Euribor + 0.589%	258	258
0.23% due 2029, floating interest rate at Euribor + 0.564%	247	275
Dual tranche senior unsecured convertible bonds:		
Zero-coupon, due 2022 (Tranche A)	706	696
0.25% due 2024 (Tranche B)	665	655
Other funding program loans:		
0.41% (weighted average), due 2020-2023, fixed interest rate	—	12
Total interest-bearing loans and borrowings	2,049	2,069
Total current	876	869
Total non-current	1,173	1,200

On July 3, 2017, the Company issued a \$1.5 billion principal amount of dual tranche senior unsecured convertible bonds (Tranche A and Tranche B for \$750 million each tranche), due 2022 and 2024, respectively. Tranche A bonds were issued at 101.265% as zero-coupon bonds while Tranche B bonds were issued at par and bear a 0.25% per annum nominal interest, payable semi-annually. The conversion price at issuance was \$20.54, equivalent to a 37.5% premium on both tranches, which corresponds to 9,737 equivalent shares per each \$200,000 bond par value. The bonds are convertible by the bondholders or are callable by the issuer upon certain conditions, on a net-share settlement basis, except if the issuer elects a full-cash or full-share conversion as an alternative settlement. The net proceeds from the bond offering were \$1,502 million, after deducting issuance costs payable by the Group.

The issuer's call option and the holder's conversion option have been identified as embedded non-equity derivative instruments, resulting in the recognition of the options separately from the debt host contract. Upon initial recognition, the derivatives were measured at fair value based on an income approach, the debt being determined as a residual amount of the \$1.5 billion total proceeds. The value of the issuer's call option was nil at initial recognition. The value of the holder's conversion option was estimated at \$248 million at issuance date, which determined the initial recognition of the liability component at \$1,261 million before allocation of issuance costs. The fair value measurement of the embedded derivative instruments corresponded to a Level 3 fair value hierarchy measurement. The Group elected to allocate issuance costs, totaling \$7 million, to the debt component. The debt was subsequently measured at amortized cost using the effective interest method and amounted to \$1,371 million as at June 27, 2020.

The embedded derivatives are measured at fair value through profit and loss, with the changes in fair value being immediately reported in earnings. The value of the conversion option was \$724 million as at June 27, 2020, which generated a change in fair value of \$14 million reported on the line “Finance costs” on the consolidated income statement for the six months ended June 27, 2020. The value of the issuer’s call option amounted to \$144 million as at June 27, 2020, which generated a change in fair value of \$107 million reported on the line “Finance income” on the consolidated income statement for the six months ended June 27, 2020. Starting July 2020 and July 2021 for Tranche A and Tranche B respectively, the bondholders have the right to convert the bonds. Consequently, the non-equity derivative instruments and the liability component of Tranche A convertible debt were classified as current financial asset for the issuer’s call option, current financial liability for the bondholders’ conversion option and as current portion of interest-bearing loans and borrowings for the liability component as at June 27, 2020 and as at December 31, 2019.

On July 28, 2020, the Company announced the issuance of a redemption notice to inform bondholders that it will redeem all of the Tranche A bonds issued in July 2017 at their principal amount on August 27, 2020. The Company intends to settle the bonds through the payment of cash for the principal amount and the residual consideration through the delivery of shares. For such delivery of shares in connection with the net share settlement, the Company will use existing shares held as treasury shares as of June 27, 2020.

Tranche B bonds, which original maturity is July 3, 2024, were reported as non-current liabilities on the line “interest-bearing loans and borrowings” on the consolidated statement of financial position as of June 27, 2020, since the conversion option was still subject to a 130% market price contingent feature (equivalent to a reference price of \$26.71 per share), which was not met at the balance sheet date. The contingent feature was measured from June 2, 2020 to June 29, 2020, with bondholders able to exercise their conversion rights on both Tranche A and Tranche B starting July 1, 2020. Moreover, bondholders of Tranche B bonds will have full conversion rights starting July 26, 2021, and as such, the embedded derivative instruments and the liability component of Tranche B will be classified as current liabilities on the consolidated statement of financial position for subsequent reporting periods.

3.6.10.4. Hedging activities and derivatives

Derivative instruments not designated as hedges

The Group conducts its business on a global basis in various major international currencies. As a result, the Group is exposed to adverse movements in foreign currency exchange rates, primarily with respect to the Euro. Foreign exchange risk mainly arises from future commercial transactions and recognized assets and liabilities at the Group’s subsidiaries. The Group enters into currency forward contracts to reduce its exposure to changes in exchange rates and the associated risk arising from the denomination of certain assets and liabilities in foreign currencies at the Group’s subsidiaries. These instruments do not qualify as hedging instruments and are marked-to-market at each period-end with the associated changes in fair value recognized in “Other income” or “Other expenses” in the consolidated income statement.

