STMICROELECTRONICS NV
Form 20-F
February 28, 2019
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As filed with the Securities and Exchange Commission on February 28, 2019

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report________

For the transition period from ________ to

Commission file number: 1-13546

STMicroelectronics N.V.

(Exact name of registrant as specified in its charter)

Not Applicable **(Translation of registrant s name into English)**	**The Netherlands** **(Jurisdiction of incorporation or organization)**

WTC Schiphol Airport

Schiphol Boulevard 265

1118 BH Schiphol

The Netherlands

(Address of principal executive offices)

Jean-Marc Chery

39, Chemin du Champ des Filles

1228 Plan-Les-Ouates

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class:	Name of Each Exchange on Which Registered:
Common shares, nominal value 1.04 per share	**New York Stock Exchange**

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer s classes of capital or common stock as of the close of the period covered by the annual report:

911,156,920 common shares at December 31, 2018

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days: Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definition of large accelerated filer , accelerated filer and emerging growth company in Rule 12b-2 of the Exchange Act:

Large accelerated filer	Accelerated filer
Non-accelerated filer	Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

The term new or revised financial accounting standard refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP	International Financial Reporting Standards as issued by the International Accounting Standards Board	Other

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

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PRESENTATION OF FINANCIAL AND OTHER INFORMATION

In this annual report on Form 20-F (the Form 20-F), references to we , us and Company are to STMicroelectronics N.V. together with its consolidated subsidiaries, references to EU are to the European Union, references to and the Euro are to the Euro currency of the EU, references to the United States and the U.S. are to the United States of America and references to $ and to U.S. dollars are to United States dollars. References to mm are to millimeters and references to nm are to nanometers.

We have compiled market size and our market share data in this Form 20-F using statistics and other information obtained from several third-party sources. Except as otherwise disclosed herein, all references to trade association data are references to World Semiconductor Trade Statistics (WSTS). Certain terms used in this Form 20-F are defined in Certain Terms .

We report our financial statements in U.S. dollars and prepare our Consolidated Financial Statements in accordance with generally accepted accounting principles in the United States (U.S. GAAP). We also report certain non-U.S. GAAP financial measures (free cash flow, operating income and operating margin before impairment and restructuring charges, adjusted diluted earnings per share and net financial position), which are derived from the amounts presented in the financial statements prepared under U.S. GAAP. Furthermore, we are required by Dutch law to report our Statutory and Consolidated Financial Statements, in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB) and adopted by the European Union. The IFRS financial statements are reported separately and can differ materially from the statements reported in U.S. GAAP.

Various amounts and percentages used in this Form 20-F have been rounded and, accordingly, they may not total 100%.

We and our affiliates own or otherwise have rights to the trademarks and trade names, including those mentioned in this Form 20-F, used in conjunction with the marketing and sale of our products.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements contained in this Form 20-F that are not historical facts, particularly in Item 3. Key Information Risk Factors , Item 4. Information on the Company and Item 5. Operating and Financial Review and Prospects and Business Outlook are statements of future expectations and other forward-looking statements (within the meaning of Section 27A of the Securities Act of 1933 or Section 21E of the Securities Exchange Act of 1934, each as amended) that are based on management s current views and assumptions, and are conditioned upon and also involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those anticipated by such statements due to, among other factors:

- 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, labor, political, or infrastructure conditions in the locations where we, our customers, or our suppliers operate, including as a result of macro-economic 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 perceptions as to 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. 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;

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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, health risks and epidemics 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.

Such forward-looking statements are subject to various risks and uncertainties, which may cause actual results and performance of our business to differ materially and adversely from the forward-looking statements. Certain forward-looking statements can be identified by the use of forward-looking terminology, such as believes , expects , may , are expected to , should , would be , seeks or anticipates or similar expressions or the negative thereof or variations thereof or comparable terminology, or by discussions of strategy, plans or intentions. Some of these risk factors are set forth and are discussed in more detail in Item 3. Key Information Risk Factors . Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in this Form 20-F as anticipated, believed or expected. We do not intend, and do not assume any obligation, to update any industry information or forward-looking statements set forth in this Form 20-F to reflect subsequent events or circumstances.

Unfavorable changes in the above or other factors listed under Item 3. Key Information Risk Factors from time to time in our Securities and Exchange Commission (SEC) filings, could have a material adverse effect on our business and/or financial condition.

PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

Selected Financial Data

The table below sets forth our selected consolidated financial data for each of the years in the five-year period ended December 31, 2018. Such data have been derived from our audited Consolidated Financial Statements. Audited Consolidated Financial Statements for each of the years in the three-year period ended December 31, 2018, including the Notes thereto (collectively, the Consolidated Financial Statements), are included elsewhere in this Form 20-F, while data for prior periods have been derived from our audited Consolidated Financial Statements used in such periods.

The following information should be read in conjunction with Item 5. Operating and Financial Review and Prospects and the audited Consolidated Financial Statements and the related Notes thereto included in Item 18. Financial Statements in this Form 20-F.

	Year Ended December 31,				
	2018	**2017**	**2016**	**2015**	**2014**
	(In millions except per share and ratio data)				
Consolidated Statements of Income Data:					
Net sales	$ 9,612	$ 8,308	$ 6,944	$ 6,866	$ 7,335
Other revenues	52	39	29	31	69
Net revenues	9,664	8,347	6,973	6,897	7,404
Cost of sales[1]	(5,803)	(5,075)	(4,514)	(4,561)	(4,903)
Gross profit[1]	3,861	3,272	2,459	2,336	2,501
Operating expenses:					
Selling, general and administrative[1]	(1,095)	(981)	(907)	(894)	(925)
Research and development[1]	(1,398)	(1,296)	(1,331)	(1,420)	(1,515)
Other income and expenses, net	53	55	99	164	207
Impairment, restructuring charges and other related closure costs	(21)	(45)	(93)	(65)	(90)

Operating income[1]	1,400	1,005	227	121	178
Interest expense, net	(7)	(22)	(20)	(22)	(18)
Other components of pension benefit costs[1]	(11)	(12)	(13)	(12)	(10)
Income (loss) on equity-method investments	8	(2)	7	2	(43)
Gain (loss) on financial instruments, net	(1)	(16)			(1)
Income (loss) before income taxes and noncontrolling interest	1,389	953	201	89	106
Income tax (expense)/benefit	(96)	(143)	(31)	21	23
Net income	1,293	810	170	110	129
Net income attributable to noncontrolling interest	(6)	(8)	(5)	(6)	(1)
Net income attributable to parent company	1,287	802	165	104	128
Earnings per share (basic) attributable to parent company stockholders	1.43	0.91	0.19	0.12	0.14
Earnings per share (diluted) attributable to parent company stockholders	1.41	0.89	0.19	0.12	0.14
Number of shares used in calculating earnings per share (basic)	899.4	884.7	881.2	876.5	886.5
Number of shares used in calculating earnings per share (diluted)	911.0	906.1	886.3	880.6	889.8

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	Year Ended December 31,				
	2018	2017	2016	2015	2014
	(In millions except per share and ratio data)				
Consolidated Balance Sheets Data (end of period):					
Cash and cash equivalents	2,266	1,759	1,629	1,771	2,017
Marketable securities	330	431	335	335	334
Restricted cash				4	
Total assets	**10,867**	**9,681**	**8,004**	**8,195**	**9,004**
Net assets	6,424	5,467	4,596	4,693	5,055
Short-term debt	146	118	117	191	202
Long-term debt	1,764	1,583	1,334	1,421	1,599
Total parent company stockholders equity	6,359	5,404	4,535	4,632	4,994
Common stock and capital surplus	4,000	3,875	3,975	3,936	3,898
Other Data:					
Dividend per share	0.24	0.24	0.24	0.40	0.40
Capital expenditures, net of proceeds from sales	(1,262)	(1,298)	(607)	(467)	(496)
Net cash from operating activities	1,845	1,677	1,043	846	715
Depreciation and amortization	791	650	696	736	811
Debt-to-equity ratio(2)	0.30	0.31	0.32	0.35	0.36

(1) The comparative amounts as of December 31, 2017, December 31, 2016, December 31, 2015 and December 31, 2014 were restated to give impact to the new guidance adopted on January 1, 2018 on the presentation of net periodic benefit cost in the consolidated statement of income. See Note 2.25 to our Consolidated Financial Statements.

(2) Debt-to-equity ratio is the ratio between our total financial debt (short-term debt, including bank overdrafts, and long-term debt) and our total parent company stockholder s equity.

Risks Related to the Semiconductor Industry which Impact Us

We, and the semiconductor industry as a whole, may be impacted by changes in, or uncertainty about, global, regional and local economic, political, legal, regulatory and social environments.

Changes in, and uncertainty about, economic, political, legal, regulatory and social conditions pose a risk as consumers and businesses may postpone spending in response to factors such as curtailment of trade and other business restrictions, financial market volatility, interest rate fluctuations, shifts in inflationary and deflationary expectations, lower capital and productivity growth, unemployment, negative news, declines in income or asset values and/or other factors. Such global, regional and local conditions could have a material adverse effect on customer and end-market demand for our products, thus materially adversely affecting our business and financial condition.

The institution of trade tariffs globally could negatively impact economic conditions, which could have negative repercussions for our business. In 2018, both the U.S. Administration as well as several foreign governments have been undertaking significant trade policy changes, in some cases followed by legislative or executive action. For instance, U.S. and China have applied tariffs on foreign imports of certain goods and materials and they have announced that further tariffs would be applied in the future. Such trade policy changes could trigger retaliatory actions by affected countries, which could have a negative impact on our ability to do business in affected countries or lead to reduced purchases of our products by foreign customers, leading to increased costs of components contained in our products, increased manufacturing costs of our products, and higher prices for our products in foreign markets. Further, protectionist measures, laws or governmental policies may encourage our customers to relocate their manufacturing capacity or supply chain to their own respective countries or require their respective contractors, subcontractors and relevant agents to do so, which could impair our ability to sustain our current level of productivity and manufacturing efficiency.

We, and the semiconductor industry as a whole, face greater risks due to the international nature of the semiconductor business, including in the countries where we, our customers or our suppliers operate, such as:

- instability of foreign governments, including the threat of war, military conflict, civil unrest, regime changes, mass migration and terrorist attacks;

- natural events such as severe weather, earthquakes and tsunamis;
- epidemics such as disease outbreaks, pandemics and other health related issues;
- changes in, or uncertainty about, laws, regulations (including executive orders) and policies affecting trade and investment, including following Brexit and including through the imposition of trade and travel restrictions, government sanctions, local practices which favor local companies and constraints on investment;
- complex and varying government regulations and legal standards, particularly with respect to export control regulations and restrictions, customs and tax requirements, data privacy, intellectual property and anti-corruption; and
- differing practices of regulatory, tax, judicial and administrative bodies, including with regards to the interpretation of laws, governmental approvals, permits and licenses.

The semiconductor industry is cyclical and downturns in the semiconductor industry can negatively affect our results of operations and financial condition.

The semiconductor industry is cyclical and has been subject to significant downturns from time to time, as a result of global economic conditions as well as industry-specific factors, such as built-in excess capacity, fluctuations in product supply, product obsolescence and changes in end-customer preferences. Downturns are typically characterized by reduction in overall demand, accelerated erosion of selling prices, reduced revenues and high inventory levels, any of which could result in a significant deterioration of our results of operations. Such macroeconomic trends typically relate to the semiconductor industry as a whole rather than to the individual semiconductor markets to which we sell our products. To the extent that industry downturns are concurrent with the timing of new increases in production capacity or introduction of new advanced technologies in our industry, the negative effects on our business from such industry downturns may also be more severe. We have experienced revenue volatility and market downturns in the past and expect to experience them in the future, which could have a material adverse impact on our results of operations and financial condition.

We may not be able to match our production capacity to demand.

As a result of the cyclicality and volatility of the semiconductor industry, it is difficult to predict future developments in the markets we serve, and, in turn, to estimate requirements for production capacity. If our markets, major customers or certain product designs or technologies do not perform as well as we have anticipated, we risk unused capacity charges, write-offs of inventories and losses on products, and we could be required to undertake restructuring and transformation measures that may involve significant charges to our earnings. Furthermore, during certain periods, we have also experienced increased demand in certain market segments and product technologies, which has led to a shortage of capacity, an increase in the lead times of our delivery to customers and, in certain instances, being required to enter into agreements with our suppliers with onerous terms, such as take-or-pay arrangements. See Item 5. Operating and Financial Review and Prospects Results of Operations Impairment, restructuring charges and other related closure costs .

Competition in the semiconductor industry is intense, and we may not be able to compete successfully if our product design technologies, process technologies and products do not meet market requirements. Furthermore, the competitive environment of the industry has resulted, and is expected to continue to result, in vertical and horizontal consolidation among our suppliers, competitors and customers, which may lead to erosion of our market share, impact our ability to compete and require us to restructure our operations.

We compete in different product lines to various degrees on certain characteristics, for example, price, technical performance, product features, product design, product availability, process technology, manufacturing capabilities and sales and technical support. Given the intense competition in the semiconductor industry, if our products do not meet market requirements based on any of these characteristics, our business, financial condition and results of operations could be materially adversely affected. Our competitors may have a stronger presence in key markets and geographic regions, greater name recognition, larger customer bases, greater government support and greater financial, research and development, sales and marketing, manufacturing, distribution, technical and other resources than we do. These competitors may be able to adapt more quickly to changes in the business environment, to new or emerging technologies and to changes in customer requirements.

The semiconductor industry is intensely competitive and characterized by the high costs associated with developing marketable products and manufacturing technologies as well as high levels of investment in production capabilities. As a result, the semiconductor industry has experienced, and is expected to continue to experience, significant vertical and horizontal consolidation among our suppliers, competitors and customers. Consolidation in the semiconductor industry could erode our market share, negatively impact our ability to compete and require us to increase our R&D effort, engage in mergers and acquisitions and/or restructure our operations.

Risks Related to Our Operations

Our high fixed costs could adversely impact our results.

Our operations are characterized by high fixed or other costs which are difficult to reduce, including costs related to manufacturing, particularly as we operate our own manufacturing facilities, and the employment of our highly skilled workforce. When demand for our products decreases, competition increases or we fail to forecast demand accurately, we are driven to reduce prices and we are not always able to decrease our total costs in line with resulting revenue declines. As a result, the costs associated with our operations may not be fully absorbed, leading to unused capacity charges, higher average unit costs and lower gross margins, adversely impacting our results.

Our capital needs are high compared to those competitors who do not manufacture their own products and we may need additional funding in the coming years to finance our investments, to purchase other companies or technologies developed by third parties or to refinance our maturing indebtedness.

As a result of our choice to maintain control of a large portion of our manufacturing technologies and capabilities, we may require significant capital expenditure to maintain or upgrade our facilities in the future. We monitor our capital expenditures taking into consideration factors such as trends in the semiconductor market, customer requirements and capacity utilization. These capital expenditures may increase in the future if we decide to upgrade or expand the capacity of our manufacturing facilities, purchase or build new facilities or increase investments supporting key strategic initiatives. There can be no assurance that future market demand and products required by our customers will meet our expectations. We also may need to invest in other companies, in IP and/or in technology developed either by us or by third parties to maintain or improve our position in the market or to complement or expand our existing business. Failure to invest appropriately or in a timely manner could have a material adverse effect on our business and results of operations.

The foregoing may require us to secure additional financing, including through the issuance of debt, equity or both. The timing and the size of any new share or bond offering would depend upon market conditions as well as a variety of other factors. In addition, the capital markets may from time to time offer terms of financing that are particularly favorable. We cannot exclude that we may access the capital markets opportunistically to take advantage of market conditions. Any such transaction or any announcement concerning such a transaction could materially impact the market price of our common shares. If we are unable to access capital on acceptable terms, this may adversely affect our business and results of operations.

Our financial results can be affected by fluctuations in exchange rates, principally in the value of the U.S. dollar.

Currency exchange rate fluctuations affect our results of operations because our reporting currency is the U.S. dollar, in which we receive the major portion of our revenues, while, more importantly, we incur a limited portion of our revenue and a significantly higher portion of our costs in currencies other than the U.S. dollar. A significant variation of the value of the U.S. dollar against the principal currencies that have a material impact on us (primarily the Euro, but also certain other currencies of countries where we have operations, such as the Singapore dollar) could result in a favorable impact, net of hedging, on our net income in the case of an appreciation of the U.S. dollar, or a negative impact, net of hedging, on our net income if the U.S. dollar depreciates relative to these currencies, in particular with respect to the Euro.

In order to reduce the exposure of our financial results to the fluctuations in exchange rates, our principal strategy has been to balance as much as possible the proportion of sales to our customers denominated in U.S. dollars with the amount of purchases from our suppliers denominated in U.S. dollars and to reduce the weight of the other costs, including depreciation, denominated in Euros and in other currencies. In order to further reduce our exposure to U.S. dollar exchange rate fluctuations, we have hedged certain line items on our Consolidated Statements of Income, in particular with respect to a portion of the cost of sales, the majority of the R&D expenses and certain SG&A expenses located in the Euro zone. We also hedge certain manufacturing costs,

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included within the cost of sales, denominated in Singapore dollars. There can be no assurance that our hedging transactions will prevent us from incurring higher Euro-denominated manufacturing costs and/or operating expenses when translated into our U.S. dollar-based accounts. See Item 5. Operating and Financial Review and Prospects Impact of Changes in Exchange Rates and Item 11. Quantitative and Qualitative Disclosures About Market Risk .

Our operating results may vary significantly from quarter to quarter and annually and may also differ significantly from our expectations or guidance.

Our operating results are affected by a wide variety of factors that could materially and adversely affect revenues and profitability or lead to significant variability of our operating results from one period to the next. These factors include changes in demand from our key customers, capital requirements, inventory management, availability of funding, competition, new product developments, start of adoption of our new products by customers, technological changes, manufacturing or supplier issues and effective tax rates. In addition, in periods of industry overcapacity or when our key customers encounter difficulties in their end markets or product ramps, orders are more exposed to cancellations, reductions, price renegotiation or postponements, which in turn reduce our ability to forecast the next quarter or full year production levels, revenues and margins. For these reasons and others that we may not yet have identified, our revenues and operating results may differ materially from our expectations or guidance as visibility is reduced. See Item 4. Information on the Company Backlog .

Our operating results depend on our ability to obtain quality supplies on commercially reasonable terms. As we depend on a limited number of suppliers for materials, equipment and technology, we may experience supply disruptions if suppliers interrupt supply, increase prices or experience material adverse changes in their financial condition.

Our ability to meet our customers demand to manufacture our products depends upon obtaining adequate supplies of quality materials on a timely basis and on commercially reasonable terms. Certain materials are available from a limited number of suppliers or only from a limited number of suppliers in a particular region. We purchase certain materials whose prices on the world markets have fluctuated significantly in the past and may fluctuate significantly in the future. Although supplies for most of the materials we currently use are adequate, shortages could occur in various essential materials due to interruption of supply or increased demand in the industry. In addition, the costs of certain materials may increase due to market pressures and we may not be able to pass on such cost increases to our customers.

We also purchase semiconductor manufacturing equipment and third party licensed technology from a limited number of suppliers and providers and, because such equipment and technology are complex, it is difficult to replace one supplier or provider with another or to substitute one piece of equipment or type of technology for another. In addition, suppliers and providers may extend lead times, limit our supply, increase prices or change contractual terms related to certain manufacturing equipment and third party licensed technology, any of which could adversely affect our results. Furthermore, suppliers and technology providers tend to focus their investments on providing the most technologically advanced equipment, materials and technology and may not be in a position to address our requirements for equipment, materials or technology of older generations. Although we work closely with our suppliers and providers to avoid such shortages, there can be no assurance that we will not encounter these problems in the future.

Consolidation among our suppliers or vertical integration among our competitors may limit our ability to obtain sufficient quantities of materials, equipment and/or technology on commercially reasonable terms and engage in mergers and acquisitions. In certain instances we may be required to enter into agreements with our suppliers with onerous terms, such as take-or-pay arrangements. If we are unable to obtain supplies of materials, equipment or technology in a timely manner or at all, or if such materials, equipment or technology prove inadequate or too costly, our results of operations could be adversely affected.

If our external silicon foundries or back-end subcontractors fail to perform, this could adversely affect our business prospects.

We currently use external silicon foundries and back-end subcontractors for a portion of our manufacturing activities. If our external silicon foundries or back-end subcontractors are unable to satisfy our demand, or experience manufacturing difficulties, delays or reduced yields, our results of operations and ability to satisfy customer demand could suffer. Likewise, if we are unable to meet our commitments to silicon foundries and back-end subcontractors, our results of operations could suffer. Prices for these services also vary depending on

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capacity utilization rates at our external silicon foundries and back-end subcontractors, quantities demanded and product and process technology. Such outsourcing costs can vary materially and, in cases of industry shortages, they can increase significantly, negatively impacting our business prospects.

Our manufacturing processes are highly complex, costly and potentially vulnerable to impurities, disruptions or inefficient implementation of production changes or interruptions that can significantly increase our costs and delay product shipments to our customers.

Our manufacturing processes are highly complex, require advanced and increasingly costly equipment and are continuously modified or maintained in an effort to improve yields and product performance and lower the cost of production.

Furthermore, impurities or other difficulties in the manufacturing process can lower yields, interrupt production or result in scrap. As system complexity and production changes have increased and sub-micron technology has become more advanced, manufacturing tolerances have been reduced and requirements for precision have become even more demanding. We have from time to time experienced bottlenecks and production difficulties that have caused delivery delays and quality control problems. There can be no assurance that we will not experience bottlenecks or production, transition or other difficulties in the future.

In addition, we are exposed to risks related to interruptions of our manufacturing processes. If any of our property or equipment is damaged or otherwise rendered unusable or inoperable due to accident, cyberattack or otherwise this could result in interruptions which could have a material adverse effect on our business, financial condition and results of operations.

We may experience quality problems from time to time that can result in decreased sales and operating margin and product liability or warranty claims.

We sell complex products that may not in each case comply with specifications or customer requirements, or may contain design or manufacturing defects, that could cause personal injury, property damage or security risks that could be exploited by unauthorized third parties hacking, corrupting or otherwise obtaining access to our products, including the software loaded thereon by us, our suppliers or our customers. Although our general practice is to contractually limit our liability to the repair, replacement or refund of defective products, we occasionally agree to contractual terms with key customers in which we provide extended warranties and accordingly we may face product liability, warranty, delivery failure, and/or other claims relating to our products that could result in significant expenses relating to compensation payments, product recalls or other actions related to such extended warranties and/or to maintain good customer relationships, which could result in decreased sales and operating margin and other material adverse effects on our business. Costs or payments we may make in connection with warranty and other claims or product recalls may adversely affect our results of operations. There can be no assurance that we will be successful in maintaining our relationships with customers with whom we incur quality problems. Furthermore, if litigation occurs we could incur significant costs and liabilities to defend ourselves against such claims and, if damages are awarded against us, there can be no assurance that our insurance policies will be available or adequate to protect us against such claims.