To reduce its exposure to U.S. dollar exchange rate fluctuations, the Group also hedges certain Euro-denominated forecasted transactions that cover at reporting date a large part of its research and development, selling, general and administrative expenses through the use of currency forward contracts and currency options, including collars. These instruments do not qualify as hedging instruments and are marked-to-market at each period-end with the associated changes in fair value recognized in “Other income” or “Other expenses” in the consolidated income statement.

The principal currencies covered at the end of the six-month period ended June 27, 2020 are the Euro, the Singapore dollar, the China Yuan Renminbi, the Japanese yen, the Swiss Franc, the South Korean won, the Malaysian ringgit, the Indian rupee, and the Philippine peso.

Derivative instruments designated as cash flow hedges

To reduce its exposure to U.S. dollar exchange rate fluctuations, the Group hedges certain Euro-denominated forecasted transactions that cover at reporting date a portion of its front-end manufacturing costs of semi-finished goods through the

use of currency forward contracts and currency options, including collars. The Group also hedges certain manufacturing transactions denominated in Singapore dollars.

The principles regulating the hedging strategy for derivatives designated as cash flow hedge is to hedge up to 70% of the total forecasted transactions of the following quarter for these manufacturing costs. In order to follow a dynamic hedge strategy, the Group may change the percentage of the designated hedged item within the limit of 100% of the forecasted transaction. The maximum length of time over which the Group could hedge its exposure to the variability of cash flows for forecasted transactions is 24 months.

These derivative instruments are designated and qualified as cash flow hedges. They are reflected at fair value in the consolidated statement of financial position. The unrealized gain or loss from the effective portion of the hedge is reported in other comprehensive income and is recognized in earnings in the same period in which the hedged transaction affects earnings, and within the same consolidated income statement line item as the impact of the hedged transaction.

As at June 27, 2020, the Group had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore-Dollar-denominated forecasted transactions:

	Notional amount for hedge on forecasted manufacturing costs transactions	
	In millions of Euros	In millions of Singapore Dollars
Forward contracts	352	145
Currency collars	298	—

As at June 29, 2019, the Group had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore-Dollar-denominated forecasted transactions:

	Notional amount for hedge on forecasted manufacturing costs transactions	
	In millions of Euros	In millions of Singapore Dollars
Forward contracts	320	160
Currency collars	430	—

Cash flow and fair value interest rate risk

The Group's interest rate risk arises from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk. Borrowings issued at fixed rates expose the Group to fair value interest rate risk.

The Group analyzes its interest rate exposure on a dynamic basis. Various scenarios are simulated taking into consideration refinancing, renewal of existing positions, alternative financing and hedging. The Group invests primarily on a short-term basis and as such its liquidity is invested in floating interest rate instruments. As a consequence, the Group is exposed to interest rate risk due to potential mismatch between the return on its short-term floating interest rate investments and the portion of its long-term debt issued at fixed rate.

Offsetting financial assets and financial liabilities

The Group entered into currency collars as combinations of two options, which are reported, for accounting purposes, on a net basis. The fair value of these collars represented assets for a net amount of \$3 million (composed of \$3 million asset with an insignificant amount as a liability) as at June 27, 2020. The fair value of these collars represented liabilities for a net amount of \$1 million (composed of \$1 million asset with a \$2 million liability) as at June 27, 2020. In addition, the Group entered into other derivative instruments, primarily forward contracts, which are governed by standard International Swaps and Derivatives Association (“ISDA”) agreements, which are not offset in the statement of financial position, and representing total assets of \$15 million and total liabilities of \$3 million as at June 27, 2020.

3.6.10.5. Fair values

Set out below is a comparison by class of the carrying amounts and fair value of the Group’s financial instruments that are carried in the financial statements.

In millions of USD	Carrying amount		Fair value	
	(unaudited) June 27, 2020	December 31, 2019	(unaudited) June 27, 2020	December 31, 2019
Financial assets				
Trade accounts receivables	1,170	1,380	1,170	1,380
Other receivables and assets	430	434	430	434
Quoted financial instruments	156	156	156	156
Unquoted equity securities	12	12	12	12
Embedded call option - Tranche A	74	15	74	15
Embedded call option - Tranche B	70	22	70	22
Other financial assets	18	8	18	8
Short-term deposits	687	4	687	4
Cash equivalents ⁽¹⁾	1,457	1,691	1,457	1,691
Financial liabilities				
Interest-bearing loans and borrowings (excluding senior unsecured convertible bonds)	678	718	678	718
Senior unsecured convertible bonds ⁽²⁾	1,371	1,351		
Embedded conversion option - Tranche A	331	330	2,079	2,103
Embedded conversion option - Tranche B	393	380		
Lease financial liabilities	188	207	188	207
Trade accounts payable	1,079	950	1,079	950
Other payables and accrued liabilities	355	260	355	260
Other financial liabilities	4	7	4	7

(1) Cash equivalents primarily correspond to deposits at call with banks.

(2) The carrying amount of the senior unsecured convertible bonds issued on July 3, 2017 and outstanding at June 27, 2020 and December 31, 2019 corresponds to the liability component only, since, at initial recognition, an amount of \$248 million was separately recognized as embedded derivative financial instruments.

The fair value of financial assets and liabilities are included at the price at which the instrument could be sold in an orderly transaction between market participants at the measurement date. The following methods and assumptions were used to estimate fair value:

- For trade accounts receivable, cash equivalents, trade accounts payable, other payables and accrued liabilities, the carrying amounts reflected in the consolidated financial statements are reasonable estimates of fair value due to the relatively short period of time between the origination of the instruments and their expected realization.
- Other receivables and assets approximate their carrying amounts due either to their short-term maturities or to the fact that they are recorded at their net present value.
- Financial investments (debt and equity securities):
 - The fair value quoted debt and equity securities is determined based upon quoted market prices for identical instruments.
 - The fair value of unquoted equity securities is based on the valuation of the underlying instruments on a new round of third party financing or upon liquidation.
- The fair value of interest-bearing loans and borrowings, including lease liabilities but excluding senior unsecured convertible bonds, is determined by estimating future cash flows on a borrowing-by-borrowing basis and discounting these future cash flows using the Group's incremental borrowing rates for similar types of arrangements.
- The senior unsecured convertible bonds issued on July 3, 2017 and outstanding as at June 27, 2020 and December 31, 2019 have been trading on the open market segment on the Frankfurt Stock Exchange since issuance. The fair value of these instruments is the observable price of the bonds on that market.
- The fair value of derivative instruments is determined based upon quoted market prices for similar instruments.
- The bondholders' conversion option embedded in the senior unsecured convertible bonds issued on July 3, 2017 amounted to \$724 million and \$710 million as at June 27, 2020 and December 31, 2019, respectively. The issuer's call option of the senior unsecured convertible bonds issued on July 3, 2017 amounted to \$144 million and \$37 million as at June 27, 2020 and December 31, 2019, respectively. These embedded derivative instruments were measured at fair value based on an income approach using Bloomberg's option pricing model, which can be assimilated to a Black & Scholes model for pricing stock options. This model was elected as the best indication of fair value since it maximized the use of observable market-based inputs.

Fair value hierarchy

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities.
- Level 2: other techniques for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly.
- Level 3: techniques which use inputs which have a significant effect on the recorded fair value that are not based on observable market data.

As at June 27, 2020, the Group held the following financial instruments measured at fair value:

In millions of USD	(unaudited) June 27, 2020	Level 1	Level 2	Level 3
Assets measured at fair value				
Financial assets at FVPL				
Trading derivatives				
Foreign exchange forward contracts	8	—	8	—
Currency collars	1	—	1	—
Quoted equity securities at FVPL	12	12	—	—
Other trading financial assets at FVPL	10	10	—	—
Embedded call option	144	—	—	144
Cash flow hedges				
Foreign exchange forward contracts	7	—	7	—
Currency collars	2	—	2	—
Quoted debt securities measured at FVOCI				
Government bonds issued by the U.S. Treasury	134	134	—	—
Unquoted equity securities measured at FVOCI				
	12	—	—	12
Total assets	330	156	18	156
Liabilities measured at fair value				
Trading derivatives				
Foreign exchange forward contracts	1	—	1	—
Cash Flow Hedges				
Foreign exchange forward contracts	2	—	2	—
Currency collars	1	—	1	—
Embedded conversion option	724	—	—	724
Total liabilities	728	—	4	724

During the reporting period ending June 27, 2020, there was no transfer between Level 1 and Level 2 fair value measurements, and no transfer into and out of Level 3 fair value measurements.