We may experience delays in delivering our product and technology roadmaps as well as transformation initiatives.

Our industry adapts to technological advancements and it is likely that new products, equipment, processes and service methods, including transformation initiatives, will be introduced in the future. Any failure by us to react to changes or advances in existing technologies and processes as we develop and invest in our product, technology and transformation roadmaps could materially delay the introduction of new solutions. If we are not able to execute on these roadmaps on a timely basis or at an acceptable cost this could result in loss of competitiveness of our solutions, decreased revenue and a loss of market share.

Our computer systems, including hardware, software and information, are subject to attempted security breaches and other cybersecurity threats, which, if successful, could adversely impact our business.

We have, from time to time, experienced attempts by others to gain unauthorized access to our computer systems and networks. The reliability and security of our information technology infrastructure and software, and our ability to expand and continually update technologies in response to our changing needs is critical to our business. In the current environment, there are numerous and evolving risks to cybersecurity, including criminal hackers, state-sponsored intrusions, terrorism, industrial espionage, employee malfeasance, vandalism and human or technological error. Computer hackers and others routinely attempt to breach the security of technology products, services, and systems, and those of our customers, suppliers and providers of third party licensed technology, and some of those attempts may be successful. Such breaches could result in, for example, unauthorized access to, disclosure, modification, misuse, loss, or destruction of our, our customer, or other third party data or systems, theft of our trade secrets and other sensitive or confidential data, including personal information and intellectual property, system disruptions, and denial of service. The attempts to breach our systems and gain unauthorized access to our information technology systems are becoming increasingly more sophisticated. These attempts may include covertly introducing malware to our computers, including those in our manufacturing operations, and impersonating unauthorized users, among others. For instance, employees and former employees, in particular former employees who become employees of our competitors or customers, may misappropriate, use, publish or provide to our competitors or customers our intellectual property and/or proprietary or confidential business information. Also, third parties may attempt to register domain names similar to our brands or website, which could cause confusion and divert online customers away from our products. In the event of such breaches, we, our customers or other third parties could be exposed to potential liability, litigation, and regulatory action, as well as the loss of existing or potential customers, damage to our reputation, and other financial loss and such breaches could also result in losing existing or potential customers in connection with any actual or perceived security vulnerabilities in our systems. In addition, the cost and operational consequences of responding to breaches and implementing remediation measures could be significant. As these threats continue to develop and grow, we have been adapting and strengthening our security measures. We continue to increase the resources we allocate to implementing, maintaining and/or updating security systems to protect data and infrastructure and to raising security awareness among those having access to our systems. However, these security measures cannot provide absolute security and there can be no assurance that our employee training, operational, and other technical security measures or other controls will detect, prevent or remediate security or data breaches in a timely manner or otherwise prevent unauthorized access to, damage to, or interruption of our systems and operations. We regularly evaluate our IT systems to make enhancements and periodically implement new or upgraded systems. Any delay in the implementation of, or disruption in the transition to different systems could adversely affect our ability to record and report financial and management information on a timely and accurate basis. In addition, a miscalculation of the level of investment needed to ensure our technology solutions are current and up-to-date as technology advances and evolves could result in disruptions in our business should the software, hardware or maintenance of such items become out-of-date or obsolete and the costs of upgrading our cybersecurity systems and remediating damages could be substantial. We may also be adversely affected by security breaches related to our equipment providers and providers of third party licensed technology. As a global enterprise, we could also be impacted by existing and proposed laws and regulations, as well as government policies and practices related to cybersecurity, privacy and data protection. Additionally, cyberattacks or other catastrophic events resulting in disruptions to or failures in power, information technology, communication systems or other critical infrastructure could result in interruptions or delays to us, our customers, or other third party operations or services, financial loss, potential liability, and damage our reputation and affect our relationships with our customers and suppliers.

We may be subject to theft, loss, or misuse of personal data about our employees, customers, or other third parties, which could increase our expenses, damage our reputation, or result in legal or regulatory proceedings.

The theft, loss, or misuse of personal data collected, used, stored, or transferred by us to run our business could result in significantly increased security costs or costs related to defending legal claims. Global privacy legislation, including various EU regulations and directives regulating data privacy and security, such as the General Data Protection Regulation (GDPR) which came into force on May 25, 2018, and the transmission of content using the Internet involving residents of the EU, enforcement, and policy activity in this area are rapidly expanding and creating a complex compliance regulatory environment.

In particular, the requirements of the GDPR will impose a higher compliance burden on us and materially increase the maximum level of fines for compliance failures from their current levels relating to, among other things, consent to process personal data of individuals, the information provided to individuals regarding the processing of their personal data, the security and confidentiality of personal data, and notifications in the event of data breaches and use of third party processors. Costs to comply with and implement these privacy-related and data protection measures could be significant and may necessitate changes to our business. In addition, our failure to comply with local and international privacy or data protection laws and regulations could result in proceedings against us by governmental entities or others. Failure to comply with the GDPR or other data privacy regimes could subject us to significant fines and reputational harm. GDPR imposes fines for breaches of

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data protection requirements, which can be up to four percent of our worldwide revenue or 20 million per breach or data processing activity, whichever is greater.

Further, privacy-related laws or any newly adopted privacy-related laws may have a negative impact on our business if interpreted or implemented in a manner that is inconsistent from country to country and inconsistent with the current policies and practices of our customers or business partners. We may also have to change the manner in which we contract with our business partners, store and transfer information and otherwise conduct our business, which could increase our costs and reduce our revenues. In particular, the requirements of the GDPR will impose a higher compliance burden on us and materially increase the maximum level of fines for compliance failures from their current levels. Costs to comply with and implement these privacy-related and data protection measures could be significant. In addition, our failure to comply with local and international privacy or data protection laws and regulations could result in proceedings against us by governmental entities or others.

Our business is dependent in large part on continued growth in the industries and segments into which our products are sold and on our ability to retain existing customers and attract new ones. A market decline in any of these industries, our inability to retain and attract customers, or customer demand for our products which differs from our projections, could have a material adverse effect on our results of operations.

The demand for our products depends significantly on the demand for our customers end products. Growth of demand in the industries and segments into which our products are sold fluctuates significantly and is driven by a variety of factors, including consumer spending, consumer preferences, the development and acceptance of new technologies and prevailing economic conditions. Changes in our customers markets and in our customers respective shares in such markets could result in slower growth and a decline in demand for our products. In addition, if projected industry growth rates do not materialize as forecasted, our spending on process and product development ahead of market acceptance could have a material adverse effect on our business, financial condition and results of operations.

Our business is dependent upon our ability to retain existing customers. Our existing customers product strategy may change from time to time and/or product specifications may change on short-time product life cycles and we have no certainty that our business, financial position and results of operations will not be affected. Our business is also dependent upon our ability to attract new customers. There can be no assurance that we will be successful in attracting and retaining new customers, or in adequately projecting customer demand for our products. Our failure to do so could materially adversely affect our business, financial position and results of operations.

Disruptions in our relationships with any one of our key customers or distributors, and/or material changes in their strategy or financial condition or business prospects, could adversely affect our results of operations.

A substantial portion of our sales is derived from a limited number of customers and distributors. There can be no assurance that our customers or distributors will continue to book the same level of sales with us that they have in the past, will continue to succeed in the markets they serve and will not purchase competing products over our products. Many of our key customers and distributors operate in cyclical businesses that are also highly competitive, and their own market positions may vary considerably. In recent years, some of our customers have vertically integrated their businesses. Such vertical integrations may impact our business. Our relationships with the newly formed entities could be either reinforced or jeopardized by the integration. If we are unable to maintain or increase our market share with our key customers or distributors, or if they were to increase product returns or fail to meet payment obligations, our results of operations could be materially adversely affected. Certain of our products are customized to our customers specifications. If customers do not purchase products made specifically for them, we may not be able to recover a cancellation fee from our customers or resell such products to other customers.

Market dynamics have driven, and continue to drive us, to a strategic repositioning.

In recent years, we have undertaken several initiatives to reposition our business. Our strategies to improve our results of operations and financial condition have led us, and may in the future lead us, to acquire businesses that we believe to be complementary to our own, or to divest ourselves of or wind down activities that we believe do not serve our longer term business plans. Our potential acquisition strategies depend in part on our ability to identify suitable acquisition targets, finance their acquisition, obtain approval by our shareholders and obtain required regulatory and other approvals. Our potential divestiture strategies depend in part on our ability to compete and to identify the activities in which we should no longer engage, obtain the relevant approvals pursuant to our governance process and then determine and execute appropriate methods to divest of them.

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We are constantly monitoring our product portfolio and cannot exclude that additional steps in this repositioning process may be required. Furthermore, we cannot assure that any strategic repositioning of our business, including executed and possible future acquisitions or dispositions, will be successful and will not result in impairment, restructuring charges and other related closure costs.

Acquisitions and divestitures involve a number of risks that could adversely affect our operating results and financial condition, including: we may be unable to successfully integrate businesses or teams we acquire with our culture and strategies on a timely basis or at all; and we may be required to record charges related to the goodwill or other long-term assets associated with the acquired businesses. There can be no assurance that we will be able to achieve the full scope of the benefits we expect from a particular acquisition, divestiture or investment. Our business, financial condition and results of operations may suffer if we fail to coordinate our resources effectively to manage both our existing businesses and any acquired businesses. In addition, the financing of future acquisitions or divestitures may negatively impact our financial position, including our ability to pay a dividend and/or repurchase our shares, and credit rating and we could be required to raise additional funding.

Other risks associated with acquisitions include: assumption of potential liabilities, disclosed or undisclosed, associated with the business acquired, which liabilities may exceed the amount of indemnification available from the seller; potential inaccuracies in the financials of the business acquired; and our ability to retain customers of an acquired entity, its business or industrialize an acquired process or technology. Identified risks associated with divestitures include: loss of activities and technologies that may have complemented our remaining businesses or operations; and loss of important services provided by key employees that are assigned to divested activities.

We depend on collaboration with other semiconductor industry companies, research organizations, universities, customers and suppliers to further our R&D efforts, and our business and prospects could be materially adversely affected by the failure or termination of such alliances.

Our success depends on our ability to introduce innovative new products and technologies to the marketplace on a timely basis. In light of the high levels of investment required for R&D activities, we depend in certain instances on collaborations with other semiconductor industry companies, research organizations, universities, customers and suppliers to develop or access new technologies.

Such collaboration provides us with a number of important benefits, including the sharing of costs, reductions in our own capital requirements, acquisitions of technical know-how and access to additional production capacities. However, there can be no assurance that our collaboration efforts will be successful and allow us to develop and access new technologies in due time, in a cost-effective manner and/or to meet customer demands. If a particular collaboration terminates before our intended goals are accomplished we may incur additional unforeseen costs, and our business and prospects could be adversely affected. Furthermore, if we are unable to develop or otherwise access new technologies, whether independently or in collaboration with another industry participant, we may fail to keep pace with the rapid technology advances in the semiconductor industry, our participation in the overall semiconductor industry may decrease and we may also lose market share.

We depend on patents to protect our rights to our technology and may face claims of infringing the IP rights of others.

We depend on patents and other IP rights to protect our products and our manufacturing processes against misappropriation by others. The process of seeking patent protection can be long and expensive, and there can be no assurance that that we will receive patents from currently pending or future applications. Even if patents are issued, they may not be of sufficient scope or strength to provide meaningful protection or any commercial advantage. In addition, effective IP protection may be unavailable or limited in some countries. Our ability to enforce one or more of our patents could be adversely affected by changes in patent laws, laws in certain foreign jurisdictions that may not effectively protect our intellectual property rights or by ineffective enforcement of laws in such jurisdictions. Competitors may also develop technologies that are protected by patents and other IP and therefore either be unavailable to us or be made available to us subject to adverse terms and conditions. We have in the past used our patent portfolio to negotiate broad patent cross-licenses with many of our competitors enabling us to design, manufacture and sell semiconductor products, without concern of infringing patents held by such competitors. We may not in the future be able to obtain such licenses or other rights to protect necessary IP on favorable terms for the conduct of our business, and such failure may adversely impact our results of operations. Such cross-license agreements expire from time to time and there is no assurance that we can or we will extend them.

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We have from time to time received, and may in the future receive, communications alleging possible infringement of third party patents and other IP rights. Some of those claims are made by so-called non-practicing entities against which we are unable to assert our own patent portfolio to lever licensing terms and conditions. Competitors with whom we do not have patent cross-license agreements may also develop technologies that are protected by patents and other IP rights and which may be unavailable to us or only made available on unfavorable terms and conditions. We may therefore become involved in costly litigation brought against us regarding patents and other IP rights. See Note 24 to our Consolidated Financial Statements. IP litigation may also involve our customers who in turn may seek indemnification from us should we not prevail and/or who may decide to curtail their orders for those of our products over which claims have been asserted. Such lawsuits may therefore have a material adverse effect on our business. We may be forced to stop producing substantially all or some of our products or to license the underlying technology upon economically unfavorable terms and conditions or we may be required to pay damages for the prior use of third party IP and/or face an injunction.

The outcome of IP litigation is inherently uncertain and may divert the efforts and attention of our management and other specialized technical personnel. Such litigation can result in significant costs and, if not resolved in our favor, could materially and adversely affect our business, financial condition and results of operations.

We operate in many jurisdictions with highly complex and varied tax regimes. Changes in tax rules, new or revised legislation or the outcome of tax assessments and audits could cause a material adverse effect on our results.

We operate in many jurisdictions with highly complex and varied tax regimes. Changes in tax rules, new or revised legislation or the outcome of tax assessments and audits could have a material adverse effect on our results. Our tax rate is variable and depends on changes in the level of operating results within various local jurisdictions and on changes in the applicable taxation rates of these jurisdictions, as well as changes in estimated tax provisions due to new events. We currently receive certain tax benefits or benefit from net operating losses cumulated in prior years in some countries, and these benefits may not be available in the future due to changes in the local jurisdictions or credits on net operating losses being no longer available due to either full utilization or expiration of the statute of limitations in such jurisdictions. As a result, our effective tax rate could increase and/or our benefits from carrying forward net operating losses could affect our deferred tax assets in certain countries in the coming years. In addition, the acquisition or divestiture of businesses in certain jurisdictions could materially affect our effective tax rate.

We evaluate our deferred tax asset position and the need for a valuation allowance on a regular basis. The ultimate realization of deferred tax assets is dependent upon, among other things, our ability to generate future taxable income that is sufficient to utilize in certain jurisdictions loss carry-forwards or tax credits before their expiration or our ability to implement prudent and feasible tax optimization strategies. The recorded amount of total deferred tax assets could be reduced, which could have a material adverse effect on our results of operations and financial position, if our estimates of projected future taxable income and benefits from available tax strategies are reduced as a result of a change in business condition or in management s plans or due to other factors, such as changes in tax laws and regulations.

We are subject to the possibility of loss contingencies arising out of tax claims, assessment of uncertain tax positions and provisions for specifically identified income tax exposures. We are also subject to tax audits in certain jurisdictions. There can be no assurance that we will be successful in resolving potential tax claims that result from these audits, which could result in material adjustments in our tax positions. We record provisions on the basis of the best current understanding; however, we could be required to record additional provisions in future periods for amounts that cannot currently be assessed. Our failure to do so and/or the need to increase our provisions for such claims could have a material adverse effect on our results of operations and our financial position.

Our operating results can also vary significantly due to impairment of goodwill and other intangible assets incurred in the course of acquisitions and equity investments, as well as to impairment of tangible assets due to changes in the business environment.

Our operating results can vary significantly due to impairment of goodwill, other intangible assets and equity investments booked pursuant to acquisitions, joint venture agreements and the purchase of technologies and licenses from third parties. Because the market for our products is characterized by rapidly changing technologies, significant changes in the semiconductor industry, and the potential failure of our business initiatives, our future cash flows may not support the value of goodwill and other intangibles registered in our Consolidated Balance Sheets. See Item 5. Operating and Financial Review and Prospects Overview Critical Accounting Policies Using Significant Estimates Impairment of goodwill , Intangible assets subject to amortization and Income (loss) on Equity-method Investments .

We receive public funding, and a reduction in the amount available to us or demands for repayment could increase our costs and impact our results of operations.

To support our proprietary R&D for technology investments and investments in cooperative R&D ventures, we have in the past benefited and expect to continue to benefit in the future from public funding, mainly from French, Italian and EU governmental entities. The public funding we receive is subject to periodic review by the relevant authorities and there can be no assurance that we will continue to benefit from such programs at current levels or that sufficient alternative funding will be available if we lose such support. If any of the public funding programs we participate in are curtailed or discontinued and we do not reduce the relevant R&D costs, this could have a material adverse effect on our business. Furthermore, to receive public funding, we enter into agreements which require compliance with extensive regulatory requirements and set forth certain conditions relating to the funded programs. If we fail to meet the regulatory requirements or applicable conditions, we may, under certain circumstances, be required to refund previously received amounts, which could have a material adverse effect on our results of operations. If there are changes in the public funding we receive this could increase the net costs for us to continue investing in R&D at current levels and could result in a material adverse effect on our results of operations.

Some of our production processes and materials are environmentally sensitive, which could expose us to liability and increase our costs due to environmental, health and safety laws and regulations or because of damage to the environment.

We are subject to environmental, health and safety laws and regulations that govern various aspects, including the use, storage, discharge and disposal of chemicals, gases and other hazardous substances used in our operations. Compliance with such laws and regulations could adversely affect our manufacturing costs or product sales by requiring us to acquire costly equipment, materials or greenhouse gas allowances, or to incur other significant expenses in adapting our manufacturing processes or waste and emission disposal processes. Furthermore, environmental claims or our failure to comply with present or future regulations could result in the assessment of damages or imposition of fines against us, suspension of production or a cessation of operations. Failure by us to control the use of, or adequately restrict the discharge of, chemicals or hazardous substances could subject us to future liabilities.

Loss of key employees could hurt our competitive position.

Our success depends to a significant extent upon our key executives and R&D, engineering, marketing, sales, manufacturing, support and other personnel. Our success also depends upon our ability to continue to identify, attract, retain and motivate highly trained and skilled engineering, technical and professional personnel in a competitive recruitment environment. For instance, in highly specialized areas, it may become more difficult to retain employees. We intend to continue to devote significant resources to recruit, train and retain qualified employees, however, we may not be able to attract and retain these employees, which may affect our growth in future years and the loss of the services of any of these key personnel without adequate replacement or the inability to attract new qualified personnel could have a material adverse effect on us.

The interests of our controlling shareholder, which is in turn indirectly controlled by the French and Italian governments, may conflict with other investors interests. In addition, our controlling shareholder may sell our existing common shares or issue financial instruments exchangeable into our common shares at any time.

We have been informed that as of December 31, 2018, STMicroelectronics Holding N.V. (ST Holding), owned 250,704,754 shares, or approximately 27.5%, of our issued common shares. ST Holding may therefore be in a position to effectively control the outcome of decisions submitted to the vote at our shareholders meetings, including but not limited to the appointment of the members of our Managing and Supervisory Boards.

We have been informed that ST Holding s shareholders, each of which is ultimately controlled by the French or Italian government, are party to a shareholders agreement (the STH Shareholders Agreement), which governs relations between them. We are not a party to the STH Shareholders Agreement. See Item 7. Major

Shareholders and Related Party Transactions Major Shareholders . The STH Shareholders Agreement includes provisions requiring the unanimous approval by the shareholders of ST Holding before ST Holding can vote its shares in our share capital, which may give rise to a conflict of interest between our interests and investors interests, on the one hand, and the (political) interests of ST Holding s shareholders, on the other hand. Our ability to issue new shares or other securities giving access to our shares may be limited by ST Holding s desire to maintain its shareholding at a certain level and our ability to buy back shares may be limited by ST Holding due to a Dutch law requiring one or more shareholders acquiring 30% or more of our voting rights to launch a tender offer for our outstanding shares.

The STH Shareholders Agreement also permits our respective French and Italian indirect shareholders to cause ST Holding to dispose of its stake in us at any time, thereby reducing the current level of their respective indirect interests in our common shares. Sales of our common shares or the issuance of financial instruments exchangeable into our common shares or any announcements concerning a potential sale by ST Holding could materially impact the market price of our common shares depending on the timing and size of such sale, market conditions as well as a variety of other factors.

Our shareholder structure and our preference shares may deter a change of control.

We have an option agreement in place with an independent foundation, whereby the foundation can acquire preference shares in the event of actions which the board of the independent foundation determines would be contrary to our interests, our shareholders and our other stakeholders and which in the event of a creeping acquisition or offer for our common shares are not supported by our Managing Board and Supervisory Board. In addition, our shareholders have authorized us to issue additional capital within the limits of the authorization by our General Meeting of Shareholders, subject to the requirements of our Articles of Association, without the need to seek a specific shareholder resolution for each capital increase. Accordingly, an issue of preference shares or new shares may make it more difficult for a shareholder to obtain control over our General Meeting of Shareholders. These anti-takeover provisions could substantially impede the ability of our shareholders to benefit from a change in control and, as a result, may materially adversely affect the market price of our ordinary shares and our investors ability to realize any potential change of control premium. See Item 7. Major Shareholders and Related Party Transactions Major Shareholders Preference Shares .

Any decision to reduce or discontinue paying cash dividends to our shareholders could adversely impact the market price of our common shares.

On an annual basis, our Supervisory Board, upon the proposal of the Managing Board, may propose the distribution of a cash dividend to the general meeting of our shareholders. See Item 8. Dividend Policy . Any reduction or discontinuance by us of the payment of cash dividends at historical levels could cause the market price of our common shares to decline.

We are required to prepare financial statements under IFRS and we also prepare Consolidated Financial Statements under U.S. GAAP, and such dual reporting may impair the clarity of our financial reporting.

We use U.S. GAAP as our primary set of reporting standards. Applying U.S. GAAP in our financial reporting is designed to ensure the comparability of our results to those of our competitors, as well as the continuity of our reporting, thereby providing our stakeholders and potential investors with a clear understanding of our financial performance. As we are incorporated in The Netherlands and our shares are listed on Euronext Paris and on the Borsa Italiana, we are subject to EU regulations requiring us to also report our results of operations and financial statements using IFRS.

As a result of the obligation to report our financial statements under IFRS, we prepare our results of operations using both U.S. GAAP and IFRS, which are currently not consistent. Such dual reporting can materially increase the complexity of our financial communications. Our financial condition and results of operations reported in accordance with IFRS will differ from our financial condition and results of operations reported in accordance with U.S. GAAP, which could give rise to confusion in the marketplace.

There are inherent limitations on the effectiveness of our controls.

There can be no assurance that a system of internal control over financial reporting, including one determined to be effective, will prevent or detect all misstatements. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance regarding financial statement preparation and presentation. Projections of the results of any evaluation of the effectiveness of internal control over financial reporting into future periods are subject to inherent risk. The relevant controls may become inadequate due to changes in circumstances or the degree of compliance with the underlying policies or procedures may deteriorate.