Financial instruments in Level 1

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in Level 1.

Financial instruments in Level 2

The fair value of financial instruments that are not traded in active markets (for example over the counter derivatives) is determined by using valuation techniques. These valuation techniques maximize the use of observable market data when available and rely as little as possible on entity's specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2. If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3. Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer's quotes for similar instruments;
- The fair value of foreign exchange forward contracts when determined using forward exchange rates at the balance sheet date, with the resulting value discounted back to present value.

Financial instruments in Level 3

For financial assets (liabilities) measured at fair value using significant unobservable inputs (Level 3), the reconciliation between January 1, 2020 and June 27, 2020 is presented as follows:

In millions of USD	Fair value measurements using significant unobservable inputs (Level 3)
As at January 1, 2020	(661)
Change in fair value of the embedded conversion option	(14)
Change in fair value of the embedded call option	107
As at June 27, 2020 (unaudited)	(568)
Amount of total unrealized losses included in income statement attributable to assets (liabilities) still held at the reporting date for the half of 2020	(14)

The change in fair value amounting to \$107 million on the embedded call option was reported as “Finance income” in the consolidated income statement for the six months ended June 27, 2020. The change in fair value amounting to \$14 million on the embedded conversion option was reported as “Finance costs” in the consolidated income statement for the six months ended June 27, 2020.

The model used to price the derivative instruments embedded in the senior unsecured convertible bonds issued on July 3, 2017 included the following inputs:

- The risk-free interest rate for comparable maturities;
- The reference price for the Company’s ordinary shares as traded on the New York Stock Exchange;
- The exercise price;
- The dividend expected to be paid on the Company’s ordinary shares over the life of the option;
- The volatility of the Company’s ordinary shares; and
- The duration of the option.

Volatility should be considered an unobservable input due to the lack of market data (stock exchange listing of the bond option) for a time horizon equal to the duration of the option. The figure is, therefore, an assumption based on the volatility implied by the price of the financial instrument, as negotiated at the issue stage, and market volatility for the nearest time horizon.

The prices of the bondholders’ conversion option are sensitive to implied volatility. The table below shows a sensitivity analysis of the net carrying amount of the embedded conversion option in relation to a series of changes expressed in percentage point terms of volatility.

Change in volatility of the Company’s ordinary shares	-10 p.p.	- 8 p.p.	-5 p.p.	+5 p.p.	+8 p.p.	+10 p.p.
Change in the net carrying amount of the bondholders’ conversion option	(102)	(82)	(51)	49	79	99
Net carrying amount of the embedded conversion option	622	642	673	773	803	823

3.6.11. Leases

A lease contract is a contract, or part of a contract, that 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. The Group determines if an arrangement is a lease at inception. Leases are included in right-of-use assets within plant, property and equipment. Current lease liabilities are included in current financial liabilities, while non-current lease liabilities are included in non-current financial liabilities in the Group's consolidated statement of financial position.

Right-of-use assets represent the Group's rights to use an underlying asset for the lease term and lease liabilities represent the Group's obligations to make lease payments arising from the lease. Right-of-use assets and liabilities are recognized at the lease commencement date based on the estimated present value of lease payments over the lease term.

The right-of-use asset is a nonmonetary asset while the lease liability is a monetary liability. When accounting for a lease that is denominated in a foreign currency, the lease liability is re-measured using the current exchange rate, while the right-of-use asset is re-measured using the exchange rate as of the commencement date.

The Group leases land, buildings, cars and certain equipment (including IT equipment) which have remaining lease terms between less than one year and 37 years. Certain lease contracts contain options to extend the leases by up to 30 years, which the Group has included in the lease term when it is reasonably certain for the Group to exercise that option. In addition, the Group made an accounting policy election for all the asset classes to not account for short-term and low-value leases. A short-term lease is defined as a lease that, at the commencement date, has a lease term of 12 months or less and does not include an option to purchase the underlying asset. The short-term lease election can only be made at the commencement date.

Variable lease payments that depend on an index or a rate are included in the lease payments and are measured using the prevailing index or rate at the measurement date (January 1, 2019 for initial measurement of the leases existing at that date and commencement date for subsequent lease contracts). Changes to index and rate-based variable lease payments are recognized in income statement in the period of the change.