Because we are subject to the corporate law of The Netherlands, U.S. investors might have more difficulty protecting their interests in a court of law or otherwise than if we were a U.S. company.

Our corporate affairs are governed by our Articles of Association and by the laws governing corporations incorporated in The Netherlands. The rights of our investors and the responsibilities of members of our Managing and Supervisory Boards under Dutch law are not as clearly established as under the rules of some U.S. jurisdictions. Therefore, U.S. investors may have more difficulty in protecting their interests in the face of actions by our management, members of our Managing and Supervisory Boards or our controlling shareholders than U.S. investors would have if we were incorporated in the United States.

Our executive offices and a substantial portion of our assets are located outside the United States. In addition, ST Holding and most members of our Managing and Supervisory Boards are residents of jurisdictions other than the United States. As a result, it may be difficult or impossible for shareholders to effect service within the United States upon us, ST Holding, or members of our Managing or Supervisory Boards. It may also be difficult or impossible for shareholders to enforce outside the United States judgments obtained against such persons in U.S. courts, or to enforce in U.S. courts judgments obtained against such persons in courts in jurisdictions outside the United States. This could be true in any legal action, including actions predicated upon the civil liability provisions of U.S. securities laws. In addition, it may be difficult or impossible for shareholders to enforce, in original actions brought in courts in jurisdictions located outside the United States, rights predicated upon U.S. securities laws.

We have been advised by Dutch counsel that the United States and The Netherlands do not currently have a treaty providing for reciprocal recognition and enforcement of judgments (other than arbitration awards) in civil and commercial matters. With respect to choice of court agreements in civil or commercial matters, it is noted that the Hague Convention on Choice of Court Agreements entered into force in the Netherlands, but has not entered into force in the United States. As a consequence, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not predicated solely upon the federal securities laws of the United States, will not be enforceable in The Netherlands. However, if the party in whose favor such final judgment is rendered brings a new suit in a competent court in The Netherlands, such party may submit to The Netherlands court the final judgment that has been rendered in the United States. If The Netherlands court finds that the jurisdiction of the federal or state court in the United States has been based on grounds that are internationally acceptable and that proper legal procedures that are in accordance with the Dutch standards of proper administration of justice including sufficient safeguards (*behoorlijke rechtspleging*) have been observed, the court in The Netherlands would, under current practice, in principle give binding effect to the final judgment that has been rendered in the United States unless such judgment contradicts The Netherlands public policy and provided that the judgment by the foreign court is not incompatible with a decision rendered between the same parties by a Dutch court, or with a previous decision rendered between the same parties by a foreign court in a dispute that concerns the same subject and is based on the same cause, provided that the previous decision qualifies for acknowledgment in the Netherlands. Even if such a foreign judgment is given binding effect, a claim based thereon may, however, still be rejected if the foreign judgment is not or no longer formally enforceable.

Item 4. Information on the Company

History and Development of the Company

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

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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.

Business Overview

We are a global independent semiconductor company that designs, develops, manufactures and markets a broad range of products, including discrete and standard 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. For our 2018 Results of Operations, see Item 5. Operating and Financial Review and Prospects Results of Operations Segment Information .

Strategy

We are a global leader in the semiconductor market, serving a broad range of customers across different areas. Our strategy focuses on long-term value creation for the Company and its affiliated enterprises and takes into account the evolution of the markets we serve and the environment and opportunities we see for the years to come. We focus on developing industry-leading products and solutions for the application areas which are expected to experience solid growth rates driven by long-term trends. Trends include the evolution of population demographics, urbanization, workplace transformation, health and wellness, environmental awareness and increasing connectedness. These trends require enablers such as autonomous systems, robotics, securely connected machines and personal devices, electrification of automobiles and infrastructure, Internet of Things (IoT) and more power efficient systems, which in turn drive the demand for the electronic components we develop and manufacture.

Our products are used in a wide variety of applications, which address four end markets: automotive, industrial, personal electronics and communications equipment, computers and peripherals. We enable smarter driving by making vehicles safer, more environmentally friendly and more connected. We help make smarter homes, cities, workplaces and factories in which things can be done more efficiently and flexibly, in a more sustainable manner, safer and with a better experience for the people at the center. We enable creators of smart connected consumer devices to develop and take to market their devices quicker and more efficiently. 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.

Product Information

Semiconductors are electronic components that serve as the building blocks inside modern electronic systems and equipment. Semiconductors, generally known as chips, combine multiple transistors on a single piece of material to form a complete electronic circuit. With our portfolio of semiconductor products, we serve customers across the spectrum of electronics applications with innovative solutions.

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We have a portfolio of analog products, including sensors, signal channel devices and output power stages discrete and/or integrated as well as complete power management blocks. Our analog products can fulfill the needs of a wide range of designs and systems.

We also have digital products that are at the heart of electronics systems, including microcontrollers, ASICs and specialized imaging sensors. Our full set of microcontrollers includes one of the industry s broadest ranges of general-purpose devices serving all market segments, secure microcontrollers for mobile devices, wearables, banking, identification, industrial, automotive and IoT markets and a series of embedded microprocessors for our strategic end markets (automotive, industrial, personal electronics and communications equipment, computers and peripherals).

In addition, we have historically been one of the leading suppliers and innovators in the domain of semiconductor devices dedicated to automotive applications. We have a portfolio spanning complex power train, audio and infotainment devices and body and convenience dedicated and standard functions as well as a broad offering of components for advanced driver assistance systems (ADAS), dedicated automotive microcontrollers, MEMS automotive sensors and power driver, including SiC devices for hybrid and electric cars. The products designed and manufactured specifically for automotive applications are complemented by a large range of automotive grade standard products, both tested and guaranteed to perform under stringent automotive environmental conditions.

On top of the product design R&D spending, our principal investment and resource allocation decisions in the semiconductor business area are for expenditures on technology R&D as well as capital investments in front-end and back-end manufacturing facilities, which are planned at the corporate level; therefore, our product groups share common R&D for process technology and manufacturing capacity for some of their products.

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.

Others includes items such as unused capacity charges, impairment and restructuring charges and other related closure costs, phase out and start-up costs, and other unallocated expenses such as: management reorganization expenses, strategic or special research and development programs, certain corporate-level operating expenses, patent claims and litigations, and other costs that are not allocated to product groups, as well as operating earnings of Subsystems, assembly services and other revenue.

Below is a description of our main categories of products.

Automotive and Discrete Group (ADG)

Dedicated Automotive ICs

We are a top automotive semiconductor vendor supplying solutions to leading suppliers of carmakers worldwide. We combine an unparalleled platform of advanced technologies with an unswerving commitment to quality, and a thorough understanding of the automotive market gained through close collaboration with leading customers. Our automotive-solutions portfolio covers all key application areas in the car: Powertrain, Chassis, Safety and Security, including ADAS, Body Electronics, Infotainment and Connectivity.

For Powertrain, we provide silicon solutions for the full range of engine-management systems: from motorbikes and scooters to the most advanced drive-by-wire solutions. Developments in engine management are driven by both government emission regulations and energy concerns. We continue to work closely with major automotive OEMs, as we have for decades, to reduce fuel consumption and CO_2 emission via advanced technologies such as Variable Valve Timing and Gasoline Direct Injection and Battery Management for hybrid and full electric cars. Due to the cooperation with certain leading car makers, our microcontrollers are currently in the electrical engines of leading hybrid and electric cars.

With regards to Chassis, we provide a broad range of solutions to increase vehicle-occupant safety, including devices for airbags, anti-lock brakes, traction control, electric power steering and active suspension systems. We are a leading supplier of chips for automotive airbags and anti-lock braking systems, which currently represent the largest portion of automotive safety electronics.

We are a leading player in ADAS that help avoid or minimize the severity of traffic accidents. We manufacture leading-edge products for vision and radar (both short range 24GHz and long range 77GHz) based systems that assist the driver with capabilities such as lane-departure warning, forward-collision warning, vision/radar fusion and pedestrian detection including specific modular solutions for the mass market. We are also working on our first-generation modular offering for V2X (vehicle-to-vehicle and vehicle-to-infrastructure) as society progresses toward semi- and fully-autonomous vehicles and Imaging Technologies for vehicles.

Today s car body electronics involve a myriad of inter-networked electronic systems, from dome and door-zone controls, HVAC (heating, ventilation, and air-conditioning) systems, and seat controls to wiper and lighting controls. The penetration of electronics in the car is increasing all the time, as are the requirements for improved reliability and diagnostic capabilities. We address the concept of the smart junction box, which is an intelligent power and switching center for the vehicle that integrates functions and features from exterior and cabin lighting to wipers, with a comprehensive architecture that consists of upgradable hardware and software modules. With our proprietary VIPower silicon technology and thorough application knowledge, we have become a market leader in automotive lighting electronics, offering solutions for both exterior and interior lighting, from incandescent bulbs to LED- or HID -based systems.

Our car infotainment and navigation portfolio includes complete turnkey solutions for digital radio, navigation and telematics, and wireless connectivity in the car. We have leveraged our experience of more than 30 years, at the forefront of AM/FM radio technology to lead in digital radio. We produce all of the semiconductor components for car radios from the tuner through the baseband to multimedia processing and playback. Our car-radio systems are optimized for harsh reception environments and minimized power consumption. Our portfolio of products for navigation also includes a family of System-on-Chip solutions capable of receiving signals from multiple satellite navigation systems, including BeiDou, GPS, GALILEO, GLONASS and QZSS, to improve user position accuracy and navigation in poor satellite visibility conditions, such as in urban canyons.

Discrete and Power Transistor

Discrete and power transistors families include both power products and protection devices serving mainly Industrial, Power Management, Telecom, Computer and Peripherals as well as Automotive applications.

Leading-edge power technologies for both high-voltage and low-voltage applications combined with a full package range and innovative die bonding technologies exemplify our innovation in power transistors. Our portfolio includes MOSFETs ranging from 35V to 1800 V, SiC MOSFETs featuring the industry s highest temperature rating of 200 °C, IGBTs with breakdown voltages ranging from 350 V to 1300 V and a wide range of power bipolar transistors and, more recently, GaN-on- silicon components to address the 5G market. Our portfolio of protection devices supports all industry requirements for electrical overstress and electrostatic surge protection, lightning surge protection and automotive protection. Our protection devices have passed all certifications, meeting or exceeding international protection standards for electrical hazards on electronics boards found in the demanding automotive, computer, consumer, industrial and telecom markets.

Analog, MEMS and Sensors Group (AMS)

Analog, Smart Power, Low Power RF, Touch Screen Controllers

We develop a broad range of innovative Power, Smart Power and Analog ICs, to serve markets such as those relating to smart grid, cloud computing, automation, portable and power conversion. These product families include: Industrial, covering motion control, digital power conversion, energy management and lighting ICs as well as AC-DC power supply and industrial analog ASSP; Custom Analog ICs, which are mainly power management ICs (PMIC) for data storage, server and portable power management devices; and General Purpose Analog, which includes high end analog front-end products as well as RF ICs.

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We also develop a comprehensive range of operational amplifiers (both low-voltage and high-voltage), comparators and current-sense amplifiers. In addition to our portfolio of mainstream operational amplifiers and comparators, we offer specific products for healthcare, industrial, and automotive applications, as well as a range of high-performance products specifically designed to meet the strict requirements of the wearable market.

Our connectivity ICs range from wireline to wireless solutions. We optimize our products for reliability of the communication channel and low power consumption. For wireline communication, we offer a complete family of transceivers compatible with different protocol standards used in the industry (PRIME, Meters and More, IEC 61334-5-1, CAN and others). Our ultra-low power wireless solutions include Sub-1GHz RF chips (aka SPIRIT Family), latest generation Bluetooth Low Energy (aka BlueNRG Family) and Wi-Fi technologies. We sell to OEMs and Mass Market both Standard and Dedicated RF solutions, either chips or certified modules.

Our FingerTip® family of Touch Screen Controllers provides true multi-touch capability, supporting unlimited simultaneous touches, and it is optimized for the extreme low power consumption. FingerTip also enhances multi-touch actions such as pinch-to-zoom, supports stylus operations and is compatible with both flat and curved display panel.

MEMS Sensors and Actuators

Our MEMS portfolio includes both Sensors and Actuators. We sell our MEMS products in a broad range of application fields, including mobile, gaming, computer, automotive, industrial, healthcare and IoT.

MEMS Sensors include Motion MEMS (accelerometers, gyroscopes, magnetic sensors), Environmental Sensors (pressure, humidity and temperature) and Microphones. We offer a unique sensor portfolio, from discrete to fully-integrated solutions, high performance sensor fusion to improve the accuracy of multi-axis sensor systems in order to enable highly-demanding applications, such as indoor navigation and location-based services, optical image stabilization and high-level quality products.

MEMS Actuators include: (i) Thermal and Piezoelectric Actuators for 2D and 3D Printing in Consumer, Commercial and Industrial market applications; (ii) Piezoelectric Actuators for applications such as smartphone camera Auto Focus and MEMS loudspeakers; and (iii) Piezoelectric, Electrostatic and Electromagnetic Actuators for emerging VR/AR applications, ultra-low power depth cameras and LIDAR Systems for assisted Smart Driving.

Specialized Imaging Sensors

We also have a broad portfolio of Imaging solutions based on ST proprietary differentiated technologies such as FlightSense™, addressing various markets, and in particular the fast growing 3D sensing consumer and automotive applications. ST Imaging solutions are composed of both specialized components developed for dedicated customers systems; and full optical sense and illumination system solutions targeting multiple customers.

Microcontrollers and Digital ICs Group (MDG)

Microcontroller, Memory & Secure MCU

We have microcontrollers for general purpose and secure applications as well as small density serial non-volatile memories. Our product portfolio contains a comprehensive range of microcontrollers, from robust entry-level 8-bit ST proprietary microcontrollers up to 32-bit ARM®-based Cortex®-M0 and M0+, Cortex®-M3, Cortex®-M4, Cortex ®-M7 Flash microcontrollers with a wide choice of peripherals. We have also extended this range to include ultra-low-power MCU platforms, various security and connectivity features.

The STM32 family of 32-bit Flash microcontrollers based on the ARM® Cortex®-M processors are designed to offer significant degrees of freedom to microcontroller users. Our 32-bit product range combines very high performance, real-time capabilities, digital signal processing, and low-power, low-voltage operation, while maintaining full integration and ease of development.

The unparalleled and large range of STM32 devices, accompanied by a vast choice of tools and software including support for Artificial Neural Networks, makes this family of products an ideal choice for a large range of applications.

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We offer leading products for secure applications in traditional smartcard applications and embedded security applications. Throughout our 20+ year presence in the smartcard security industry, we have supplied the market s most advanced technologies and solutions, with a continuous focus on innovation and the highest levels of security certification. Our expertise in security is key to our leadership in the banking, pay-TV, mobile communication, identity, and transport fields. We also actively contribute to the emergence of new applications such as, among others, embedded SIM and secure mobile transactions on near field communication (NFC) for mobile phones, trusted computing, brand protection and security for IoT devices. Our secure microcontroller product portfolio offers compliance with the latest security standards up to Common Criteria EAL6+, ICAO, and TCG1.2. Our secure microcontrollers cover a complete range of interfaces for both contact and contactless communication, including ISO 7816, ISO 14443 Type A & B, NFC, USB, SPI and I²C.

Our secure-microcontroller platforms rely on a highly secure architecture combined with leading-edge CPUs, such as ARM s SC300 and SC000, and advanced embedded non-volatile memory technologies such as 40-nm embedded Flash and 80-nm embedded EEPROM technologies.

We offer a wide range of small density serial non-volatile memories. The serial EEPROM family ranges from 1 Kbit to 2 Mbits and offers different serial interfaces: I²C, SPI, Microwire. Our wide range of products are also automotive compliant and thin packages are available for applications where space is critical.

RF memory and transceiver products are based on the 13.56 MHz carrier frequency and are also compatible with the NFC technology. We offer one of the most comprehensive portfolios, which includes NFC/RFID transceivers, Dynamic NFC/RFID tags (also known as Dual Interface NFC/RFID tags), Standalone RFID tags and NFC/RFID Readers operating also in the UHF bands.

Digital ASICs

We offer digital ASICs, including our proprietary FD-SOI technology and mixed-process ASICs, for a broad range of applications addressing communications infrastructure systems as well as components for satellite, terrestrial and very-short link high-speed communication links.

Alliances with Customers and Industry Partnerships

We believe that alliances with customers and industry partnerships are critical to our success in the semiconductor industry. Customer alliances provide us with valuable systems and application know-how and access to markets for key products, while allowing our customers to gain access to our process technologies and manufacturing infrastructure. We are actively working to expand the number of our customer alliances, targeting key global OEMs.

From time to time we collaborate with other semiconductor industry companies, research organizations, universities and suppliers to further our R&D efforts. Such collaboration provides us with a number of important benefits, including the sharing of costs, reductions in our own capital requirements, acquisitions of technical know-how and access to additional production capacities.

Customers and Applications

We design, develop, manufacture and market thousands of products that we sell to over 100,000 customers. We emphasize balance in our product portfolio, in the applications we serve and in the regional markets we address. Our major customers include Apple, Robert Bosch, Cisco, Continental, Hewlett-Packard, Huawei, Mobileye, Samsung, Seagate and Western Digital. Our broad portfolio helps foster close relationships with customers, which provides opportunities to supply such customers requirements for multiple products, including discrete devices, programmable products and memory products. We also sell our products through distributors and retailers.

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) product lines.

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 go-to-market activities and are strongly focused on revenue growth. The sales and marketing activities performed by our regional sales organizations are supported by product marketing organized by product group under the direct supervision of sales, which also includes product development functions. This matrix system reinforces our sales and marketing activities and our broader strategic objectives. An important objective of our regional sales and marketing efforts is expanding our customer base, which we seek to achieve by adding sales representatives, regional competence centers and improved online customer support.

We engage distributors and sales representatives to distribute and promote our products around the world. Typically, distributors handle a wide variety of products, including those that compete with ours, and fulfill orders and service many of our customers. Most of our sales to distributors are made under agreements allowing for price protection and/or the right of return on unsold merchandise. Sales representatives, on the other hand, generally do not offer products that compete directly with our products, but may carry complementary items manufactured by others. Sales representatives do not maintain a product inventory and their customers place large quantity orders directly with us and are referred to distributors for smaller orders.

We also engage in mass market and online marketing programs, coordinated across our three regions, to provide consistency and coordination of key activities associated with mass market development.

At the request of certain of our customers, we also sell and deliver our products to electronics manufacturing services (EMS) companies, which, on a contractual basis with our customers, incorporate our products into the application specific products they manufacture for our customers.

In furtherance of our strong commitment to quality, our sales organizations include personnel dedicated to close monitoring and resolution of quality related issues.

For a breakdown of net revenues by segment and geographic region for the last three fiscal years, see Item 5. Operating and Financial Review and Prospects .

Research and 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 2018, we spent approximately 14.5% 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, 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 packages 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. See Item 4. Information on the Company Alliances with Customers and Industry Partnerships . 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). See Item 4. Information on the Company Public Funding .

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We believe that market driven R&D based on leading-edge products and technologies is critical to our success. We devote significant effort to R&D because we believe such investment can be leveraged into competitive advantages. New developments in semiconductor technology can make end products significantly cheaper, smaller, faster, more reliable and embedded than their predecessors, with differentiated functionalities. They can enable significant value creation opportunities with their timely appearance on the market. The total amount of our R&D expenses in the past three fiscal years was $1,398 million, $1,296 million and $1,331 million in 2018, 2017 and 2016, respectively. For more information on our R&D expenses, see Item 5. Operating and Financial Review and Prospects Results of Operations Research and Development Expenses .

Property, Plants and Equipment

We currently operate 13 main manufacturing sites around the world. The table below sets forth certain information with respect to our current manufacturing facilities, products and technologies. Front-end manufacturing facilities are fabs and back-end facilities are assembly, packaging and final testing plants.

Location	Products	Technologies
Front-end facilities		
Agrate, Italy(1)	Non-volatile memories, microcontrollers and application-specific products MEMS	Fab 1: 200 mm, BCD, MEMS, Microfluidics
		Fab 2: 200 mm, research and development on non-volatile memories and Advanced BCD
Ang Mo Kio, Singapore(2)	Analog, microcontrollers, power transistors, commodity products, non-volatile memories, and application-specific products	Fab 1: 150 mm, Bipolar, Power metal-on silicon oxide semiconductor process technology (MOS) and BCD, EEPROM, Smartcard, Microcontrollers, CMOS logic, Microfluidics, MEMS, Bi-CMOS
		Fab 2: 200 mm, BCD, Advanced BCD, VIPpower™ and Power MOS; EEPROM, embedded non-volatile microcontrollers
Catania, Italy(3)	Power transistors, Smart Power and analog ICs and application-specific products, MEMS	Fab 1: 150 mm, Power MOS, VIPpower™, SiC and Power RF/technologies
		Fab 2: 200 mm, Advanced BCD, Power MOS, VIPpower™

Crolles, France(4)	Application-specific products and leading edge logic products; non-volatile memories and microcontrollers	Fab 1: 200 mm, manufacturing on CMOS and Bi- CMOS, Analog/RF
		Fab 2: 300 mm, research and development and manufacturing on advanced CMOS Bulk and FD-SOI, Time-of-Flight, imaging, Analog/RF, embedded non-volatile memories and microcontrollers
Rousset, France	Non-volatile memories and microcontrollers, application-specific products	Fab: 200 mm, manufacturing on CMOS, embedded non-volatile memories, EEPROM and Analog/RF
Tours, France	Protection thyristors, diodes and ASD™ power transistors, IPAD™	Fab 1: 150 mm and 200 mm Triacs, rectifiers, IPD and Power Schottky diodes
		Pilot line RF
Back-end facilities		
Bouskoura, Morocco	Discrete and standard products, micro modules, RF and subsystems	Power, Power Automotive, SOIC, Micromodules
Calamba, Philippines	Application specific products and standard products, MEMS	Ball and Land Grid Array, QFN, Micromodules, Optical Sensors Module

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Location	Products	Technologies
Kirkop, Malta	Application-specific products, MEMS, Microcontrollers	Ball and Land Grid Array, QFP, FC Ball Grid Array
Muar, Malaysia	Application-specific and standard products, microcontrollers	Ball Grid Array, Power Automotive, SOIC, QFP
Rennes	Application specific products	Various technologies
Shenzhen, China(5)	Non-volatile memories, optical packages, discrete, application-specific and standard products	SOIC, Power, Power Automotive, Optical Sensors
Toa Payoh, Singapore	Packaging research and development, EWS	

(1) In 2018, we started construction of a new 300 mm fab to support next generation mixed signal, IGBT and power products.
(2) During 2017, we acquired from Micron the 200 mm fab we previously contributed to Numonyx as part of its creation in 2008 (Micron subsequently acquired Numonyx in 2010). Micron currently leases and fully utilizes the fab, which will be fully transferred to us in May 2019, with our rights to use certain portion of capacity in the transitional period.
(3) Fab 1will be progressively converted into 200 mm and merged with Fab 2. A portion of Fab 1 remains in 150 mm and is devoted to SiC and RF.
(4) Our 300 mm fab is expanding capacity within existing infrastructure to support the production ramp up of new technologies.
(5) Jointly owned with SHIC, a subsidiary of Shenzhen Electronics Group.

At December 31, 2018, our front-end facilities had a total maximum capacity of approximately 125,470 200 mm equivalent wafer starts per week. The number of wafer starts per week varies from facility to facility and from period to period as a result of changes in product mix.

We own all of our manufacturing facilities, but certain facilities (Muar, Malaysia; Shenzhen, China; and Toa Payoh and Ang Mo Kio, Singapore) are built on land subject of long-term leases.

We have historically subcontracted a portion of total manufacturing volumes to external suppliers. In 2018, we purchased approximately 11% from external foundries of our total silicon production. Our plan is to continue sourcing silicon from external foundries to give us flexibility in supporting our growth.

At December 31, 2018, we had approximately $628 million in outstanding commitments for purchases of equipment and other assets for delivery in 2019. In 2018, our capital spending, net of proceeds, was $1,262 million compared to $1,298 million in 2017. In the 2016-2018 period the ratio of capital investment spending to net revenues was about 12.7%. For more information, see Item 5. Operating and Financial Review and Prospects Financial Outlook: Capital Investment .

Intellectual Property (IP)

Our success depends in part on our ability to obtain patents, licenses and other IP rights to protect our proprietary technologies and processes. IP rights that apply to our various products include patents, copyrights, trade secrets, trademarks and mask work rights. We currently own approximately 17,790 patents and pending patent applications, corresponding to approximately 9,573 patent families (each patent family containing all patents originating from the same invention), including over 549 original new patent applications filed in 2018.

We believe that our IP represents valuable assets. We rely on various intellectual property laws, confidentiality procedures and contractual provisions to protect our IP assets and enforce our IP rights. To optimize the value of our IP assets, we have engaged in licensing our design technology and other IP, including patents, when consistent with our competitive position and our customers interests. We have also entered into broad-scope cross-licenses and other agreements which enable us to design, manufacture and sell semiconductor products using the IP rights of third parties and/or operating within the scope of IP rights owned by third parties.

From time to time, we are involved in IP litigation and infringement claims. See Note 24 to our Consolidated Financial Statements and Item 3. Key Information Risk Factors . Regardless of the validity or the successful assertion of such claims, we may incur significant costs with respect to the defense thereof, which could have a material adverse effect on our results of operations, cash flow or financial condition.

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Backlog

Our sales are made primarily pursuant to standard purchase orders that are generally booked from one to twelve months in advance of delivery. Quantities actually purchased by customers, as well as prices, are subject to variations between booking and delivery and, in some cases, to cancellation due to changes in customer needs or industry conditions. During periods of economic slowdown and/or industry overcapacity and/or declining selling prices, customer orders are not generally made far in advance of the scheduled shipment date. Such reduced lead time can diminish management s ability to forecast production levels and revenues. When the economy rebounds, our customers may strongly increase their demands, which can result in capacity constraints due to a time lag when matching manufacturing capacity with such demand.

In addition, our sales are affected by seasonality, with the first quarter generally showing lowest revenue levels in the year, and the third or fourth quarter historically generating higher amounts of revenues partly as a result of the seasonal dynamics for smartphone applications dynamics.

We also sell certain products to key customers pursuant to frame contracts. Frame contracts are annual contracts with customers setting forth quantities and prices on specific products that may be ordered in the future. These contracts allow us to schedule production capacity in advance and allow customers to manage their inventory levels consistent with just-in-time principles while shortening the cycle times required to produce ordered products. Orders under frame contracts are also subject to a high degree of volatility, because they reflect expected market conditions which may or may not materialize. Thus, they are subject to risks of price reduction, order cancellation and modifications as to quantities actually ordered resulting in inventory build-ups.

Furthermore, developing industry trends, including customers use of outsourcing and their deployment of new and revised supply chain models, may reduce our ability to forecast changes in customer demand and may increase our financial requirements in terms of capital expenditures and inventory levels.

We entered 2018 with a backlog higher than we had entering 2017. For 2019, we entered the year with a backlog lower than what we had entering 2018.

Competition

Markets for our products are intensely competitive. We compete with major international semiconductor companies and while only a few companies compete with us in all of our product lines, we face significant competition from each of them. Smaller niche companies are also increasing their participation in the semiconductor market, and semiconductor foundry companies have expanded significantly, particularly in Asia. Competitors include manufacturers of standard semiconductors, ASICs and fully customized ICs, including both chip and board-level products, as well as customers who develop their own IC products and foundry operations. Some of our competitors are also our customers. We compete in different product lines to various degrees on the basis of price, technical performance, product features, product system compatibility, customized design, availability, quality and sales and technical support. In particular, standard products may involve greater risk of competitive pricing, inventory imbalances and severe market fluctuations than differentiated products. Our ability to compete successfully depends on factors both within and outside our control, including successful and timely development of new products and manufacturing processes, product performance and quality, manufacturing yields and product availability, customer service, pricing, industry trends and general economic trends.

The semiconductor industry is characterized by the high costs associated with developing marketable products and manufacturing technologies as well as high levels of investment in production capabilities. As a result, the semiconductor industry has experienced, and is expected to continue to experience, significant vertical and horizontal consolidation among our suppliers, competitors and customers, which could lead to erosion of our market share, impact our capacity to compete and require us to restructure our operations. See Item 3. Key Information Risk Factors .

Organizational Structure and History

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.

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While STMicroelectronics N.V. is the 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.

The following table lists our consolidated subsidiaries and our percentage ownership as of December 31, 2018:

Legal Seat	Name	Percentage Ownership (Direct or Indirect)
Australia, Sydney	STMicroelectronics PTY Ltd	100
Austria, Vienna	STMicroelectronics Austria GmbH	100
Belgium, Diegem	Proton World International N.V.	100
Brazil, Sao Paulo	South America Comércio de Cartões Inteligentes Ltda	100
Brazil, Sao Paulo	STMicroelectronics Ltda	100
Canada, Ottawa	STMicroelectronics (Canada), Inc.	100
China, Beijing	STMicroelectronics (Beijing) R&D Co. Ltd	100
China, Shanghai	STMicroelectronics (Shanghai) Co. Ltd	100
China, Shanghai	STMicroelectronics (China) Investment Co. Ltd	100
China, Shenzhen	Shenzhen STS Microelectronics Co. Ltd	60
China, Shenzhen	STMicroelectronics (Shenzhen) R&D Co. Ltd	100
Czech Republic, Prague	STMicroelectronics Design and Application s.r.o.	100
Denmark, Aarhus	STMicroelectronics A/S	100
Finland, Nummela	STMicroelectronics Finland OY	100
France, Crolles	STMicroelectronics (Crolles 2) SAS	100
France, Grenoble	STMicroelectronics (Alps) SAS	100
France, Grenoble	STMicroelectronics (Grenoble 2) SAS	100
France, Le Mans	STMicroelectronics (Grand Ouest) SAS	100
France, Montrouge	STMicroelectronics S.A.	100
France, Rousset	STMicroelectronics (Rousset) SAS	100
France, Tours	STMicroelectronics (Tours) SAS	100
Germany, Aschheim-Dornach	STMicroelectronics GmbH	100
Germany, Aschheim-Dornach	STMicroelectronics Application GmbH	100
Hong Kong	STMicroelectronics Ltd	100
India, Noida	STMicroelectronics Pvt Ltd	100
Israel, Netanya	STMicroelectronics Ltd	100
Italy, Agrate Brianza	STMicroelectronics S.r.l.	100
Italy, Naples	STMicroelectronics Services S.r.l.	100
Japan, Tokyo	STMicroelectronics KK	100
Malaysia, Kuala Lumpur	STMicroelectronics Marketing SDN BHD	100
Malaysia, Muar	STMicroelectronics SDN BHD	100
Malta, Kirkop	STMicroelectronics (Malta) Ltd	100
Mexico, Guadalajara	STMicroelectronics Marketing, S. de R.L. de C.V.	100
Morocco, Casablanca	Electronic Holding S.A.	100
Morocco, Casablanca	STMicroelectronics S.A.S. (Maroc)	100

The Netherlands, Amsterdam	STMicroelectronics Finance B.V.	100
The Netherlands, Amsterdam	STMicroelectronics Finance II N.V.	100
The Netherlands, Amsterdam	STMicroelectronics International N.V.	100
Philippines, Calamba	STMicroelectronics, Inc.	100
Philippines, Calamba	Mountain Drive Property, Inc.	40
Singapore, Ang Mo Kio	STMicroelectronics Asia Pacific Pte Ltd	100
Singapore, Ang Mo Kio	STMicroelectronics Pte Ltd	100
Slovenia, Ljubljana	STMicroelectronics d.o.o.	100
Spain, Barcelona	STMicroelectronics Iberia S.A.	100
Sweden, Jönköping	STMicroelectronics Software AB	100
Sweden, Kista	STMicroelectronics A.B.	100
Switzerland, Geneva	STMicroelectronics S.A.	100
Switzerland, Geneva	INCARD S.A.	100
Switzerland, Geneva	ST New Ventures S.A., in liquidation	100

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Legal Seat	Name	Percentage Ownership (Direct or Indirect)
Thailand, Bangkok	STMicroelectronics (Thailand) Ltd	100
United Kingdom, Bristol	STMicroelectronics (Research & Development) Limited	100
United Kingdom, Marlow	STMicroelectronics Limited	100
United Kingdom, Marlow	Synad Technologies Limited	100
United States, Coppell	STMicroelectronics Software Inc.	100
United States, Coppell	STMicroelectronics Inc.	100
United States, Coppell	Genesis Microchip Inc.	100
United States, Coppell	Genesis Microchip (Delaware), Inc.	100
United States, Coppell	Genesis Microchip LLC	100
United States, Coppell	Genesis Microchip Limited Partnership	100
United States, Coppell	Sage Inc.	100
United States, Coppell	Faroudja, Inc.	100
United States, Coppell	Faroudja Laboratories Inc.	100
United States, Coppell	STMicroelectronics (North America) Holding, Inc.	100

The following table lists our principal equity-method investments and our percentage ownership as of December 31, 2018:

Legal Seat	Name	Percentage Ownership (Direct or Indirect)
Brazil, Sao Paulo	Incard do Brazil Ltda	50.0
Switzerland, Geneva(1)	ST-Ericsson SA, in liquidation	50.0

(1) As a result of our exit from the ST-Ericsson joint venture, our exposure is limited to covering 50% of ST-Ericsson s needs to complete the wind-down, which are estimated to be negligible, based on our current visibility of the ST-Ericsson liquidation balance.

Public Funding

We receive public funding mainly from French, Italian and EU governmental entities. Such funding is generally provided to encourage R&D activities, industrialization and local economic development. Public funding in France, Italy and Europe generally is open to all companies, regardless of their ownership structure or country of incorporation. The conditions for the receipt of government funding may include eligibility restrictions, approval by EU authorities, annual budget appropriations, compliance with EU regulations, royalties or contingent return provisions as well as specifications regarding objectives and results. The approval process for such funding may be quite long, up to several years. Certain specific contracts require compliance with extensive regulatory requirements and set forth certain conditions relating to the funded programs. There could be penalties if these objectives are not fulfilled. Other contracts contain penalties for late deliveries or for breach of contract, which may result in repayment obligations. Our funding programs are classified under three general categories: funding for research and development activities, capital investment for pilot lines and loans. We also benefit from tax credits for R&D activities in several countries which are generally available to all companies. See Item 5. Operating and Financial Review and Prospects Results of Operations and the Notes to our Consolidated Financial Statements.

The main programs for R&D in which we are involved include: (i) Pan-European program on Nanoelectronics Technology and Applications (PENTA); (ii) EU R&D projects within Horizon 2020 (the European Union s research and innovation framework); (iii) Electronic Components and Systems for European Leadership (ECSEL) initiative, which combines all electronics related R&D activities and is operated by joint undertakings formed by the European Union, certain member states and industry; and (iv) national or regional programs for R&D and for industrialization in the electronics industries involving many companies and laboratories. The pan- European programs cover a period of several years, while national or regional programs in France and Italy are subject mostly to annual budget appropriation.

In our role as Coordinator and Project Leader of Nano2017, we had been allocated an overall funding budget of about 400 million for the period 2013-2018, which was subject to the conclusion of agreements every year with the public authorities and linked to the achievement of technical parameters and objectives. A portion of the Nano2017 program was subject to a payback clause (financial return), depending on the future accumulated sales for certain products within the scope of the funded program on the period from 2018 to 2023.

The financial return corresponded to the payment in 2024 of the original funded amount (37 million) multiplied by a rate from 0% to 250%, depending on the cumulative amount of future sales. As such, the criteria for granting income recognition were not met and an accrual amounting to $42 million was posted as of December 31, 2018. We believe the Nano2017 R&D program, which expired in April 2018, has strengthened our leadership in key technologies such as FD-SOI (low-power, high-performance processing), imagers and photonic sensors and embedded non-volatile memories. These technologies are at the core of our digital portfolio which includes, among others, microcontrollers, imaging, analog and mixed signal, digital automotive and ASICs.

In December 2018, the European Commission announced the approval of Important Projects of Common European Interest (IPCEI), a Pan-European project initiated to foster research and innovation in microelectronics to be funded by Germany, France, Italy and the U.K. We expect to participate in IPCEI for the period 2018 until 2022 in France and until 2024 in Italy.

Suppliers

We use three primary critical types of suppliers in our business: (i) equipment suppliers, (ii) material suppliers and (iii) external silicon foundries and back-end subcontractors. We also purchase third party licensed technology from a limited number of providers.

In the front-end process, we use steppers, scanners, tracking equipment, strippers, chemo-mechanical polishing equipment, cleaners, inspection equipment, etchers, physical and chemical vapor-deposition equipment, implanters, furnaces, testers, probers and other specialized equipment. The manufacturing tools that we use in the back-end process include bonders, burn-in ovens, testers and other specialized equipment. The quality and technology of equipment used in the IC manufacturing process defines the limits of our technology. Demand for increasingly smaller chip structures means that semiconductor producers must quickly incorporate the latest advances in process technology to remain competitive. Advances in process technology cannot occur without commensurate advances in equipment technology, and equipment costs tend to increase as the equipment becomes more sophisticated.

Our manufacturing processes use many materials, including silicon and SiC wafers, lead frames, mold compound, ceramic packages and chemicals and gases. The prices of many of these materials are volatile due to the specificity of the market. We have therefore adopted a multiple sourcing strategy designed to protect us from the risk of price increases. The same strategy applies to supplies for the materials used by us to avoid potential material disruption of essential materials. Our multiple sourcing strategy , our Financial Risk Monitoring as well as the robustness of our supply chain and strong partnership with suppliers are intended to mitigate these risks. See Item 3. Key Information Risk Factors .

Finally, we also use external subcontractors to outsource wafer manufacturing and assembly and testing of finished products. See Property, Plants and Equipment above.

Environmental Matters

We are subject to a variety of environmental, health and safety laws and regulations in the jurisdictions where we operate. Such laws and regulations govern, among other things, the use, storage, discharge and disposal of chemicals and other hazardous substances, emissions and wastes, as well as the investigation and remediation of soil and ground water contamination. We are also required to obtain environmental permits, licenses and other forms of authorization, or give prior notification, in order to operate.

We adopt a rigorous approach to managing our business operations in an environmentally responsible way. Consistent with our sustainability strategy, we have established proactive environmental policies with respect to the handling of chemicals, emissions, waste disposals and other substances of concern from our manufacturing operations. We are certified to be in compliance with quality standard ISO 9001on a Company-wide basis. We implement the highest standards across our manufacturing activities and supply chain. The majority of our sites are ISO 14001 certified and EMAS validated. Furthermore, all of our front-end manufacturing sites are ISO 50001 certified.

We believe that in 2018 our activities complied with then-applicable environmental regulations in all material respects. We have engaged outside consultants to audit all of our environmental activities and have created environmental management teams, information systems and training. We have also instituted environmental control procedures for processes used by us as well as our suppliers. In 2018, there were no material environmental claims made against us.

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Item 5. Operating and Financial Review and Prospects

Overview

The following discussion should be read in conjunction with our Consolidated Financial Statements and Notes thereto included elsewhere in this Form 20-F. The following discussion contains statements of future expectations and other forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, or Section 21E of the Securities Exchange Act of 1934, each as amended, particularly in the sections Critical Accounting Policies Using Significant Estimates , Business Outlook , Liquidity and Capital Resources and Financial Outlook: Capital Investment . Our actual results may differ significantly from those projected in the forward-looking statements. For a discussion of factors that might cause future actual results to differ materially from our recent results or those projected in the forward-looking statements in addition to the factors set forth below, see Cautionary Note Regarding Forward-Looking Statements and Item 3. Key Information Risk Factors . We assume no obligation to update the forward-looking statements or such risk factors.

Critical Accounting Policies Using Significant Estimates

The preparation of our Consolidated Financial Statements in accordance with U.S. GAAP requires us to make estimates and assumptions. The primary areas that require significant estimates and judgments by us include, but are not limited to:

- sales returns and allowances;
- inventory obsolescence reserves and normal manufacturing capacity thresholds to determine costs capitalized in inventory;
- recognition and measurement of loss contingencies;
- valuation at fair value of assets acquired or sold, including intangibles, goodwill, investments and tangible assets;
- annual and trigger-based impairment review of goodwill and intangible assets, as well as the assessment, in each reporting period, of events, which could trigger impairment testing on long-lived assets;
- assessment of other-than-temporary impairment charges on financial assets, including equity-method investments;
- recognition and measurement of restructuring charges and other related exit costs;
- assumptions used in assessing the number of awards expected to vest on stock-based compensation plans;

- assumptions used in calculating pension obligations and other long-term employee benefits;

- allocation between debt and equity of the various components of an issued, or converted, hybrid instrument and measurement at fair value of the liability component based on a discount rate adjustment technique income approach; and

- determination of the amount of taxes expected to be paid and tax benefit expected to be received, including deferred income tax assets, valuation allowance and provisions for uncertain tax positions and claims.

We base the estimates and assumptions on historical experience and on various other factors such as market trends, market information used by market participants and the latest available business plans that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. While we regularly evaluate our estimates and assumptions, the actual results we experience could differ materially and adversely from our estimates.

We believe the following critical accounting policies require us to make significant judgments and estimates in the preparation of our Consolidated Financial Statements:

Revenue recognition. Upon the adoption of the new guidance, arrangements with customers are considered contracts if all the following criteria are met: (a) parties have approved the contract and are committed to perform their respective obligations; (b) each party s rights regarding the goods or services to be transferred can be identified; (c) payment terms related to the goods or services to be transferred can be identified; (d) the contract has commercial substance and (e) collectability of substantially all of the consideration is probable. We recognize revenue from products sold to a customer, including distributors, when we satisfy the performance obligation by transferring the control over a product to the customer. In certain circumstances, we may render services to the customer. These services usually correspond to a single performance obligation which is satisfied over a short period of time. The payment terms typically range between 30 and 90 days. Certain of our customers require us to hold inventory as consignment in their hubs and only purchase inventory when they require it for their own protection. Revenue for sales of such inventory is recognized when, at the customer s option, the products are withdrawn from the consignment.

Consistent with standard business practice in the semiconductor industry, price protection is granted to distribution customers on their existing inventory of our products to compensate them for declines in market prices. We accrue a provision for price protection based on a rolling historical price trend computed on a monthly basis as a percentage of gross distributor sales. This historical price trend represents differences in recent months between the invoiced price and the final price to the distributor, adjusted if required, to accommodate a significant change in the current market price. The short outstanding inventory time period, visibility into the inventory product pricing and long distributor pricing history have enabled us to reliably estimate price protection provisions at period-end. We record the accrued amounts as a deduction of Net sales in the consolidated statements of income at the time of the sale. The new accounting guidance has had no impact on this accounting practice.

Our customers occasionally return our products for technical reasons. Our standard terms and conditions of sale provide that if we determine that products do not conform, we will repair or replace the non-conforming products, or issue a credit note or rebate of the purchase price. Quality returns are identified shortly after sale in customer quality control testing. Quality returns are usually associated with end-user customers, not with distribution channels. We record the accrued amounts as a deduction of Net sales in the consolidated statements of income, using past history and current conditions to form a reasonable estimate of future returns. The new accounting guidance has had no impact on this accounting practice.

Our insurance policy relating to product liability covers third party physical damages and bodily injury, indirect financial damages as well as immaterial non-consequential damages caused by defective products. We record a provision for warranty costs as a charge against Cost of sales in the consolidated statements of income, based on historical trends of warranty costs incurred as a percentage of sales, which management had determined to be a reasonable estimate of the probable losses to be incurred for warranty claims in a period. The new accounting guidance has no impact on this accounting practice. Any potential warranty claims are subject to our determination that we are at fault for damages, and that such claims usually must be submitted within a short period of time following the date of sale. This warranty is given in lieu of all other warranties, conditions or terms expressed or implied by statute or common law. Our contractual terms and conditions typically limit our liability to the sales value of the products that gave rise to the claims.

In addition to product sales, we enter into arrangements with customers consisting in transferring licenses or related to license services. The revenue generated from these arrangements are reported on the line Other revenues of the consolidated statement of income. Other revenues also include patent royalty income, sale of scrap materials and manufacturing by-products.

Trade accounts receivable. We maintain an allowance for doubtful accounts for potential estimated losses resulting from our customers inability to make required payments. In addition, we evaluate our customers financial condition periodically and record an allowance for any specific account we consider as doubtful. In 2018, we did not record any new material specific charge related to doubtful customers. If we receive information that the financial condition of our customers has deteriorated, resulting in an impairment of their ability to make payments, additional allowances could be required.

Business combinations and goodwill. The purchase accounting method applied to business combinations requires extensive use of estimates and judgments to allocate the purchase price to the fair value of the identifiable assets acquired and liabilities assumed. If the assumptions and estimates used to allocate the purchase price are not correct or if business conditions change, purchase price adjustments or future asset impairment charges could be required. At December 31, 2018, the value of goodwill in our Consolidated Balance Sheet amounted to $121 million.