Maturities of lease liabilities are as follows:

In millions of USD	(unaudited)
	June 27, 2020
2020	31
2021	47
2022	34
2023	25
2024	17
Thereafter	81
Total future undiscounted cash outflows	235
Effect of discounting	(47)
Total lease liabilities	188

A reconciliation of opening and closing right-of-use assets is provided below:

In millions of USD	(unaudited) June 27, 2020
Right-of-use assets as of January 1, 2020	204
Depreciation for the period	(30)
Additions	12
Foreign currency translation	2
Right-of-use assets as of June 27, 2020	188

3.6.12. Inventories

Inventories consisted of the following:

In millions of USD	(unaudited) June 27, 2020	December 31, 2019
Raw materials	169	137
Work-in-process	1,228	1,106
Finished products	567	450
Total	1,964	1,693

3.6.13. Cash and cash equivalents

Cash and cash equivalents consisted of the following:

In millions of USD	(unaudited) June 27, 2020	December 31, 2019
Cash at bank and in hand	343	906
Money market deposits with banks	1,457	1,691
Total	1,800	2,597

3.6.14. Equity

3.6.14.1. *Outstanding shares*

The authorized share capital of the Company is €1,810 million consisting of 1,200,000,000 common shares and 540,000,000 preference shares, each with a nominal value of €1.04. The 540,000,000 preference shares, when issued, will entitle a holder to full voting rights and to a preferential right to dividends and distributions upon liquidation.

The Company is a party to an option agreement regarding the preference shares with Stichting Continuïteit ST (the “Stichting”), entered into on January 22, 2007, with a duration of ten years, which agreement was extended for another ten years in October 2016. The Managing Board and the Supervisory Board, along with the board of the Stichting, have declared that they are jointly of the opinion that the Stichting is independent of the Company. The option agreement provides for the issuance of up to a maximum 540,000,000 preference shares. Any such shares would be issued to the Stichting upon its request and in its sole discretion and upon payment of at least 25% of the par value of the preference shares to be issued. The shares would be issuable in the event of actions which the board of the Stichting determines would be contrary to the Company’s interests, shareholders and other stakeholders and which in the event of a creeping acquisition or offer for the Company’s common shares are not supported by the Company’s Managing Board and Supervisory Board. The preference shares may remain outstanding for no longer than two years. No preference shares have been issued to date. The effect of the preference shares may be to deter potential acquirers from effecting an unsolicited acquisition resulting in a change of control as well as to create a level-playing field in the event actions which are considered to be hostile by the Managing Board and the Supervisory Board, as described above, occur and which the board of the Stichting determines to be contrary to the Company’s interests, shareholders and other stakeholders.

There were no preference shares issued as at June 27, 2020 and December 31, 2019.

3.6.14.2. *Treasury shares*

As of June 27, 2020, the Company held 18,607,694 treasury shares compared to 19,752,431 as of December 31, 2019.

The treasury shares have been originally designated for allocation under the Company’s share-based remuneration programs of unvested shares. Through June 27, 2020, 59,120,834 of these treasury shares were transferred to employees under the Company’s share-based remuneration programs, of which 5,896,722 were transferred in the first half of 2020.

3.6.14.3. Other reserves

Other reserves include the following components as at June 27, 2020 and June 29, 2019:

In millions of USD	Share-based compensation reserve	Fair value reserve of financial assets at FVOCI	Cash Flow Hedge (CFH) reserve	Employee benefit plan reserve	Foreign currency translation reserve	Total other reserves
As at January 1, 2019	838	(3)	(22)	(191)	599	1,221
Share-based compensation expense for the period	72	—	—	—	—	72
Net movement recognized in the statement of comprehensive income	—	3	9	(30)	(14)	(32)
Transfer of cash flow hedge reserve to inventories	—	—	3	—	—	3
As at June 29, 2019 (unaudited)	910	—	(10)	(221)	585	1,264
As at January 1, 2020	987	(1)	(2)	(231)	564	1,317
Share-based compensation expense for the period	70	—	—	—	—	70
Net movement recognized in the statement of comprehensive income	—	1	4	(7)	(11)	(13)
Transfer of cash flow hedge reserve to inventories	—	—	2	—	—	2
As at June 27, 2020 (unaudited)	1,057	—	4	(238)	553	1,376

Share-based compensation reserve: The share-based compensation reserve is used to recognize the value of equity-settled share-based payment transactions provided to employees, including key management personnel, as part of their remuneration.

Fair value reserve of financial assets at FVOCI: This reserve records fair value changes on debt instruments measured at FVOCI. Changes in fair value of equity instruments measured at FVOCI are not material.

Cash Flow hedge reserve: The cash flow hedge reserve contains the effective portion of the cash flow hedge relationship outstanding as at the reporting date.

Foreign currency translation reserve: The foreign currency translation reserve is used to record exchange differences arising from the translation of the financial statements of foreign subsidiaries.

Employee benefit plan reserve: The employee benefit plan reserve is used to recognize the actuarial gains and losses and past service cost of post-employment pension plans.

3.6.14.4. Dividends

The 2020 Annual General Meeting of Shareholders (“AGM”) held on June 17, 2020 authorized the distribution of a cash dividend of \$0.168 per outstanding share of the Company’s common stock, to be distributed in quarterly installments of \$0.042 in each of the second, third and fourth quarters of 2020 and first quarter of 2021. The amount of \$31 million related to the first installment was paid during the first half of 2020. The remaining portion of the first installment and the \$0.126 per share cash dividend corresponding to the last three installments totaled \$119 million and is presented in the line “Other payables and accrued liabilities” in the consolidated statement of financial position as of June 27, 2020.

The 2019 AGM held on May 31, 2019 authorized the distribution of a cash dividend of \$0.24 per outstanding share of the Company's common stock, to be distributed in quarterly installments of \$0.06 in each of the second, third and fourth quarters of 2019 and first quarter of 2020. The amount of \$53 million corresponding to the first installment, \$53 million corresponding to the second installment and \$48 million corresponding to the third installment were paid as at December 31, 2019. The remaining portion of the third installment amounting to \$6 million and the last installment of \$53 million were paid in the first half of 2020.

The 2018 AGM held on May 31, 2018 authorized the distribution of a cash dividend of \$0.24 per outstanding share of the Company's common stock, to be distributed in quarterly installments of \$0.06 in each of the second, third and fourth quarters of 2018 and first quarter of 2019. The amount of \$54 million corresponding to the first installment, \$54 million corresponding to the second installment and \$48 million corresponding to the third installment were paid as at December 31, 2018. The remaining portion of the third installment amounting to \$6 million and the last installment of \$54 million were paid in the first half of 2019.

3.6.15. Provisions for restructuring

As at June 27, 2020, provisions for restructuring amounted to \$11 million, of which \$10 million included in "Current provisions" in the consolidated statement of financial position. Movements during the first half of 2020 were as follows:

In millions of USD	Set-top Box restructuring plan	Bouskoura restructuring plan	Total
As at January 1, 2020	11	—	11
Charges incurred in 2020	—	5	5
Amounts paid	(3)	(1)	(4)
As at June 27, 2020 (unaudited)	8	4	12

- Set-top Box restructuring plan

In 2016, the Group announced its decision to cease the development of new platforms and standard products for set-top-box and home gateway products. This decision implied a global workforce review of approximately 1,400 employees worldwide, which included about 430 employees in France through a voluntary departure plan, about 670 employees in Asia and about 120 employees in the United States of America. The Group still incurs payments related to the voluntary plan in France.

- Bouskoura restructuring plan

In the fourth quarter of 2019, management committed to a restructuring plan impacting the Group's back-end activities. A voluntary plan involving a reduction in force representing approximately 150 employees was announced in Bouskoura, Morocco site, in December 2019, in compliance with local legislation. The Group recorded in the first half of 2020 a restructuring charge totaling \$5 million for this plan, corresponding to the voluntary termination benefits to be paid to approximately 116 employees who signed the offer for voluntary leave in the six months ended June 27, 2020.

3.6.16. Expenses by nature

Expenses recorded as cost of sales, research and development and selling, general and administrative are detailed as follows:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Depreciation and amortization	605	599
Employee benefit expenses	1,452	1,486
Purchase of materials	1,152	1,170
Purchase of subcontracting services	770	582
Changes in inventories	(271)	(331)
Transportation	19	44
Royalties and patents	37	35
Advertising costs	6	9
Other expenses	284	362
Total cost of sales, selling, general and administrative, and research and development	4,054	3,956

Employee benefit expenses are detailed as follows:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Wages and salaries	1,085	1,097
Payroll taxes and other social contribution charges	235	255
Share-based compensation expense	69	72
Pensions and other long-term benefits expense	63	62
Total employee benefit expenses	1,452	1,486
Of which included in:		
Cost of sales	650	676
Selling, general and administrative	377	378
Research and development	425	432

3.6.17. Other income / expenses

Other income consisted of the following:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Research and development funding	60	50
Net foreign exchange gain	4	—
Gain on sale of non-current assets	12	6
Other income	—	2
Total other income	76	58

Other expenses consisted of the following:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Foreign exchange forward contracts and other currency derivatives	(3)	(8)
Phase-out and start-up costs	(7)	(7)
Patent costs	(3)	—
Sanitation and other costs incurred to prevent the spread of COVID-19	(17)	—
Other expenses	(1)	—
Total other expenses	(31)	(15)

The Group receives significant public funding from governmental agencies in several jurisdictions. Public funding for research and development is recognized ratably as the related costs are incurred once the agreement with the respective governmental agency has been signed and all applicable conditions have been met.