Impairment of goodwill. Goodwill recognized in business combinations is not amortized but is tested for impairment annually in the third quarter, or more frequently if a triggering event indicating a possible impairment exists. Goodwill subject to potential impairment is tested at a reporting unit level. This impairment test determines whether the fair value of each reporting unit for which goodwill is allocated is lower than the total carrying amount of relevant net assets allocated to such reporting unit, including its allocated goodwill. If lower, the implied fair value of the reporting unit goodwill is then compared to the carrying value of the goodwill and an impairment charge is recognized for any excess. In determining the fair value of a reporting unit, we use significant management judgments and estimates to forecast the future discounted cash flows associated with the reporting unit, including: the applicable industry s sales volume forecast and selling price evolution, the reporting unit s market penetration and its revenues evolution, the market acceptance of certain new technologies and products, the relevant cost structure, the discount rates applied using a weighted average cost of capital and the perpetuity rates used in calculating cash flow terminal values. Our evaluations are based on financial plans updated with the latest available projections of the semiconductor market, our sales expectations and our costs evaluation, and are consistent with the plans and estimates that we use to manage our business. It is possible, however, that the plans and estimates used may prove to be incorrect, and future adverse changes in market conditions, changes in strategies, lack of performance of major customers or operating results of acquired businesses that are not in line with our estimates may require impairments.

We performed our annual impairment test of goodwill during the third quarters of 2018, 2017 and 2016 and concluded that there was no goodwill impairment loss. Impairment charges could result from new valuations triggered by changes in our product portfolio or strategic alternatives, particularly in the event of a downward shift in future revenues or operating cash flows in relation to our current plans or in case of capital injections by, or equity transfers to, third parties at a value lower than the current carrying value.

Intangible assets subject to amortization. Intangible assets subject to amortization include intangible assets purchased from third parties recorded at cost and intangible assets acquired in business combinations recorded at fair value, comprised of technologies and licenses, and computer software. Intangible assets with finite useful lives are reflected net of any impairment losses and are amortized over their estimated useful life. We evaluate the carrying value of intangible assets with finite useful lives whenever changes in circumstances indicates that the carrying amount might not be recoverable. An impairment loss is recognized in the Consolidated Statements of Income for the amount by which the carrying amount exceeds fair value. We evaluate the remaining useful life of an intangible asset at each reporting date to determine whether events and circumstances warrant a revision to the remaining period of amortization. Our evaluations are based on financial plans updated with the latest available projections of growth in the semiconductor market and our sales expectations. They are consistent with the plans and estimates that we use to manage our business. It is possible, however, that the plans and estimates used may be incorrect and that future adverse changes in market conditions or operating results of businesses acquired may not be in line with our estimates and may therefore require us to recognize impairment charges on certain intangible assets.

During 2018, we recorded a $2 million impairment charge on acquired technologies for which it was determined that they had no future alternative use. During 2017, we did not record any impairment charges on intangible assets. During 2016, we impaired $4 million of acquired technologies for which it was determined that they had no future alternative use.

We will continue to monitor the carrying value of our assets. If market conditions deteriorate, this could result in future non-cash impairment charges against earnings. Further impairment charges could also result from new valuations triggered by changes in our product portfolio or by strategic transactions, particularly in the event of a downward shift in future revenues or operating cash flows in relation to our current plans or in case of capital injections by, or equity transfers to, third parties at a value lower than the one underlying the carrying amount.

At December 31, 2018, the value of intangible assets subject to amortization in our Consolidated Balance Sheet amounted to $212 million.

Property, plant and equipment. Our business requires substantial investments in technologically advanced manufacturing facilities, which may become significantly underutilized or obsolete as a result of rapid changes in demand and ongoing technological evolution. We estimate the useful life for the majority of our manufacturing equipment, the largest component of our long-lived assets, to be six years, except for our 300 mm manufacturing equipment whose useful life is estimated to be ten years. This estimate is based on our experience using the equipment over time. Depreciation expense is an important element of our manufacturing cost structure. We begin to depreciate newly acquired equipment when it is placed into service.

We evaluate each reporting period if there is reason to suspect impairment on tangible assets or in groups of assets held for use and we perform an impairment review when there is reason to suspect that the carrying value of these long-lived assets might not be recoverable, particularly in case of a restructuring plan. If we identify events or changes in circumstances which are indicative that the carrying amount is not recoverable, we assess whether the carrying value exceeds the undiscounted cash flows associated with the tangible assets or group of assets. If exceeded, we then evaluate whether an impairment charge is required by determining if the asset s carrying value also exceeds its fair value. We normally estimate this fair value based on independent market appraisals or the sum of discounted future cash flows, using market assumptions such as the utilization of our fabrication facilities and the ability to upgrade such facilities, change in the selling price and the adoption of new technologies. We also evaluate and adjust, if appropriate, the assets useful lives at each reporting date or when impairment indicators are identified. Assets classified as held for sale are reported as current assets in the Consolidated Balance Sheets at the lower of their carrying amount and fair value less costs to sell and are no longer depreciated. In 2018, 2017 and 2016, no impairment charge was recorded on property, plant and equipment. The impairment on the assets held for sale was nil for the years ended December 31, 2018 and 2017 and amounted to $3 million for the year ended December 31, 2016.

Our evaluations are based on financial plans updated with the latest projections of growth in the semiconductor market and our sales expectations, from which we derive the future production needs and loading of our manufacturing facilities, and which are consistent with the plans and estimates that we use to manage our business. These plans are highly variable due to the high volatility of the semiconductor business and therefore are subject to continuous modifications. If future growth differs from the estimates used in our plans, in terms of both market growth and production allocation to our manufacturing plants, this could require a further review of the carrying amount of our tangible assets and result in a potential impairment loss.

Inventory. Inventory is stated at the lower of cost or net realizable value. Cost is based on the weighted average cost by adjusting the standard cost to approximate actual manufacturing costs on a quarterly basis; therefore, the cost is dependent on our manufacturing performance. In the case of underutilization of our manufacturing facilities, we estimate the costs associated with the unused capacity. These costs are not included in the valuation of inventory but are charged directly to cost of sales in the Consolidated Statements of Income. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation.

We perform, on a continuous basis, inventory write-offs of products, which have the characteristics of slow-moving, old production dates and technical obsolescence. The valuation of inventory requires us to estimate a reserve for obsolete or slow-selling inventory as well as inventory that is not of saleable quality. Reserve for obsolescence is estimated for excess uncommitted inventories based on the previous quarters sales, order backlog and production plans. To the extent that future negative market conditions generate order backlog cancellations and declining sales, or if future conditions are less favorable than the projected revenue assumptions, we could record additional inventory reserve, which would have a negative impact on our gross margin.

Restructuring charges. We have undertaken, and we may continue to undertake, significant restructuring initiatives, which have required us, or may require us in the future, to develop formalized plans for exiting any of our existing activities. We recognize the fair value of a liability for costs associated with exiting an activity when we have a present obligation and the amount can be reasonably estimated. Given the significance and timing of the execution of our restructuring activities, the process is complex and involves periodic reviews of estimates made at the time the original decisions were taken. This process can require a significant amount of time due to requisite governmental and customer approvals and our capability to transfer technology and know-how to other locations. As we operate in a highly cyclical industry, we monitor and evaluate business conditions on a regular basis. If broader or newer initiatives, which could include production curtailment or closure of other manufacturing facilities, were to be taken, we may incur additional charges as well as change estimates of the amounts previously recorded. The potential impact of these changes could be material and could have a material adverse effect on our results of operations or financial condition. In 2018 the restructuring charges and other related closure costs amounted to $19 million before taxes, mainly in connection with our set-top box restructuring plan. In 2017 and 2016, the restructuring charges and other related closure costs amounted to $45 million and $85 million before taxes, respectively.

Share-based compensation. We measure the cost of share-based service awards based on the fair value of the awards as of the grant date reflecting the market price of the underlying shares at the date of the grant, reduced by the present value of the dividends expected to be paid on the shares during the requisite service period. Our share-based service awards are granted to senior executives and selected employees. While the awards granted to selected employees are subject to a three-year service period, the awards granted to the senior executives are subject to both a three-year service period and the fulfillment of certain performance conditions, including our financial results when compared to industry performance. The expense is recognized over the requisite service period. In 2018, approximately one-half of the total amount of shares awarded were granted to senior executives and consequently were contingent on the achievement of performance conditions. In order to determine share-based compensation to be recorded for the period, we use significant estimates on the number of awards expected to vest, including the probability of achieving the fixed performance conditions including those relating to industry performance compared to our financial results, and our best estimates of award forfeitures and employees service periods. Our assumptions related to industry performance are generally taken with a one quarter lag in line with the availability of market information. In 2018, 2017 and 2016, we recorded a total charge of approximately $125 million, $61 million and $38 million relating to our outstanding stock award plans, respectively.

Income (loss) on Equity-method Investments. We record our share in the results of entities that we account for under the equity method. This recognition is based on results reported by these entities, relying on their internal reporting systems to measure financial results. In case of triggering events, such as continuing difficult market conditions, which could lead to continued operating losses and negative cash flows, or in the case of a strategic repositioning by one or more of our partners, we determine whether our investment is temporarily or other-than-temporarily impaired. If impairment is considered to be other-than-temporary, we need to assess the fair value of our investment and record an impairment charge directly in earnings when fair value is lower than the carrying value of the investment. We make this assessment by evaluating the business on the basis of the most recent plans and projections or to the best of our estimates. In 2018, we recognized income of $8 million related to our equity investments, compared to a loss of $2 million and income of $7 million for the years ended December 31, 2017 and 2016, respectively. We monitor our equity investments on an ongoing basis and, if required, other-than-temporary impairment charges could negatively impact our future results. As of December 31, 2018, the value in our Consolidated Balance Sheets of our equity investments was $49 million, reported in the line Long-term investments .

Financial assets. We classify our financial assets in the following two categories, trading and available-for-sale. The classification depends on the nature of the instruments and the purpose for which the financial assets were acquired. We determine the classification of our financial assets at initial recognition. Purchases and sales of financial assets are recognized on the trade date the date on which we commit to purchase or sell the asset. Equity securities measured at fair value through earnings and debt securities classified as available-for-sale are initially recognized and subsequently carried at fair value. Financial assets are derecognized when the rights to receive cash flows from the investments have expired or have been transferred and we have transferred substantially all risks and rewards of ownership; the relevant gain (loss) is reported as a non-operating element on the consolidated statements of income on the line Gain (loss) on financial instruments, net . The basis on which the cost of a security sold and the amount reclassified out of accumulated other comprehensive income into earnings are determined is the specific identification method.

The fair values of quoted debt and equity securities are based on current market prices. If the market for a financial asset is not active and if no observable market price is obtainable, we measure fair value by using assumptions and estimates. In measuring fair value, we make maximum use of market inputs and minimize the use of unobservable inputs.

As of December 31, 2018, the value in our Consolidated Balance Sheet of our financial assets included $330 million of marketable securities invested in U.S. Treasury debt securities classified as assets available-for-sale.

Income taxes. We make estimates and judgments in determining income tax for the period, comprising current and deferred income tax. We need to assess the income tax expected to be paid or the tax benefit expected to be received related to the current year taxable profit and loss in each individual tax jurisdiction and recognize deferred income tax for all temporary differences arising between the tax bases of assets and liabilities and their carrying amount in the Consolidated Financial Statements. Furthermore, we assess all material open income tax positions in all tax jurisdictions to determine any uncertain tax positions, and to record a provision for those that are not more likely than not to be sustained upon examination by the taxing authorities, which could require potential tax claims or assessments in various jurisdictions. In such an event and in case any tax assessment exceeds our provisions, we could be required to record additional charges in our accounts, which could significantly exceed our best estimates and our existing provisions. As of December 31, 2018, we had $25 million of estimated liabilities on uncertain tax positions.

We also assess the likelihood of realization of our deferred tax assets originated by our net operating loss carry forwards. The ultimate realization of deferred tax assets is dependent upon, among other things, our ability to generate future taxable profit available against loss carry forwards or tax credits before their expiration or our ability to implement prudent and feasible tax optimization strategies or the possibility to settle uncertain tax positions against available net operating loss carry forwards or similar tax losses and credits. We record a valuation allowance against the deferred tax assets when we consider it is more likely than not that the deferred tax assets will not be realized.

As of December 31, 2018, we had non-current deferred tax assets of $672 million, net of valuation allowances.

We could be required to record further valuation allowances thereby reducing the amount of total deferred tax assets, resulting in an increase of our income tax charge, if our estimates of projected future taxable income and benefits from available tax strategies are reduced as a result of a change in business conditions or in management s plans or due to other factors, or if changes in current tax regulations are enacted that impose restrictions on the timing or extent of our ability to utilize net operating losses and tax credit carry-forwards in the future. Likewise, a change in the tax rates applicable in the various jurisdictions or unfavorable outcomes of any ongoing tax audits could have a material impact on our future tax provisions in the periods in which these changes could occur.

Pension and Post-Employment Benefits. Our Consolidated Statements of Income and our Consolidated Balance Sheets include amounts for pension obligations and post-employment benefits that are measured using actuarial valuations. At December 31, 2018, our pension and post-employment benefit obligations net of plan assets amounted to $384 million. These valuations are based on key assumptions, including discount rates, expected long-term rates of return on funds, turnover rates and salary increase rates. These assumptions used in the determination of the net periodic benefit cost are updated on an annual basis at the beginning of each fiscal year or more frequently upon the occurrence of significant events. Any changes in the pension schemes or in the above assumptions can have an impact on our valuations. The measurement date we use for our plans is December 31.

Patent and other Intellectual Property (IP) litigation or claims. We record a provision when we believe that it is probable that a liability has been incurred at the date of the Consolidated Financial Statements and the amount of the loss can be reasonably estimated. We regularly evaluate losses and claims to determine whether they need to be adjusted based on current information available to us. Such estimates are difficult to the extent that they are largely dependent on the status of ongoing litigation that may vary based on positions taken by the court with respect to issues submitted, demands of opposing parties, changing laws, discovery of new facts or other matters of fact or law. As of December 31, 2018, based on our current evaluation of ongoing litigation and claims we face, we have not estimated any amounts that could have a material impact on our results of operations and financial condition with respect to either probable or possible risks. In the event of litigation that is adversely determined with respect to our interests, or in the event that we need to change our evaluation of a potential third-party claim based on new evidence, facts or communications, unexpected rulings or changes in the law, this could have a material adverse effect on our results of operations or financial condition at the time it were to materialize. We are in discussion with several parties with respect to claims against us relating to possible infringement of IP rights. We are also involved in certain legal proceedings concerning such issues. See Item 8. Financial Information Legal Proceedings and Note 24 to our Consolidated Financial Statements.

Other claims. We are subject to the possibility of loss contingencies arising in the ordinary course of business. These include, but are not limited to: warranty costs on our products not covered by insurance, breach of contract claims, tax claims beyond assessed uncertain tax positions as well as claims for environmental damages. We are also exposed to numerous legal risks which until now have not resulted in legal disputes and proceedings. These include risks related to product recalls, environment, anti-trust, anti-corruption and competition as well as other compliance regulations. We may also face claims in the event of breaches of law committed by individual employees or third parties. In determining loss contingencies, we consider the likelihood of a loss of an asset or the occurrence of a liability, as well as our ability to reasonably estimate the amount of such loss or liability. An estimated loss is recorded when we believe that it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. We regularly re-evaluate any losses and claims and determine whether our provisions need to be adjusted based on the current information available to us. As of December 31, 2018, based on our current evaluation of ongoing litigation and claims we face, we have not estimated any amounts that could have a material impact on our results of operations and financial condition with respect to either probable or possible risks. In the event we are unable to accurately estimate the

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amount of such loss in a correct and timely manner, this could have a material adverse effect on our results of operations or financial condition at the time such loss was to materialize. For further details of our legal proceedings refer to Item 8. Financial Information Legal Proceedings and Note 24 to our Consolidated Financial Statements.

Fiscal Year 2018

Under Article 35 of our Articles of Association, our financial year extends from January 1 to December 31, which is the period end of each fiscal year. In 2018, the first quarter ended on March 31, the second quarter ended on June 30, the third quarter ended on September 29 and the fourth quarter ended on December 31. In 2019, the first quarter will end on March 30, the second quarter will end on June 29, the third quarter will end on September 28 and the fourth quarter will end on December 31. Based on our fiscal calendar, the distribution of our revenues and expenses by quarter may be unbalanced due to a different number of days in the various quarters of the fiscal year and can also differ from equivalent prior years periods, as illustrated in the below table for the years 2017, 2018 and 2019.

	Q1	Q2	Q3	Q4
		Days		
2017	91	91	91	92
2018	90	91	91	93
2019	89	91	91	94

2018 Business Overview

Our results of operations for each period were as follows:

	Year ended December 31,		Three Months Ended		
			December 31,	September 29,	December 31,
	2018	2017	2018	2018	2017
	(In millions, except per share amounts)		(Unaudited, in millions, except per share amounts)		
Net revenues	$ 9,664	$ 8,347	$ 2,648	$ 2,522	$ 2,466
Gross profit	3,861	3,272	1,059	1,003	1,003
Gross margin as percentage of net revenues.	40.0%	39.2%	40.0%	39.8%	40.7%
Operating income	1,400	1,005	443	398	411
Net income attributable to parent company	1,287	802	418	369	308
Diluted earnings per share	$ 1.41	$ 0.89	$ 0.46	$ 0.41	$ 0.34

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 industry data published by WSTS, semiconductor industry revenues in 2018 increased on a year-over-year basis by approximately 14% and approximately 10% for the TAM and the SAM, to reach approximately $469 billion and $194 billion, respectively. In the fourth quarter of 2018, both the TAM and the SAM increased on a year-over-year basis by approximately 1% and 6%, respectively. Sequentially, in the fourth quarter of 2018, the TAM and the SAM decreased by approximately 8% and 3%, respectively.

During 2018, in line with our objectives, we delivered significant revenue growth across our product groups and strong expansion of operating profitability, net income and free cash flow, while investing to increase growth opportunities and operating efficiency over the mid-term.

Our 2018 net revenues increased by 15.8% year-over-year, with a double-digit growth in all product groups and geographies. Our gross margin expanded 80 basis points; operating margin increased 250 basis points to 14.5% and net income improved by $485 million to $1,287 million.

In the fourth quarter, net revenues were up 7.4% year-over-year, gross margin reached 40.0%, and operating margin was 16.8%. On a sequential basis, fourth quarter revenues grew by 5.0%, 70 basis points below the mid-point of our guidance. Our quarterly performance was above the SAM both sequentially and on a year-over-year basis.

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Our effective average exchange rate was $1.18 for 1.00 for the full year 2018, as compared to $1.11 for 1.00 for the full year 2017. Our effective average exchange rate for the fourth quarter of 2018 was $1.17 for 1.00, compared to $1.18 for 1.00 for the third quarter of 2018 and $1.15 for 1.00 in the fourth quarter of 2017. For a more detailed discussion of our hedging arrangements and the impact of fluctuations in exchange rates, see Impact of Changes in Exchange Rates .

Our 2018 gross margin improved 80 basis points to 40.0% from 39.2% in 2017 mainly benefiting from manufacturing efficiencies and better product mix, partially offset by normal price pressure and unfavorable currency effects, net of hedging.

Our fourth quarter 2018 gross margin was 40.0%, 20 basis points above the midpoint of our guidance, improving sequentially by 20 basis points. Our gross margin decreased 70 basis points year-over-year, negatively impacted by sale price pressure and unfavorable currency effect, net of hedging, partially offset by better product mix and improved manufacturing efficiency.

Our operating expenses, comprised of SG&A and R&D expenses, amounted to $2,493 million in 2018, increasing by about 9.5% from $2,277 million in the prior year, mainly due to unfavorable currency effects, net of hedging, salary dynamic, management reorganization charges and higher costs of the share based compensation plans. Combined R&D and SG&A expenses were $630 million for the fourth quarter of 2018, compared to $616 million and $590 million in the prior and year-ago quarters, respectively. The sequential increase was mainly due to seasonality and higher share-based compensation cost. The year-over-year increase was due to higher share-based compensation cost, salary dynamic and increased spending on certain R&D programs.

Other income and expenses, net, was $53 million in 2018 compared to $55 million in 2017, mainly due to a lower level of R&D grants. Fourth quarter other income and expenses, net, was $16 million compared to $11 million in the prior quarter and $18 million in the year-ago quarter.

In 2018, impairment and restructuring charges were $21 million compared to $45 million in 2017, mostly related to the set-top box restructuring plan announced in January 2016, now substantially completed in all locations. Impairment and restructuring charges in the fourth quarter were $2 million, mainly related to impairment of acquired technologies, for which it was determined that they had no future alternative use, compared to nil and $20 million in the prior and year-ago quarters, respectively, mainly related to the set-top box restructuring plan, now substantially completed in all locations.

Operating income in 2018 was $1,400 million, improving by $395 million compared to 2017 on higher revenues and improved gross margin. Similarly, full year 2018 operating income before impairment and restructuring charges a non-U.S. GAAP measure, increased to $1,421 million, equivalent to 14.7% of net revenues, compared to $1,050 million, equivalent to 12.6% of net revenues in 2017, on higher revenues, gross margin expansion and improved operating leverage. Operating income in the fourth quarter grew on a sequential and year-over-year basis to $443 million compared to $398 million and $411 million in the prior quarter and year-ago quarters, respectively. Fourth quarter operating income before impairment and restructuring charges, a non-U.S. GAAP measure, increased sequentially by $47 million to $445 million, equivalent to 16.8% of net revenues, driven by a higher level of revenues and improved gross margin. On a year-over-year basis, operating income before impairment and restructuring charges, a non-U.S. GAAP measure, increased by $14 million reflecting higher revenues, improved manufacturing efficiencies and product mix. Operating income before impairment and restructuring charges is a non-U.S. GAAP measure. Refer to Results of operations for the reconciliation of both the operating income before impairment and restructuring charges, a non-US GAAP measure, to our consolidated statements of income.

Full year 2018 net income was $1,287 million, or $1.41 diluted earnings per share, compared to net income of $802 million, or $0.89 diluted earnings per share for the full year 2017. Fourth quarter net income increased significantly both on a sequential and year-over-year basis to $418 million, or $0.46 diluted earnings per share, compared to net income of $369 million, or $0.41 diluted earnings per share, in the prior quarter and net income of $308 million, or $0.34 diluted earnings per share, in the year-ago quarter.

Capital expenditure payments, net of proceeds from sales, followed well our anticipated route to support revenue growth and were $279 million and $1.26 billion during the fourth quarter and full year 2018, respectively. Full year 2017 capital expenditures, net of proceeds from sales, were $1.30 billion.

During 2018, our net cash increased by $507 million, with net cash from operating activities reaching $1.85 billion. During 2018, we paid cash dividends to shareholders totaling $216 million and used $103 million for long-term debt repayment and $62 million for the repurchase of common stock.

Our free cash flow, a non-U.S. GAAP measure, amounted to $533 million in 2018 compared to $308 million in 2017. Refer to Liquidity and Capital Resources for the reconciliation of the free cash flow, a non-U.S. GAAP measure, to our cash flow statement.

Business Outlook

Our first quarter 2019 outlook reflects the combined impact of increased unfavorable dynamics, in addition to first quarter seasonality, in some of the end markets we serve: smartphone applications; computer hard-disk drives; distribution in China and also in Europe. Still, we see Automotive and Power Discrete performing well, with revenues growth expected on year over year basis.