Foreign exchange gains (losses), net of forward contracts and other currency derivatives, represent the portion of exchange rate changes on transactions denominated in currencies other than an entity's functional currency and the changes in fair value of trading derivative instruments which are not designated as hedge, as described in Note 3.6.10.4.

Phase-out costs are costs incurred during the closing stage of a Group's manufacturing facility. They are treated in the same manner as start-up costs. Start-up costs represent costs incurred in the start-up and testing of the Group's new manufacturing facilities, before reaching the earlier of a minimum level of production or six months after the fabrication line's quality certification.

Patent costs include legal and attorney fees and payment for claims, patent pre-litigation consultancy and legal fees. They are reported net of settlements, if any, which primarily include reimbursements of prior patent litigation costs.

COVID-19 incremental costs are mainly composed of purchases of medical disposables, such as masks and sanitizers, and other expenses related to sanitary measures undertaken to protect employees during the COVID-19 pandemic.

Gain on sale of non-current assets for the first half of 2020 and 2019, respectively, related to the sale of certain non-strategic assets.

3.6.18. Earnings per share

For the six-month period ended June 27, 2020 and June 29, 2019, earnings per share (“EPS”) were calculated as follows:

In millions of USD except earnings per share data	(unaudited)	
	June 27, 2020	June 29, 2019
Basic EPS		
Net result attributable to the equity holder of the parent	376	180
Weighted average shares outstanding	889,191,532	894,981,090
Basic EPS	0.42	0.20
Diluted EPS		
Net result attributable to the equity holder of the parent	376	180
Weighted average shares outstanding	889,191,532	894,981,090
Dilutive effect of stock awards	6,066,350	7,331,270
Number of shares used for diluted EPS	895,257,882	902,312,360
Diluted EPS	0.42	0.20

The convertible bonds issued on July 3, 2017, as detailed in Note 3.6.10.3, had no impact on the diluted EPS computation in the first half of 2020 and 2019, respectively, since they were non-dilutive.

3.6.19. Related-party transactions

Transactions with significant shareholders, their affiliates and other related parties were as follows:

In millions of USD	(unaudited)	
	June 27, 2020	June 29, 2019
Sales and other services	1	1
Purchases	10	9
Accounts receivable	2	1
Accounts payable	1	51

For the six-month period ended June 27, 2020 and June 29, 2019, the related party transactions were primarily with significant indirect shareholders of the Company, or their subsidiaries and companies in which key management of the Group perform similar policymaking functions. These include, but are not limited to: Orange, MicroOLED and Telecom Italia. Each of the aforementioned arrangements and transactions is negotiated without the personal involvement of the Supervisory Board members and are made in line with market practices and conditions.

3.6.20. Contingencies, claims and legal proceedings

The Group is subject to possible loss contingencies arising in the ordinary course of business. These include but are not limited to: product liability claims and/or warranty cost on the products of the Group, contractual disputes, indemnification claims, claims for unauthorized use of third-party intellectual property, employee grievances, tax claims beyond assessed uncertain tax positions as well as claims for environmental damages. In determining loss contingencies, the Group considers the likelihood of impairing an asset or the incurrence of a liability at the date of the consolidated financial statements as well as the ability to reasonably estimate the amount of such loss. The Group records a provision for a loss contingency when information available before the consolidated financial statements are issued or are available to be issued indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the consolidated financial statements and when the amount of loss can be reasonably estimated. The Group regularly re-

evaluates claims to determine whether provisions need to be readjusted based on the most current information available to the Group. Changes in these evaluations could result in an adverse material impact on the Group's results of operations, cash flows or its financial position for the period in which they occur.

The Group has received and may in the future receive communications alleging possible infringements of third party patents or other third party intellectual property rights. Furthermore, the Group from time to time enters into discussions regarding a broad patent cross license arrangement with other industry participants. There is no assurance that such discussions may be brought to a successful conclusion and result in the intended agreement. The Group may become involved in costly litigation brought against the Group regarding patents, mask works, copyrights, trademarks or trade secrets. In the event that the outcome of any litigation would be unfavorable to the Group, the Group may be required to take a license to third party patents and/or other intellectual property rights at economically unfavorable terms and conditions, and possibly pay damages for prior use and/or face an injunction, all of which individually or in the aggregate could have a material adverse effect on the Group's results of operations, cash flows, financial position and/or ability to compete.

The Group has contractual commitments to various customers which could require the Group to incur costs to repair or replace defective products it supplies to such customer. The duration of these contractual commitments varies and, in certain cases, is indefinite. The Group is otherwise also involved in various lawsuits, claims, inquiries, inspections, investigations and/or proceedings incidental to its business and operations. Such matters, even if not meritorious, could result in the expenditure of significant financial or managerial resources. Any of the foregoing could have a material adverse effect on the Group's results of operations, cash flows or its financial position.

The Group regularly evaluates claims and legal proceedings together with their related probable losses to determine whether they need to be adjusted based on the current information available to the Group. There can be no assurance that its recorded reserves will be sufficient to cover the extent of its potential liabilities. Legal costs associated with claims are expensed as incurred. In the event of litigation which is adversely determined with respect to the Group's interests, or in the event the Group needs to change its evaluation of a potential third-party claim, based on new evidence or communications, a material adverse effect could impact its operations or financial condition at the time it were to materialize.

As of June 27, 2020, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material.

3.6.21. Subsequent Events

On July 16, 2020, the Group announced the signature of two M&A agreements related to the acquisitions of the entire share capital of Ultra Wide Band specialist BeSpoon and of the cellular IoT connectivity assets of Riot Micro. After closing of the two transactions, subject to customary regulatory approvals, the Group will further strengthen its offer for wireless connectivity and, in particular, the roadmap for its STM32 microcontrollers and secure MCUs.

On July 28, 2020, the Company launched and priced a \$1.5 billion dual-tranche offering of new convertible bonds. The Bonds were launched in two \$750 million tranches, one with a maturity of 5 years (47.5% conversion premium, negative 1.12% yield to maturity, 0% coupon) and the other with a maturity of 7 years (52.5% conversion premium, negative 0.63% yield to maturity, 0% coupon). Under the terms of the Bonds, the Company can satisfy the conversion rights either in cash or shares, or a combination of the two, at its selection. Proceeds from the issuance of the Bonds will be used by the Group for general corporate purposes, including the early redemption of the outstanding \$750 million convertible bond due 2022. The issuance of the new Bonds occurred on August 4, 2020. Therefore the impact of this issuance on financial reporting will be effective in the second half of 2020.

On July 28, 2020, the Company also announced the issuance of a redemption notice to inform bondholders that it will redeem all of the Tranche A bonds issued in July 2017 at their principal amount on August 27, 2020. The Company intends to settle these conversions through the payment of cash for the principal amount and the residual consideration through the delivery of shares. For such delivery of shares in connection with the net share settlement, the Company will use existing shares held as treasury shares as of June 27, 2020.

Starting July 26, 2021, bondholders of Tranche B bonds issued in July 2017 will have full conversion rights, and as such, the embedded derivative instruments and the liability component of Tranche B, which are currently classified as non-current liabilities on the consolidated statement of financial position as of June 27, 2020, will be classified as current liabilities on the consolidated statement of financial position for subsequent reporting periods. Refer to note 3.6.10.3 for more details.

4. Sole Member of the Managing Board's statement

The Sole member of the Managing Board hereby declares that, to the best of his knowledge, the Semi Annual Financial Statements, which have been prepared in accordance with IAS 34 Interim Financial Reporting, give a true and fair view of the assets, liabilities, financial position and profit or loss of STMicroelectronics N.V. and the undertakings included in the consolidation as a whole, and the Semi Annual Management Report of the Managing Board gives a true and fair overview of the information required pursuant to section 5:25d, subsection 8 and subsection 9 of the Dutch Financial Markets Supervision Act (Wet op het Financieel toezicht).

Date: August 19, 2020

By: /s/ Jean-Marc Chery

Name: Jean-Marc Chery

Title: President and Chief Executive Officer and Sole Member of the Managing Board

5. About STMicroelectronics

At STMicroelectronics, we are 46,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with our 100,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology.

Further information can be found at www.st.com.

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