Our first quarter outlook reflects revenues of approximately $2.1 billion at the mid-point, decreasing year-over-year by about 5.7%. Sequentially, this represents a decrease of approximately 20.7% (plus or minus 350 basis points), reflecting the combined impact of increased unfavorable dynamics in some of the end markets we serve, in additional to normal first quarter seasonality. From a profitability perspective, we expect a gross margin of approximately 39%, plus or minus 200 basis points.

Our key objectives in 2019 are to continue outperforming our served market and to balance our end market and application focus, delivering sustainable profitability and returning value to shareholders. To support all of that and to execute on our strategic technology, R&D and manufacturing programs, we expect our investment in capex to be in the range of $1.2 to $1.3 billion.

This outlook is based on an assumed effective currency exchange rate of approximately $1.16 = 1.00 for the 2019 first quarter and includes the impact of existing hedging contracts. The first quarter will close on March 30, 2019.

These are forward-looking statements that are subject to known and unknown risks and uncertainties that could cause actual results to differ materially; in particular, refer to those known risks and uncertainties described in Cautionary Note Regarding Forward-Looking Statements and Item 3. Key Information Risk Factors herein.

Other Developments

On February 7, 2019 we announced the acquisition of a majority stake in Swedish SiC wafer manufacturer Norstel AB (Norstel). ST will acquire 55% of Norstel s share capital, with an option to acquire the remaining 45% subject to certain conditions, which, if exercised, will result in total consideration of $137.5 million, funded with available cash. After closing, ST will control the entire supply chain for a portion of its SiC devices at a time of constrained global capacity and positions itself for a significant growth opportunity. Norstel, headquartered in Norrkoping, Sweden, develops and manufactures advanced 150 mm SiC bare and epitaxial wafers.

On January 7, 2019 Cree, Inc. and ST announced signing a multi-year agreement in which Cree will produce and supply SiC wafers to STMicroelectronics. The agreement governs the supply of Cree s 150 mm SiC bare and epitaxial wafers to ST.

On November 5, 2018 we announced the launch of a share buy-back program of up to $750 million to be executed within a 3-year period.

On September 24, 2018 we announced that we entered the Dow Jones World and Europe Sustainability Indices.

On August 22, 2018 we published our IFRS 2018 Semi Annual Accounts for the six-month period ended June 30, 2018 on our website and we filed our IFRS 2018 Semi Annual Accounts with the AFM (*Autoriteit Financiële Markten*), the Netherlands Authority for the Financial Markets (AFM).

On July 10, 2018 we announced the acquisition of software specialist Draupner Graphics. Draupner Graphics is the developer and supplier of TouchGFX, a software framework offering outstanding graphics and

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smooth animations for embedded graphical user interfaces with minimal resource requirements and power consumption. Hosted on 32-bit microcontrollers, TouchGFX enables high-end graphics that fully live up to today s smartphone standards across all devices and systems, including smart home and building automation systems, appliances, wearables, and audio and video systems.

On May 31, 2018 we announced that all of the proposed resolutions were adopted at the Company s Annual General Meeting of Shareholders (AGM), which was held in Amsterdam, the Netherlands. The main resolutions were:

- The adoption of the Company s Statutory Annual Accounts for the year ended December 31, 2017, prepared in accordance with IFRS and filed with the AFM on March 27, 2018;
- 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 to shareholders of record in the month of each quarterly payment;
- The appointment of Mr. Jean-Marc Chery, as sole member of the Managing Board, for a three-year term expiring at the 2021 AGM;
- The reappointment of Mr. Nicolas Dufourcq, as member of the Supervisory Board, for a three-year term expiring at the 2021 AGM; and
- The reappointment of Ms. Martine Verluyten, as member of the Supervisory Board, for a one-year term expiring at the 2019 AGM.

On May 31, 2018 we also announced that upon the proposal of ST s new President and Chief Executive Officer Jean-Marc Chery, the Supervisory Board has approved the establishment of a newly formed Executive Committee, entrusted with the management of the Company, led by Mr. Chery as its Chairman and composed of the following members:

- Orio Bellezza, President, Technology, Manufacturing and Quality
- Marco Cassis, President, Sales, Marketing, Communications and Strategy Development
- Claude Dardanne, President, Microcontrollers and Digital ICs Group
- Lorenzo Grandi, President, Finance, Infrastructure and Services and Chief Financial Officer

Marco Monti, President, Automotive and Discrete Group

Georges Penalver, President, Human Resources and Corporate Social Responsibility. As of July 3, 2018, following the resignation of Georges Penalver, Philippe Brun was appointed President, Human Resources and Corporate Responsibility and became a member of our Executive Committee.

Steven Rose, President, Legal Counsel

Benedetto Vigna, President, Analog, MEMS and Sensors Group

On May 21, 2018 we announced the publication of our 2018 Sustainability Report.

On March 27, 2018 we announced the main resolutions to be submitted for adoption at our AGM held in Amsterdam, the Netherlands, on May 31, 2018.

On February 5, 2018 we were recognized as among the world s most innovative companies and we were named a 2018 Thomson Reuters Top 100 Global Technology Leader .

On January 25, 2018 we announced Carlo Bozotti s Succession Plan according to which the deputy CEO Jean-Marc Chery was proposed as the Sole Member of the Managing Board at the 2018 AGM following which he became the next President and Chief Executive Officer. The Succession Plan envisaged the establishment of Executive Committee effective upon the shareholder approval of Mr. Chery s appointment. In addition, Carlo Ferro, Chief Financial Officer and President Finance, Legal, Infrastructure and Services, informed the Company about his intention to step down from his position at the same time as the President and Chief Executive Officer Carlo Bozotti s retirement effective at the conclusion of the AGM s meeting. According to the announced Succession Plan Mr. Ferro remained President of our Italian affiliate until the end of 2018.

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Results of Operations

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.

Effective January 1, 2018, the Subsystems business unit was transferred from Others to AMS. Prior periods have been restated accordingly.

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 and include impairment, restructuring charges and other related closure costs, management reorganization expenses, unused capacity charges, 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 our 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.

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Annual Results of Operations

The following table sets forth certain financial data from our Consolidated Statements of Income:

	2018		2017		2016	
	$ million	**% of net revenues**	**$ million**	**% of net revenues**	**$ million**	**% of net revenues**
Net sales	$ 9,612	99.5%	$ 8,308	99.5%	$ 6,944	99.6%
Other revenues	52	0.5	39	0.5	29	0.4
Net revenues	**9,664**	**100.0**	**8,347**	**100.0**	**6,973**	**100.0**
Cost of sales	(5,803)	(60.0)	(5,075)	(60.8)	(4,514)	(64.7)
Gross profit	**3,861**	**40.0**	**3,272**	**39.2**	**2,459**	**35.3**
Selling, general and administrative	(1,095)	(11.3)	(981)	(11.8)	(907)	(13.0)
Research and development	(1,398)	(14.5)	(1,296)	(15.5)	(1,331)	(19.1)
Other income and expenses, net	53	0.5	55	0.7	99	1.4
Impairment, restructuring charges and other related closure costs	(21)	(0.2)	(45)	(0.6)	(93)	(1.3)
Operating income	**1,400**	**14.5**	**1,005**	**12.0**	**227**	**3.3**
Interest expense, net	(7)	(0.1)	(22)	(0.3)	(20)	(0.3)
Other components of pension benefit costs	(11)	(0.1)	(12)	(0.1)	(13)	(0.2)
Income (loss) on equity-method investments	8	0.1	(2)	(0.0)	7	0.1
Loss on financial instruments, net	(1)	(0.0)	(16)	(0.2)		
Income before income taxes and noncontrolling interest	**1,389**	**14.4**	**953**	**11.4**	**201**	**2.9**
Income tax expense	(96)	(1.0)	(143)	(1.7)	(31)	(0.4)
Net income	**1,293**	**13.4**	**810**	**9.7**	**170**	**2.5**
Net income attributable to noncontrolling interest	(6)	(0.1)	(8)	(0.1)	(5)	(0.1)
Net income attributable to parent company	**$ 1,287**	**13.3%**	**$ 802**	**9.6%**	**$ 165**	**2.4%**

Net revenues

	Year Ended December 31,			% Variation	
	2018	**2017**	**2016**	**2018 vs 2017**	**2017 vs 2016**
		(in millions)			
Net sales	$ 9,612	$ 8,308	$ 6,944	15.7%	19.7%
Other revenues	52	39	29	36.1	33.2
Net revenues	**$ 9,664**	**$ 8,347**	**$ 6,973**	**15.8%**	**19.7%**

Our 2018 net revenues increased 15.8% compared to the prior year, primarily due to increase in average selling prices of approximately 16%, while volumes remained substantially flat. The increase in the average selling prices was driven by favorable product mix of 18%, partially offset by a negative pricing effect of approximately 2%. Our net revenues registered double-digit growth across all product groups and geographies.

Our 2017 net revenues increased 19.7% compared to the prior year, primarily as a result of an increase in volume of about 22%, slightly offset by a decline in average selling prices of approximately 2%, the latter due to the decline in prices of 4%, partially offset by a favorable product mix of 2%. Our net revenues increase was driven by a strong growth across all product groups and geographies, led by a triple-digit growth in Imaging and strong growth in Microcontrollers, Analog, and MEMS.

In 2018 and 2017, our largest customer, Apple, accounted for 13.1% and 10.5% of our revenues, respectively, reported within our three product groups. No customer exceeded 10% of our total net revenues for the year 2016.

Net revenues by product group

	Year Ended			% Variation	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
	(In millions)				
Automotive and Discrete Group (ADG)	$ 3,556	$ 3,059	$ 2,813	16.2%	8.8%
Analog MEMS and Sensors Group (AMS)	3,154	2,630	1,866	19.9	40.9
Microcontrollers and Digital ICs Group (MDG)	2,940	2,646	2,285	11.1	15.8
Others	14	12	9	14.9	
Total consolidated net revenues	**$ 9,664**	**$ 8,347**	**$ 6,973**	**15.8%**	**19.7%**

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In 2018, all product groups registered double-digit revenue increase. Our ADG revenues increased 16.2% for the full year 2018 compared to the full year 2017 on growth in both Power Discrete and Automotive. The increase was primarily due to improved average selling prices of approximately 21% and volumes decreased by approximately 5%. The increase in average selling prices was entirely due to improved product mix, while selling prices remained substantially flat. AMS revenues grew 19.9%, mainly on strong increase in Imaging. The increase was due to higher volumes of approximately 12% and higher average selling prices of approximately 8%, which was entirely due to improved product mix of approximately 13%, while selling prices decreased by approximately 5%. MDG revenues were up by 11.1%, with Digital and Microcontrollers & Memories equally contributing. The increase was primarily due to higher average selling prices of approximately 11%, while volumes remained substantially flat. The increase in average selling prices was due to a better product mix of approximately 13%, while the selling prices effect was negative of approximately 2%.

In 2017, our ADG revenues increased 8.8% for the full year of 2017 compared to the full year of 2016 on growth in both Automotive and Power Discrete. The increase was due to a 25% increase in volumes, partially offset by a 16% decrease in average selling prices, mainly due to product mix. AMS net revenues were up 40.9%, on triple-digit growth in Imaging (primarily with respect to the Time-of-Flight technology and our specialized 3D sensing technology) and strong growth in both Analog and MEMS. This increase was due to a 22% increase in average selling prices and 19% increase in volumes. MDG revenues increased 15.8% compared to 2016 on strong growth in general purpose microcontrollers (driven by our STM32 general-purpose family, where we shipped more than one billion products during 2017), partially offset by lower revenues in Digital, impacted by products undergoing phase-out. MDG increase was entirely due to higher volumes.

Net revenues by Market Channel[(1)]

	Year Ended December 31,		
	2018	**2017**	**2016**
	(As percentage of net revenues)		
OEM	65%	66%	67%
Distribution	35	34	33
Total	**100%**	**100%**	**100%**

(1) Original Equipment Manufacturers (OEM) are the end-customers to which we provide direct marketing application engineering support, while Distribution customers refers to the distributors and representatives that we engage to distribute our products around the world.

Our revenues weight in Distribution registered an increase of about 1 percentage point for both years 2018 and 2017, reaching a 35% share of total revenues as of December 31, 2018.

Net Revenues by Location of Shipment[(1)]

	Year Ended December 31,			% Variation	
	2018	**2017**	**2016**	**2018 vs 2017**	**2017 vs 2016**

	(In millions)				
EMEA	$ 2,478	$ 2,142	$ 1,874	15.7%	14.3%
Americas	1,264	1,085	1,052	16.5	3.2
Asia Pacific	5,922	5,120	4,047	15.7	26.5
Total	**$ 9,664**	**$ 8,347**	**$ 6,973**	**15.8%**	**19.7%**

(1) Net revenues by location 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.

By location of shipment, in both years 2018 and 2017 revenues grew across all regions, led by Asia Pacific and EMEA, mainly due to growth in Imaging and Automotive.

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Gross profit

	Year Ended December 31,			Variation	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
		(In millions)			
Cost of sales	$ (5,803)	$ (5,075)	$ (4,514)	(14.3)%	(12.4)%
Gross profit	$ 3,861	$ 3,272	$ 2,459	18.0%	33.1%
Gross margin (as percentage of net revenues)	40.0%	39.2%	35.3%	+80 bps	+390 bps

In 2018, gross margin improved by 80 basis points to 40.0% from 39.2% in the full year 2017 benefiting from manufacturing efficiencies and better product mix, partially offset by normal price pressure and unfavorable currency effects, net of hedging. In both 2018 and 2017, unused capacity charges were negligible.

In 2017, gross margin improved by 400 basis points to 39.2% from 35.3% in the full year 2016. Specifically, the 2017 gross margin benefited from manufacturing efficiencies, better product mix and improved fab loading partially offset by normal price pressure.

Operating expenses

	Year Ended December 31,			Variation	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
		(In millions)			
Selling, general and administrative expenses	$ (1,095)	$ (981)	$ (907)	(11.7)%	(8.2)%
Research and development expenses	(1,398)	(1,296)	(1,331)	(7.9)	2.6
Total operating expenses	**$ (2,493)**	**$ (2,277)**	**$ (2,238)**	**(9.5)%**	**(1.7)%**
As percentage of net revenues	(25.8)%	(27.3)%	(32.1)%	+150 bps	+480 bps

The 2018 operating expenses increased 9.5% compared to the prior year, mainly due to unfavorable exchange rate, net of hedging, salary dynamic, increased R&D activities and higher costs of the share based compensation plans.

The 2017 operating expenses increased 1.7% compared to the prior year, mainly due to salary and headcount increases, partially offset by the benefits of the set-top box restructuring plan and increased level of research tax credits. As a percentage of revenues, our operating expenses ratio improved by almost 5 percentage points compared to prior year, due to stronger revenues leverage.

The R&D expenses were net of research tax credits, which amounted to $138 million in 2018, $124 million in 2017 and $99 million in 2016.

Other income and expenses, net

	Year Ended December 31,		
	2018	2017	2016
	(In millions)		
Research and development funding	$ 52	$ 65	$ 94
Phase-out and start-up costs	(1)	(8)	(2)
Exchange gain, net	4	4	5
Patent costs	(8)	(9)	(5)
Gain on sale of businesses and non-current assets	8	4	2
Other, net	(2)	(1)	5
Other income and expenses, net	**$ 53**	**$ 55**	**$ 99**
As percentage of net revenues	0.5%	0.7%	1.4%

In 2018 we recognized other income, net of expenses, of $53 million, slightly decreasing compared to $55 million in 2017, mainly due to lower level of R&D grants.

In 2017 we recognized other income, net of expenses, of $55 million, decreasing compared to $99 million in 2016 mainly due to a lower level of R&D grants. Further, R&D funding received in the year ended December 31, 2017 from the Nano2017 program with the French government is subject to a financial return in the year 2024

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and depends on the future cumulative sales of a certain product group from 2018 to 2023. As such, the criteria for granting income recognition were not met and an accrual amounting to $33 million was posted as of December 31, 2017. This accrual amounted to $42 million as of December 31, 2018. No such accrual was posted for the year ended December 31, 2016.

Impairment, restructuring charges and other related closure costs

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Impairment, restructuring charges and other related closure costs	$ (21)	$ (45)	$ (93)

In 2018 we recorded $21 million of impairment, restructuring charges and other related closure costs, consisting of: (i) $19 million related to the set-top box restructuring plan, now substantially completed in all locations and (ii) $2 million of impairment of acquired technologies, for which it was determined that they had no future alternative use.

In 2017 we recorded $45 million of impairment, restructuring charges and other related closure costs, primarily consisting of: (i) $34 million of net restructuring charges related to the set-top box restructuring plan; (ii) $13 million of restructuring charges related to the restructuring plan in Bouskoura, Morocco; (iii) $3 million charge relating to the update of the existing unused lease provision and (iv) $5 million income for the reversal of provisions related to previously announced restructuring plans, mainly the EPS restructuring plan, for which accrued provisions were not fully used at completion of the plan.

In 2016 we recorded $93 million of impairment, restructuring charges and other related closure costs, primarily consisting of: (i) $83 million of restructuring charges related to the set-top box restructuring plan and (ii) $8 million of impairment charges of certain long-lived assets.

Operating income

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Operating income	$ 1,400	$ 1,005	$ 227
As percentage of net revenues	14.5%	12.0%	3.3%

Operating income in 2018 was $1,400 million, improved by $395 million compared to 2017, reflecting higher volumes, improved manufacturing efficiencies and product mix and lower restructuring charges, partially offset by unfavorable currency effects, net of hedging, normal price pressure and higher operating expenses.

Operating income in 2017 improved substantially by $778 million to $1,005 million compared to 2016, reflecting higher volumes, manufacturing efficiencies and favorable product mix, partially offset by price pressure and higher operating expenses.

Operating income (loss) by product group

	Year Ended December 31,					
	2018		2017		2016	
	$ million	% of net revenues	$ million	% of net revenues	$ million	% of net revenues
Automotive and Discrete Group (ADG)	$ 431	12.1%	$ 291	9.5%	$ 214	7.6%
Analog, MEMS and Sensors Group (AMS)	488	15.5	364	13.9	48	2.6
Microcontrollers and Digital ICs Group (MDG)	547	18.6	405	15.3	112	4.9
Total operating income of product segments	**1,466**	**15.2**	**1,060**	**12.7**	**374**	**5.4**
Others[(1)]	(66)		(55)		(147)	
Total operating income	**$ 1,400**	**14.5%**	**$ 1,005**	**12.0%**	**$ 227**	**3.3%**

(1) Operating results of Others include items such as unused capacity charges, impairment and restructuring charges and other related closure costs, management reorganization expenses, phase out and start-up costs, and other unallocated expenses such as: strategic or special research and development programs, certain corporate-level operating expenses, patent claims and litigations, and other costs that are not allocated to product groups, as well as assembly services and other revenue.

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In 2018, ADG improved its operating income to $431 million from $291 million in 2017, with both Automotive and Power Discrete contributing. AMS operating income increased by $124 million to $488 million, with all products contributing to the growth. MDG operating income increased by $142 million to $547 million, driven by both Microcontrollers and Digital.

In 2017, ADG improved its operating income to $291 million from $214 million in 2016, benefitting from an improvement in both Automotive and Power Discrete. AMS operating income increased by $316 million to $364 million, with all products contributing to the growth. MDG significantly improved its operating performance registering an operating income of $405 million compared to $112 million in the prior year, due to the strong performance of Microcontroller, Memory and Secure MCU (MMS) and the improvements in Digital as a result of our cost savings initiatives. Others reduced its operating loss mainly due to lower impairment, restructuring charges and other related closure costs and lower unused capacity charges.

Reconciliation to consolidated operating income

	Year Ended December 31,		
	2018	**2017**	**2016**
		(In millions)	
Total operating income of product segments	**$ 1,466**	**$ 1,060**	**$ 374**
Impairment, restructuring charges and other related closure costs	(21)	(45)	(93)
Unallocated manufacturing results	1	7	(33)
Strategic and other research and development programs and other non-allocated provisions(1)	(46)	(17)	(21)
Total operating loss Others	**(66)**	**(55)**	**(147)**
Total consolidated operating income	**$ 1,400**	**$ 1,005**	**$ 227**

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

Operating income before impairment and restructuring charges (a non-U.S. GAAP measure)

Operating income before impairment and restructuring charges, which is a non-U.S. GAAP measure, is defined as (i) operating income plus (ii) impairment and restructuring charges. We believe operating income before impairment and restructuring charges, a non-U.S. GAAP measure, provides useful information for investors and management because it presents our capacity to generate profits from our business operations, excluding the expenses related to the rationalizing of our activities and sites that we do not consider to be part of our on-going operating results, thereby offering, when read in conjunction with our U.S. GAAP financials, (i) the ability to make more meaningful period-to-period comparisons of our on-going operating results, (ii) the ability to better identify trends in our business and perform related trend analysis, and (iii) an easier way to compare our results of operations against investor and analyst financial models and valuations, which usually exclude these items. Our definition of operating income before impairment and restructuring charges may differ from definitions used by other companies. Operating income before impairment and restructuring charges is determined from our Consolidated Statements of Income as follows:

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Operating income	$ 1,400	$ 1,005	$ 227
Impairment and restructuring charges	21	45	93
Operating income before impairment and restructuring charges (a non-U.S. GAAP measure)	$ 1,421	$ 1,050	$ 320
As percentage of net revenues	**14.7%**	**12.6%**	**4.6%**

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Interest expense, net

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Interest expense, net	$ (7)	$ (22)	$ (20)

In 2018, interest expense and fees on our borrowings and our committed credit facilities amounted to $54 million, of which $36 million was a non-cash interest expense resulting from the accretion of the discount on the liability component of our dual tranche senior unsecured convertible bonds issued in 2017. In 2018, the interest expense was partially offset by $47 million of interest income on cash and cash equivalents and marketable securities.

In 2017, interest expense and fees on our borrowings and our committed credit facilities amounted to $52 million, of which $33 million was a non-cash interest expense related to the dual tranche senior unsecured convertible bonds issued in 2014 and 2017 partially offset by $30 million of interest income.

In 2016, interest expense and fees on our borrowings and our committed credit facilities amounted to $40 million, of which $21 million was a non-cash interest expense related to the 2014 senior unsecured convertible bonds, partially offset by $20 million of interest income.

Income (loss) on equity-method investments

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Income (loss) on equity-method investments	$ 8	$ (2)	$ 7

In 2018 we registered income of $8 million on our equity-method investments, related to our investment in ST-Ericsson and a complete reversal of a reserve associated with our indemnity obligation undertaken when selling Numonyx (an equity investment divested in 2010). In addition, there was better than anticipated actual outcome of certain tax items, partially offset by a loss of $2 million on our equity investment in Incard do Brazil.

In 2017 we registered a loss of $2 million on our equity-method investments, mainly in relation to our investment in Incard do Brazil.

In 2016, we recognized income on equity investments of $7 million, benefitting from a $9 million partial reversal of a reserve associated with our indemnity obligation undertaken when selling Numonyx, amid a better than anticipated actual outcome of certain tax items. Partially offsetting this benefit, we registered a loss of $2 million on our equity investment in Incard do Brazil.

Income (loss) on financial instruments

	Year Ended December 31,		
	2018	2017	2016

Income (loss) on financial instruments	$ (1)	$ (16)	$

In 2018 we recognized a $1 million loss on financial instruments corresponding to a loss on one of our investments.

In 2017 we recognized a $16 million loss on financial instruments relating to the net share settlement of the 2014 senior unsecured convertible bond, of which a $5 million loss related to Tranche A and $11 million loss related to Tranche B.

Income tax benefit (expense)

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Income tax benefit (expense)	$ (96)	$ (143)	$ (31)

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During 2018 we registered an income tax expense of $96 million resulting in an effective tax rate of 7%, including $12 million benefit from discrete item mainly due to settlement of local tax assessment.

In 2017 we registered an income tax expense of $143 million and in 2016 we registered an income tax expense of $31 million. These amounts reflect the actual taxes calculated on our income before income taxes in each of our jurisdictions and tax benefits, net of valuation allowances, associated with our estimates of the net operating loss recoverability in certain jurisdictions, one-time tax benefits related to previous year positions and our best estimate on additional tax charges related to potential uncertain tax positions and claims.

The 2017 income tax expense of $143 million resulted in an effective tax rate of 15% and included the one-time impact related to the change in enacted income tax rate impacting deferred taxes, mainly in the United States for an amount of $46 million, reflecting the impact on deferred tax assets of the reduction of corporate tax rate from 35% to 21% enacted with the U.S. tax reform in December 2017. The 2016 income tax expense included a one-time income of $6 million related to the provision reversal following positive settlements of two local tax assessments.

Our tax rate is variable and depends on changes in the level of operating results within various local jurisdictions and on changes in the applicable taxation rates of these jurisdictions, as well as changes in estimations of our tax provisions. Our income tax amounts and rates depend also on our loss carry-forwards and their relevant valuation allowances, which are based on estimated projected plans and available tax optimization strategies; in the case of material changes in these plans, the valuation allowances could be adjusted accordingly with an impact on our tax charges. We currently enjoy certain tax benefits in some countries. Such benefits may not be available in the future due to changes in the local jurisdictions; our effective tax rate could be different in future periods and may increase in the coming years. In addition, our yearly income tax charges include the estimated impact of provisions related to tax positions which have been considered uncertain.

Net income attributable to noncontrolling interest

	Year Ended December 31,		
	2018	**2017**	**2016**
		(In millions)	
Net income attributable to noncontrolling interest	$ (6)	$ (8)	$ (5)

In 2018, 2017 and 2016 we recorded respectively $6 million, $8 million and $5 million representing the income attributable to noncontrolling interest.

Net income attributable to parent company

	Year Ended December 31,		
	2018	**2017**	**2016**
		(In millions)	
Net income attributable to parent company	$ 1,287	$ 802	$ 165
As percentage of net revenues	13.3%	9.6%	2.4%

For 2018 we reported a net income of $1,287 million, compared to a net income of $802 million and $165 million for 2017 and 2016, respectively.

The 2018 net income represented diluted earnings per share of $1.41 compared to $0.89 and $0.19 for 2017 and 2016, respectively.

We also present Adjusted Diluted Earnings per Share, which is a non-U.S. GAAP measure. Adjusted Diluted Earnings per Share is used to help management and investors understand our operations and to highlight the impact of excluded items like impairment, restructuring charges and other related closure costs and other one-time items, net of the estimated relevant tax impact. We believe Adjusted Diluted Earnings per Share provides useful information for management and investors because they measure our capacity to generate profits from our business operations, excluding the expenses related to the rationalizing of our activities and sites that we do not consider to be part of our on-going operating results, thereby offering, when read in conjunction with our U.S. GAAP financials, (i) the ability to make more meaningful period-to-period comparisons of our on-going operating results, (ii) the ability to better identify trends in our business and perform related trend analysis, and (iii) an easier way to compare our results of operations against investor and analyst financial models and valuations, which usually exclude these items. In addition, our definition of Adjusted Diluted Earnings per Share may differ from definitions used by other companies and therefore comparability may be limited. Therefore, when assessing the Company s operating performance, investors should not consider this data in isolation, or as a substitute for the Company s net income, operating income, earnings per share or any other operating performance measure that is calculated in accordance with U.S. GAAP.

Adjusted Diluted Earnings per Share (non-U.S. GAAP measure) are determined as follows:

	Year Ended December 31,		
	2018	2017	2016
	(In million, except U.S. dollars per share and shares outstanding)		
Net income attributable to parent company	$ 1,287	$ 802	$ 165
Impairment, restructuring and other related closure costs and one-time charges effect, net of tax	19	43	86
Adjusted net income attributable to parent company	1,306	845	251
Weighted average shares outstanding	910,956,145	906,085,873	886,250,443
Adjusted Diluted Earnings per Share (non-U.S. GAAP measure)	$ 1.43	$ 0.93	$ 0.28

Quarterly Results of Operations

Certain quarterly financial information for the years 2018 and 2017 are set forth below. Such information is derived from our unaudited Consolidated Financial Statements, prepared on a basis consistent with the Consolidated Financial Statements that include, in our opinion, all normal adjustments necessary for a fair statement of the interim information set forth therein. Operating results for any quarter are not necessarily indicative of results for any future period. In addition, in view of the significant volatility we have experienced in recent years, the increasingly competitive nature of the markets in which we operate, the changes in products mix and the currency effects of changes in the composition of sales and production among different geographic regions, we believe that period-to-period comparisons of our operating results should not be relied upon as an indication of future performance.

Our quarterly and annual operating results are also affected by a wide variety of other factors that could materially and adversely affect revenues and profitability or lead to significant variability of operating results, please see Item 3. Key Information Risk Factors Risks Related to Our Operations . As only a portion of our expenses varies with our revenues, there can be no assurance that we will be able to reduce costs promptly or adequately in relation to revenue declines to compensate for the effect of any such factors. As a result, unfavorable changes in the above or other factors have in the past and may in the future adversely affect our operating results. Quarterly results have also been and may be expected to continue to be substantially affected by the cyclical nature of the semiconductor and electronic systems industries, the speed of some process and manufacturing technology developments, market demand for existing products, the timing and success of new product introductions and the levels of provisions and other unusual charges incurred. Certain additions of our quarterly results will not total our annual results due to rounding.

Net revenues

	Three Months Ended			% Variation	
	December 31, 2018	September 29, 2018	December 31, 2017	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Net sales	$ 2,633	$ 2,515	$ 2,457	4.7%	7.2%
Other revenues	15	7	9	111.6	52.1
Net revenues	**$ 2,648**	**$ 2,522**	**$ 2,466**	**5.0%**	**7.4%**

Our fourth quarter 2018 net revenues amounted to $2,648 million, registering a sequential increase of 5.0%, 70 basis points below the mid-point of our guidance. The sequential increase resulted from an increase of approximately 7% in volumes, partially offset by a 2% decrease in average selling prices, the latter mainly due to unfavorable product mix, while selling prices remained substantially stable.

On a year-over-year basis, our net revenues increased by 7.4% on double-digit growth across our Automotive and Discrete Group, in Imaging and in Digital ICs. This increase was entirely due to increase of approximately 8% in average selling prices, partially offset by a 1% decrease in volumes. The average selling prices increase was entirely driven by improved product mix of approximately 11%, partially offset by selling prices lower by approximately 3%.

Net revenues by product group

	Three Months Ended			% Variation	
	December 31, 2018	September 29, 2018	December 31, 2017	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Automotive and Discrete Group (ADG)	$ 967	$ 901	$ 821	7.3%	17.8%
Analog, MEMS and Sensors Group (AMS)	988	899	902	9.9	9.5
Microcontrollers and Digital ICs Group (MDG)	689	719	740	(4.1)	(6.9)
Others	4	3	3	(2.9)	3.0
Total consolidated net revenues	**$ 2,648**	**$ 2,522**	**$ 2,466**	**5.0%**	**7.4%**

On a sequential basis, ADG revenues were up 7.3%, due to an increase in volumes of approximately 11%, partially offset by a decrease in average selling prices of approximately 4%, entirely attributable to product mix. AMS revenues increased 9.9% led by Imaging products. AMS increase was due to an increase of approximately 3% in average selling prices, mainly due to product mix with higher revenues in Imaging, coupled with an approximately 7% increase in volumes. MDG revenues decreased by 4.1%, due to both lower volumes of approximately 2% and average selling prices decreasing by approximately 2%.

On a year-over-year basis, fourth quarter net revenues increased by 7.4%. ADG revenues increased 17.8% compared to the year-ago quarter on double-digit revenue growth for both Automotive and Power Discrete. The increase was entirely due to higher average selling prices (approximately +23%), while volumes decreased by approximately 5%. The increase in average selling prices was entirely due to improved product mix, while selling prices remained substantially flat. AMS fourth quarter revenues grew 9.5% year-over-year, with double-digit growth in Imaging, and single-digit growth in Analog and MEMS. The increase was entirely due to higher volumes (approximately +15%), while average selling prices decreased by approximately 6%, entirely attributable to lower selling prices, while product mix remained neutral. MDG fourth quarter revenues decreased by 6.9%, mainly driven by Microcontrollers and Memories. The decrease was due to lower volumes of approximately 9%, partially offset by increased average selling prices of approximately 2%, entirely due to improved product mix of approximately 4%, while selling prices declined by approximately 2%.

Net Revenues by Market Channel[1]

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017

	(Unaudited, in %)		
OEM	69%	68%	68%
Distribution	31%	32%	32%
Total	**100%**	**100%**	**100%**

(1) Original Equipment Manufacturers (OEM) are the end-customers to which we provide direct marketing application engineering support, while Distribution customers refers to the distributors and representatives that we engage to distribute our products around the world.

By market channel, our fourth quarter revenues in Distribution amounted to 31% of our total revenues, slightly decreasing both sequentially and on a year-over-year basis.

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Net Revenues by Location of Shipment[1]

	Three Months Ended			% Variation	
	December 31, 2018	September 29, 2018	December 31, 2017	Sequential	Year-Over-Year
	(Unaudited, in millions)				
EMEA	$ 617	$ 613	$ 565	0.6%	9.1%
Americas	342	315	288	8.4	18.7
Asia Pacific	1,689	1,594	1,613	6.0	4.7
Total	**$ 2,648**	**$ 2,522**	**$ 2,466**	**5.0%**	**7.4%**

(1) Net revenues by location 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.

By region of shipment, Americas revenues grew sequentially by 8.4%, mainly driven by Power and Discrete, Asia Pacific was up by 6.0%, principally in Imaging and EMEA increased by 0.6%. On a year-over-year basis, revenues grew across all the regions, with Americas revenues up by 18.7%, mainly in Power and Discrete, EMEA increasing by 9.1%, mainly in Automotive and Asia Pacific growing by 4.7% mainly in Imaging and Automotive.

Gross Profit

	Three Months Ended			Variation	
	December 31, 2018	September 29, 2018	December 31, 2017	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Gross profit	$ 1,059	$ 1,003	$ 1,003	5.6%	5.6%
Gross margin (as percentage of net revenues)	40.0%	39.8%	40.7%	+20 bps	-70 bps

Fourth quarter gross profit was $1,059 million and gross margin was 40.0%. On a sequential basis, gross margin increased 20 basis points.

Gross margin decreased 70 basis points year-over-year driven by a decrease in sale prices and unfavorable currency effects, net of hedging, partially offset by improved product mix and manufacturing efficiency.

Operating expenses

	Three Months Ended	% Variation	
		Sequential	Year-Over-Year

	December 31, 2018	September 29, 2018	December 31, 2017		
		(Unaudited, in millions)			
Selling, general and administrative expenses	$ (285)	$ (268)	$ (264)	(6.5)%	(7.9)%
Research and development expenses	(345)	(348)	(326)	1.1	(5.9)
Total operating expenses	**$ (630)**	**$ (616)**	**$ (590)**	**(2.2)%**	**(6.8)%**
As percentage of net revenues	(23.8)%	(24.4)%	(23.9)%	+60 bps	+10 bps

The amount of our operating expenses increased by $14 million on a sequential basis, mainly due to seasonality and higher cost of share-based compensation plans.

On a year-over-year basis, our operating expenses increased by $40 million, mainly due to higher costs of the share-based compensation plans, salary dynamic and increased spending on certain R&D programs.

Fourth quarter 2018 R&D expenses were net of research tax credits, which amounted to $39 million, compared to $36 million in the third quarter of 2018 and $41 million in the fourth quarter of 2017.

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Other income and expenses, net

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Research and development funding	$ 19	$ 13	$ 20
Phase-out and start-up costs	(1)		(1)
Exchange gain, net		1	
Patent costs, net of reversal of unused provisions	(1)	(2)	(3)
Gain on sale of non-current assets	1		1
Other, net	(2)	(1)	1
Other income and expenses, net	**$ 16**	**$ 11**	**$ 18**
As percentage of net revenues	0.6%	0.4%	0.7%

In the fourth quarter of 2018, we recognized other income, net of expenses, of $16 million, increasing from $11 million in the prior quarter and decreasing from $18 million in the year-ago quarter. Further, R&D funding received in the year ended December 31, 2017 from the Nano2017 program with the French government was subject to a financial return in the year 2024 and depended on the future cumulative sales of a certain product group from 2018 to 2023. As such, the criteria for granting income recognition were not met and an accrual amounting to $42 million was posted as of December 31, 2018. As of December 31, 2017 this accrual amounted to $33 million. No such accrual was posted for the year ended December 31, 2016.

Impairment, restructuring charges and other related closure costs

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Impairment, restructuring charges and other related closure costs	$ (2)	$	$ (20)

In the fourth quarter of 2018, we recorded $2 million of impairment, restructuring charges and other related closure costs, related to the impairment of acquired technologies, for which it was determined that they had no future alternative use.

In the third quarter of 2018, there were no impairment, restructuring charges and other related closure costs.

In the fourth quarter of 2017, we recorded $20 million of impairment, restructuring charges and other related closure costs, consisting of: (i) $15 million of net restructuring charges related to the set-top box restructuring plan; (ii) $2 million of restructuring charges related to the restructuring plan in Bouskoura, Morocco; and (iii) $3 million charge relating to the change in estimate of the existing unused lease provision.

Operating income

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Operating income	$ 443	$ 398	$ 411
As percentage of net revenues	16.8%	15.8%	16.7%

Operating income in the fourth quarter grew on a sequential and year-over-year basis to $443 million compared to $398 million and $411 million in the prior quarter and year-ago quarter, respectively.

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Operating income by product group

	Three Months Ended					
	December 31, 2018		September 29, 2018		December 31, 2017	
	$ million	% of net revenues	$ million	% of net revenues	$ million	% of net revenues
			(Unaudited)			
Automotive and Discrete Group (ADG)	$ 141	14.6%	$ 116	12.8%	$ 102	12.4%
Analog, MEMS and Sensors Group (AMS)	202	20.5	157	17.5	187	20.8
Microcontrollers and Digital ICs Group (MDG)	122	17.7	119	16.6	146	19.7
Total operating income of product segments	**465**	**17.6**	**392**	**15.5**	**435**	**17.6**
Others(1)	(22)		6		(24)	
Total operating income	**$ 443**	**16.8%**	**$ 398**	**15.8%**	**$ 411**	**16.7%**

(1) Operating results of Others include items such as unused capacity charges, impairment and restructuring charges and other related closure costs, management reorganization expenses, phase out and start-up costs, and other unallocated expenses such as strategic or special research and development programs, certain corporate-level operating expenses, patent claims and litigations, and other costs that are not allocated to product groups, as well as assembly services and other revenue.

On a sequential basis, ADG operating income improved by $25 million, driven by improved results in both Automotive and Power Discrete. AMS operating income increased by $45 million, mainly driven by Imaging and MDG operating income improved by $3 million.

On a year-over-year basis, ADG operating income improved by $39 million, with both Automotive and Power Discrete contributing. AMS operating income increased by $15 million, driven by Imaging and MDG operating income decreased by $24 million, entirely due to MMS.

Reconciliation to consolidated operating income (loss)

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Total operating income of product segments	**$ 465**	**$ 392**	**$ 435**

Impairment, restructuring charges and other related closure costs	(2)		(20)
Unallocated manufacturing results	3	3	1
Strategic and other research and development programs and other non-allocated provisions	(23)	3	(5)
Total operating loss Others	**(22)**	**6**	**(24)**
Total consolidated operating income	**$ 443**	**$ 398**	**$ 411**

Operating income before impairment and restructuring charges (a non-U.S. GAAP measure)

Operating income before impairment and restructuring charges, which is a non-U.S. GAAP measure, is defined as (i) operating income plus (ii) impairment and restructuring charges. We believe operating income before impairment and restructuring charges, a non-U.S. GAAP measure, provides useful information for investors and management because it presents our capacity to generate profits from our business operations, excluding the expenses related to the rationalizing of our activities and sites that we do not consider to be part of our on-going operating results, thereby offering, when read in conjunction with our U.S. GAAP financials, (i) the ability to make more meaningful period-to-period comparisons of our on-going operating results, (ii) the ability to better identify trends in our business and perform related trend analysis, and (iii) an easier way to compare our results of operations against investor and analyst financial models and valuations, which usually exclude these items. Our definition of operating income before impairment and restructuring charges may differ from

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definitions used by other companies. Operating income before impairment and restructuring charges is determined from our Consolidated Statements of Income as follows:

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Operating income	$ 443	$ 398	$ 411
Impairment and restructuring charges	2		20
Operating income before impairment and restructuring charges (a non-U.S. GAAP measure)	$ 445	$ 398	$ 431
As percentage of net revenues	**16.8%**	**15.8%**	**17.5%**

Interest income (expense), net

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Interest income (expense), net	$ 1	$ (2)	$ (6)

We recorded a net interest income of $1 million, increasing both sequentially and on the year-over-year basis, as the interest expense of $14 million, mainly composed of $9 million non-cash interest expense related to our dual tranche senior unsecured convertible bonds issued in 2017, was more than offset by the interest income on cash and cash equivalents and marketable securities.

Income (loss) on equity-method investments

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Income (loss) on equity-method investments	$ 6	$ 2	$

In the fourth quarter of 2018, we recorded a $6 million income, mainly related to a $7 million complete reversal of a reserve associated with our indemnity obligation undertaken when selling Numonyx. In addition, there was a better than anticipated actual outcome of certain tax items.

Income (loss) on financial instruments

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Income (loss) on financial instruments	$ (1)	$	$ (11)

In the fourth quarter of 2018, we recognized a $1 million loss corresponding to a loss on one of our investments. In the fourth quarter of 2017, we recognized a $11 million loss on financial instruments due to the net share settlement of the Tranche B of our senior unsecured convertible bonds issued in 2014.

Income tax expense

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Income tax expense	$ (28)	$ (24)	$ (81)

During the fourth and third quarters of 2018 and the fourth quarter of 2017, we recorded an income tax expense of $28 million, $24 million and $81 million, respectively, reflecting (i) in the third quarter of 2018 the estimated annual effective tax rate in each of our jurisdictions, applied to the consolidated results before taxes in the third quarter of 2018 and (ii) in both fourth quarters the actual tax charges and benefits in each jurisdiction as well as the true-up of tax provisions based upon the most updated visibility on open tax matters in several jurisdictions. In addition, the fourth quarter of 2017 charge reflected the impact on deferred taxes of the reduction of corporate tax rate from 35% to 21% enacted with the U.S. tax reform in December 2017, amounting to $46 million, and the impact on deferred tax assets of an enacted progressive decrease in corporate tax rate from 34.4% in 2017 to 25% in 2022 in France.

Net income attributable to parent company

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(Unaudited, in millions)		
Net income attributable to parent company	$ 418	$ 369	$ 308
As percentage of net revenues	15.8%	14.6%	12.5%

For the fourth quarter of 2018, we reported a net income of $418 million, compared to a net income of $369 million and $308 million in the previous and prior-year quarters, respectively. The fourth quarter 2018 net income represented diluted earnings per share of $0.46 compared to $0.41 in the prior quarter and $0.34 in the prior-year quarter.

Adjusted Diluted Earnings per Share (non-U.S. GAAP measure) are determined as follows:

	Three Months Ended		
	December 31, 2018	September 29, 2018	December 31, 2017
	(In million, except U.S. dollars per share and shares outstanding)		
Net income attributable to parent company	$ 418	$ 369	$ 308
Impairment, restructuring and other related closure costs and one-time charges effect, net of tax	2		19
Adjusted net income attributable to parent company	420	369	327

Weighted average shares outstanding	905,464,651	908,020,701	910,165,397
Adjusted Diluted Earnings per Share (non-U.S. GAAP measure)	$ 0.46	$ 0.41	$ 0.36

Impact of Changes in Exchange Rates

Our results of operations and financial condition can be significantly affected by material changes in the exchange rates between the U.S. dollar and other currencies, particularly the Euro.

As a market practice, the reference currency for the semiconductor industry is the U.S. dollar and the market prices of semiconductor products are mainly denominated in U.S. dollars. However, revenues for some of our products (primarily certain of our products sold in Europe) are quoted in currencies other than the U.S. dollar and as such are directly affected by fluctuations in the value of the U.S. dollar. As a result of currency variations, the appreciation of the Euro compared to the U.S. dollar could increase our level of revenues when reported in U.S. dollars or the depreciation of the Euro compared to the U.S. dollar could decrease our level of revenues when reported in U.S. dollars. Over time and depending on market conditions, the prices in the industry could align to the equivalent amount in U.S. dollars, except that there is a lag between the changes in the currency rate and the adjustment in the price paid in local currency, which is proportional to the amplitude of the currency swing, and such adjustment could be only partial and/or delayed, depending on market demand. Furthermore, certain significant costs incurred by us, such as manufacturing costs, SG&A expenses, and R&D expenses, are largely incurred in the currency of the jurisdictions in which our operations are located. Given that most of our operations are located in the Euro zone and other non-U.S. dollar currency areas, including Singapore, our costs tend to increase when translated into U.S. dollars when the U.S. dollar weakens or to decrease when the U.S. dollar strengthens.

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Our principal strategy to reduce the risks associated with exchange rate fluctuations has been to balance as much as possible the proportion of sales to our customers denominated in U.S. dollars with the amount of materials, purchases and services from our suppliers denominated in U.S. dollars, thereby reducing the potential exchange rate impact of certain variable costs relative to revenues. Moreover, in order to further reduce the exposure to U.S. dollar exchange fluctuations, we have hedged certain line items on our Consolidated Statements of Income, in particular with respect to a portion of the costs of sales, most of the R&D expenses and certain SG&A expenses, located in the Euro zone, which we account for as cash flow hedging contracts. We use two different types of hedging contracts: forward and options (including collars).

Our Consolidated Statements of Income for 2018 included income and expense items translated at the average U.S. dollar exchange rate for the period, plus the impact of the hedging contracts expiring during the period. Our effective average exchange rate was $1.18 for 1.00 for the full year 2018 and $1.11 for 1.00 for the full year 2017. Our effective exchange rate was $1.17 for 1.00 for the fourth quarter of 2018, $1.18 for 1.00 for the third quarter of 2018 and $1.15 for 1.00 for the fourth quarter of 2017. These effective exchange rates reflect the actual exchange rates combined with the impact of cash flow hedging contracts that matured in the period.

The time horizon of our cash flow hedging for manufacturing costs and operating expenses may run up to 24 months, for a limited percentage of our exposure to the Euro, depending on currency market circumstances. As of December 31, 2018, the outstanding hedged amounts were 803 million to cover manufacturing costs and 492 million to cover operating expenses, both at an average exchange rate of about $1.21 to 1.00 (considering the collars at upper strike), maturing over the period from January 3, 2019 to June 30, 2020. As of December 31, 2018, measured in respect to the exchange rate at period closing of about $1.15 to 1.00, these outstanding hedging contracts and certain expiring contracts covering manufacturing expenses capitalized in inventory resulted in a deferred loss of approximately $38 million before tax, recorded in Accumulated other comprehensive income (loss) in the Consolidated Statements of Equity, compared to a deferred gain of approximately $43 million before tax at December 31, 2017.

We also hedge certain manufacturing costs denominated in Singapore dollars (SGD); as of December 31, 2018, the outstanding hedged amounts were SGD 155 million at an average exchange rate of about SGD 1.35 to $1.00 maturing over the period from January 3, 2019 to November 27, 2019. As of December 31, 2018, these outstanding hedging contracts resulted in $1 million deferred loss, compared to a deferred gain of approximately $2 million before tax at December 31, 2017, recorded in Accumulated other comprehensive income (loss) in the Consolidated Statements of Equity.

Our cash flow hedging policy is not intended to cover our full exposure and is based on hedging a declining portion of our exposure in the next four quarters. In 2018, as a result of our cash flow hedging, we recorded a net profit of $1 million, consisting of a profit of about $4 million to cost of sales, a loss of $2 million to research and development and a loss of $1 million to selling, general and administrative, while in 2017, we recorded a net profit of $30 million.

In addition to our cash flow hedging, in order to mitigate potential exchange rate risks on our commercial transactions, we purchase and enter into forward foreign currency exchange contracts and currency options to cover foreign currency exposure in payables or receivables at our affiliates, which we account for as fair value instruments. We may in the future purchase or sell similar types of instruments. See Item 11. Quantitative and Qualitative Disclosures About Market Risk . Furthermore, we may not predict in a timely fashion the amount of future transactions in the volatile industry environment. No assurance may be given that our hedging activities will sufficiently protect us against declines in the value of the U.S. dollar. Consequently, our results of operations have been and may continue to be impacted by fluctuations in exchange rates. The net effect of our consolidated foreign exchange exposure resulted in a net gain of $4 million recorded in Other income and expenses, net in our 2018 Consolidated Statement of Income compared to net gains of $4 million and $5 million recorded in 2017 and 2016, respectively.

The assets and liabilities of subsidiaries are, for consolidation purposes, translated into U.S. dollars at the period-end exchange rate. Income and expenses, as well as cash flows, are translated at the average exchange rate for the period. The balance sheet impact, as well as the income statement and cash flow impact, of such translations have been, and may be expected to be, significant from period to period since a large part of our assets and liabilities and activities are accounted for in Euros as they are located in jurisdictions where the Euro is the functional currency. Adjustments resulting from the translation are recorded directly in equity, and are shown as Accumulated other comprehensive income (loss) in the Consolidated Statements of Equity. At December 31, 2018, our outstanding indebtedness was denominated mainly in U.S. dollars and in Euros.

For a more detailed discussion, see Item 3. Key Information Risk Factors Risks Related to Our Operations .

Impact of Changes in Interest Rates

Interest rates may fluctuate upon changes in financial market conditions and material changes can affect our results of operations and financial condition, since these changes can impact the total interest income received on our cash and cash equivalents and marketable securities, as well as the total interest expense paid on our financial debt.

Our interest income (expense), net, as reported in our Consolidated Statements of Income, is the balance between interest income received from our cash and cash equivalents and marketable securities investments and interest expense paid on our financial liabilities (including the sale without recourse of receivables), non-cash interest expense on the Senior Convertible Bonds and bank fees (including fees on committed credit lines). Our interest income is dependent upon fluctuations in interest rates, mainly in U.S. dollars and Euros, since we invest primarily on a short-term basis; any increase or decrease in the market interest rates would mean a proportional increase or decrease in our interest income. Our interest expenses are also dependent upon fluctuations in interest rates, since our financial liabilities include European Investment Bank Floating Rate Loans at Libor and Euribor plus variable spreads.

At December 31, 2018, our total financial resources, including cash and cash equivalents and marketable securities, generated an average interest income rate of 2.60%. At the same date, the average interest rate on our outstanding debt was 2.58% including the non-cash effective interest of the convertible bonds, while the average cash interest rate was only 0.48%.

Impact of Changes in Equity Prices

As of December 31, 2018, we did not hold any significant equity participations, which could be subject to a material impact in changes in equity prices. However, we hold equity participations whose carrying value could be reduced due to further losses or impairment charges of our equity-method investments. See Note 10 to our Consolidated Financial Statements.

Liquidity and Capital Resources

Treasury activities are regulated by our policies, which define procedures, objectives and controls. Our policies focus on the management of our financial risk in terms of exposure to currency rates and interest rates. Most treasury activities are centralized, with any local treasury activities subject to oversight from our head treasury office. The majority of our cash and cash equivalents are held in U.S. dollars and Euros and are placed with financial institutions rated at least a single A long-term rating, meaning at least A3 from Moody s Investors Service (Moody s) and A- from Standard & Poor s (S&P) or Fitch Ratings (Fitch), or better. Marginal amounts are held in other currencies. See Item 11. Quantitative and Qualitative Disclosures About Market Risk .

Our total liquidity and capital resources were $2,596 million as of December 31, 2018, increasing compared to $2,190 million at December 31, 2017. As of December 31, 2018, our total liquidity and capital resources were comprised of $2,266 million in cash and cash equivalents and $330 million in marketable securities, all considered as current assets.

As of December 31, 2018, marketable securities were $330 million invested in U.S. Government debt securities, including Treasury Bonds, with a rating of Aaa/AA+/AAA from Moody s, S&P and Fitch, respectively, and a weighted average maturity of 1.3 years. The securities are classified as available-for-sale and reported at fair value. This fair value measurement corresponds to a Level 1 fair value hierarchy measurement.

Liquidity

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 2018, our net cash increased by $507 million, due to the net cash from operating activities exceeding the net cash used in investing and financing activities.

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The components of our cash flow for the last three years are set forth below:

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Net cash from operating activities	$ 1,845	$ 1,677	$ 1,043
Net cash used in investing activities	(1,212)	(1,468)	(727)
Net cash used in financing activities	(122)	(106)	(439)
Effect of changes in exchange rates	(4)	27	(19)
Net cash increase (decrease)	**$ 507**	**$ 130**	**$ (142)**

Net cash from operating activities. Net cash from operating activities is the sum of (i) net income (loss) adjusted for non-cash items and (ii) changes in net working capital. The net cash from operating activities in 2018 was $1,845 million, increasing compared to $1,677 million in the prior year, mainly benefitting from higher net income.

Net cash used in investing activities. Investing activities used $1,212 million of cash in 2018, decreasing from $1,468 million in the prior year, mainly due to proceeds from matured short-term deposits and lower payments for the purchase of tangible and intangible assets. Payments for purchase of tangible assets, net of proceeds, totaled $1,262 million, compared to $1,298 million in 2017. In addition, in 2017, $99 million were used for the purchase of marketable securities.

Net cash used in financing activities. Net cash used in financing activities was $122 million for 2018, compared to the $106 million used in 2017. The 2018 amount included $281 million proceeds from long-term debt, $103 million of long-term debt repayment, $62 million of repurchase of common stock and $216 million of dividends paid to stockholders.

Free Cash Flow (*non-U.S. GAAP measure*). We also present Free Cash Flow, which is a non-U.S. GAAP measure, defined as (i) net cash from operating activities plus (ii) net cash used in investing activities, excluding payment for purchases (and proceeds from the sale) of marketable securities, and net cash variation for joint ventures deconsolidation, 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-U.S. 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 U.S. 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 total cash flow and the net cash increase (decrease) by including the payment for purchases (and proceeds from the sale) of marketable securities and net cash variation from joint ventures deconsolidation, 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. Free Cash Flow is determined from our Consolidated Statements of Cash Flows as follows:

	Year Ended December 31,		
	2018	2017	2016
		(In millions)	
Net cash from operating activities	$ 1,845	$ 1,677	$ 1,043

Net cash used in investing activities	(1,212)	(1,468)	(727)
Excluding:			
Payment for purchase and proceeds from sale of marketable securities, and net cash variation for joint ventures deconsolidation	(100)	99	
Payment for purchase and proceeds from sale of tangible and intangible assets, payment for business acquisitions(1)	(1,312)	(1,369)	(727)
Free Cash Flow (non-U.S. GAAP measure)	**$ 533**	**$ 308**	**$ 316**

(1) Reflects the total of the following line items reconciled with our Consolidated Statements of Cash Flows relating to the 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, Payment for disposal of equity investment, Proceeds received in sale of businesses, Payment for business acquisitions, net of cash and cash equivalents acquired.

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Free Cash Flow was positive $533 million in 2018, compared to positive $308 million in 2017.

Capital Resources

Net Financial Position (*non-U.S. GAAP measure*). Our Net Financial Position represents the difference between our total financial resources and our total financial debt. Our total financial resources include cash and cash equivalents, marketable securities and short-term deposits, and our total financial debt includes short-term debt, including bank overdrafts, and long-term debt, as represented in our Consolidated Balance Sheets. Net Financial Position is not a U.S. 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 and marketable 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 for each period has been determined from our Consolidated Balance Sheets as follows:

	Year Ended December 31,		
	2018	**2017**	**2016**
		(In millions)	
Cash and cash equivalents	$ 2,266	$ 1,759	$ 1,629
Marketable securities	330	431	335
Total financial resources	**2,596**	**2,190**	**1,964**
Short-term debt, including bank overdrafts	(146)	(118)	(117)
Long-term debt	(1,764)	(1,583)	(1,334)
Total financial debt	**(1,910)**	**(1,701)**	**(1,451)**
Net Financial Position	**$ 686**	**$ 489**	**$ 513**

Our Net Financial Position as of December 31, 2018 was a net cash position of $686 million, increasing compared to the net cash position of $489 million at December 31, 2017.

At December 31, 2018, our financial debt was $1,910 million, composed of (i) $146 million of current portion of long-term debt and (ii) $1,764 million of long-term debt. The breakdown of our total financial debt included: (i) $1,316 million in the senior unsecured convertible bonds issued in 2017, (ii) $577 million in European Investment Bank loans (the EIB Loans), and (iii) $17 million in loans from other funding programs and other long-term 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 $109 million remained outstanding as of December 31, 2018. 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 $176 million is outstanding as of December 31, 2018. The third, signed in August 2017 for a total aggregate amount of 500 million in relation to R&D and capital expenditure investments in the European Union, was partially drawn in December 2018 for a total amount of $292 million.

On July 3, 2014, we issued $1,000 million principal amount of dual tranche senior unsecured convertible bonds (Tranche A for $600 million and Tranche B for $400 million), due 2019 and 2021, respectively. Tranche A bonds were issued as zero-coupon bonds while Tranche B bonds bore a 1% per annum nominal interest, payable semi-annually. The conversion price at issuance was approximately $12, equivalent to a 30% and a 31% premium, respectively, on each tranche. On October 3, 2016, the conversion price was adjusted up to 1.24% on each tranche, pursuant to a dividend adjustment symmetric provision, which corresponded to 16,491 and 16,366 equivalent shares per each $200,000 bond par value for Tranche A and Tranche B, respectively. On October 2, 2017, the conversion price was adjusted up to 1.16% on Tranche B, pursuant to a dividend adjustment symmetric provision, which corresponded to 16,178 equivalent shares per each $200,000 bond par value. The bonds were convertible by the bondholders or were callable by the issuer upon certain conditions, an in each case on a full-cash, full-shares or net-share settlement basis at issuer s decision. The net proceeds from the bond offering were approximately $994 million, after deducting issuance costs payable by us. The proceeds were allocated between debt and equity by first measuring the liability component and then determining the equity component as a residual amount. The liability component was measured at fair value based on a discount rate adjustment technique (income approach), which corresponded to a Level 3 fair value hierarchy measurement. The fair value of the liability component at initial recognition totaled $878 million and was estimated by calculating the present value of cash flows using a discount rate of 2.40% and 3.22% (including 1% per annum nominal interest), respectively, on each tranche, which was determined to be consistent with the market rates at the time for similar instruments with no conversion rights. An amount of $121 million, net of allocated issuance costs of $1 million, was recorded in shareholders equity as the value of the conversion features of the instruments.

In the second quarter of 2017, we issued a redemption notice to inform bondholders of the early redemption of the Tranche A bonds in July 2017. As a consequence, bondholders exercised their conversion rights for $598 million nominal value on the total of $600 million of the Tranche A. The remainder amount of $2 million was early redeemed in cash by us. Each conversion exercised by the bondholders was net-share settled, upon our election. As a result, we settled $600 million in cash and approximately 13.0 million shares from treasury shares. We allocated the total consideration transferred between debt and equity by measuring at fair value the liability component of Tranche A prior to settlement then determining the equity component as a residual amount. The liability component was measured at fair value based on a discount rate adjustment technique (income approach), which corresponded to a Level 3 fair value hierarchy measurement and consisted in calculating the present value of cash flows using an average estimated discount rate of 2.09%, which corresponds to current market rates for similar bonds that have no conversion rights. The fair value of the liability component, as measured prior to extinguishment was $574 million for Tranche A bonds, which generated a loss amounting to $5 million, reported on the line Loss on financial instruments, net in the consolidated statement of income for the period ended December 31, 2017.

Between September 13, 2017 and October 10, 2017, bondholders exercised their conversion rights for $340 million nominal value on the total of $400 million of the Tranche B bonds. On October 11, 2017, we issued a redemption notice to inform bondholders of the early redemption of the remaining $60 million nominal value of the Tranche B on November 10, 2017. As a consequence, bondholders exercised their conversion rights for $59 million nominal value on the remaining $60 million of the Tranche B. The remainder amount of $1 million was early redeemed in cash by us. As we elected to net share settle the bonds, each conversion followed the process defined in the original terms and conditions of the convertible bonds, which determined the actual number of shares to be transferred upon each conversion. As a result, we settled $400 million in cash and approximately 13.7 million shares from treasury shares. We allocated the total consideration transferred between debt and equity by measuring at fair value the liability component of Tranche B prior to settlement then determining the equity component as a residual amount. The liability component was measured at fair value based on a discount rate adjustment technique (income approach), which corresponded to a Level 3 fair value hierarchy measurement and consisted in calculating the present value of cash flows using an average estimated discount rate of 2.47%, which corresponds to current market rates for similar bonds that have no conversion rights. The fair value of the liability component, as measured prior to extinguishment was $370 million for Tranche B bonds, which generated a loss amounting to $11 million, reported on the line Loss on financial instruments, net in the consolidated statement of income for the period ended December 31, 2017.

On July 3, 2017, we 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 us. Proceeds were allocated between debt and equity by measuring first the liability component and then determining the equity component as a residual amount. The liability component was measured at fair value based on a discount rate adjustment technique (income approach), which corresponded to a Level 3 fair value hierarchy measurement. The fair value of the liability component at initial recognition totaled $1,266 million before allocation of issuance costs, and was estimated by calculating the present value of cash flows using a discount rate of 2.70% and 3.28% (including 0.25% per annum nominal interest), respectively, on each tranche, which were determined to be consistent with the market rates at the time for similar instruments with no conversion rights. An amount of $242 million, net of allocated issuance costs of $1 million, was recorded in shareholders equity as the value of the conversion features of the instruments. Unamortized debt discount and

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issuance costs on the newly issued convertible debt totaled $184 million as at December 31, 2018. As at December 31, 2018, our stock price did not exceed the conversion price of the new convertible bonds.

On August 7, 2017 we announced the completion of the repurchase of 18.6 million shares of our common stock for a total of $297 million under the share buy-back program announced on June 22, 2017. The repurchased shares are held as treasury shares and will be used to meet our obligations arising from debt financial instruments that are exchangeable into equity instruments and to meet our obligations arising from share award programs.

On November 5, 2018 we announced the launch of a share buy-back program of up to $750 million to be executed within a three-year period. Shares repurchased under the buy-back program are disclosed on a weekly basis and are held as treasury shares and will be used to meet our obligations in relation to our employee stock award plans. As of December 31, 2018, we held 12.9 million treasury shares.

Additionally, we had unutilized committed medium-term credit facilities with core relationship banks of $572 million.

Our long-term debt contains standard conditions, but does not impose minimum financial ratios.

As of December 31, 2018, debt payments at redemption value by period were as follows:

	Payments Due by Period						
	Total	**2019**	**2020**	**2021**	**2022**	**2023**	**Thereafter**
	(In millions)						
Long-term debt (including current portion)	$ 2,094	$ 146	$ 146	$ 91	$ 783	$ 32	$ 896

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. On October 9, 2018, Fitch revised our long-term issuer default rating and senior unsecured rating to BBB with stable outlook from BBB- . On November 23, 2018, S&P Global Ratings raised its long- and short-term issuer credit ratings on ST from to BBB / A-2 from BBB- / A-3 with stable outlook. At the same time, S&P Global Ratings raised its issuer ratings on ST s senior unsecured debt to BBB from BBB- .

Contractual Obligations, Commercial Commitments and Contingencies

Our contractual obligations, commercial commitments and contingencies as of December 31, 2018, and for each of the five years to come and thereafter, were as follows:[(1)]

	Total	**2019**	**2020**	**2021**	**2022**	**2023**	**Thereafter**
	(In millions)						
Operating leases[(2)]	$ 214	$ 56	$ 44	$ 29	$ 19	$ 14	$ 52
Purchase obligations[(2)]	1,323	989	146	101	87		
of which:							
Equipment and other asset purchases	628	628					
Foundry purchases	525	234	114	90	87		
Software, design, technologies and licenses	170	127	32	11			
Other obligations[(2)]	563	263	120	68	47	31	34

Long-term debt obligations (including current portion)(3)(4)	2,094	146	146	91	783	32	896
of which:							
Capital leases(3)							
Pension obligations(3)	385	52	33	41	38	50	171
Other long-term liabilities(3)	160		32	6	11	6	105
Total	**$ 4,739**	**$ 1,506**	**$ 521**	**$ 336**	**$ 985**	**$ 133**	**$ 1,258**

(1) Contingent liabilities which cannot be quantified are excluded from the table above.

(2) Items not reflected on the Consolidated Balance Sheet at December 31, 2018.

(3) Items reflected on the Consolidated Balance Sheet at December 31, 2018. For long-term debt obligations the difference between the total obligations and the total carrying amount of long-term debt is due to the unamortized discount on the dual tranche senior unsecured convertible bonds.

(4) See Note 13 to our Consolidated Financial Statements at December 31, 2018 for additional information related to long-term debt.

Operating leases are mainly related to building leases and to equipment. The amount disclosed is composed of minimum payments for future leases from 2019 to 2023 and thereafter. We lease land, buildings, plants and equipment under operating leases that expire at various dates under non-cancelable lease agreements.

Purchase obligations are primarily comprised of purchase commitments for equipment, for outsourced foundry wafers and for software licenses.

Other obligations primarily relate to firm contractual commitments with respect to partnership and cooperation agreements.

Long-term debt obligations mainly consist of bank loans and senior unsecured convertible bonds. In 2019, we expect to redeem with available cash and cash equivalents a $142 million loan received from the European Investment Bank as an annual installment. See Net financial position (non-U.S. GAAP measure) above.

Pension obligations amounting to $385 million consist of our best estimates of the amounts projected to be payable by us for the pension and post-employment plans. The final actual amount to be paid and related timing of such payments may vary significantly due to early retirements, terminations and changes in assumptions rates. See Note 14 to our Consolidated Financial Statements. As part of the creation of Numonyx, we retained the obligation to fund the severance payment (*trattamento di fine rapporto*) due to certain transferred employees by the defined amount of about $6 million which qualifies as a defined benefit plan and was classified as an other long-term liability at December 31, 2018.

Other long-term liabilities include future obligations related to our restructuring plans and miscellaneous contractual obligations, as well as earn-out for business combinations. In accordance with the authoritative guidance for accounting for uncertainty in income taxes, as of December 31, 2018, we had $25 million of estimated liabilities on uncertain tax positions. We do not expect to recognize any of these tax benefits in 2019. We are not, however, able to provide a reasonably reliable estimate of when these benefits will be recognized.

Off-Balance Sheet Arrangements

We had no material off-balance sheet arrangements at December 31, 2018.

Financial Outlook: Capital Investment

Our policy is to modulate our capital spending according to the evolution of the semiconductor market. Based upon a combination of new products, higher customer demand in the second half of 2019 and on ongoing strategic initiatives, we forecast our capital investment in 2019 within a range of approximately $1.2 billion to $1.3 billion. A portion of this capital expenditure will be devoted to support three strategic initiatives: i) in Agrate Italy the start of the construction of a new 300mm fab to support next generation mixed signal, IGBT and power products; ii) the expansion of the installed capacity in SiC both in front-end and back-end and the start-up of production of Ga-N technology in Catania and Tours 150mm and iii) next generation Image sensor technology. In addition to our strategic initiatives, our main capital investment in front-end is in i) our 300mm fab in Crolles, expanding capacity 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, mainly in the area of mixed signal and discrete processes; and iii) capacity increase of technology in 200mm in Singapore by the progressive integration of former Micron fab. The most important 2019 capital investment 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 products for Automotive and Industrial, to sustain market demand; (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 meet increased 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,

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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.

Impact of Recently Issued U.S. Accounting Standards

See Note 2 to our Consolidated Financial Statements.

Equity-method investments

See Note 10 to our Consolidated Financial Statements.

Backlog and Customers

See Item 4. Information on the Company Backlog .

Item 6. Directors, Senior Management and Employees
Directors and Senior Management

The management of our Company is entrusted to the Managing Board under the supervision of the Supervisory Board.

Supervisory Board

Our Supervisory Board advises our Managing Board and is responsible for supervising the policies pursued by our Managing Board, the manner in which the Managing Board implements the long-term value creation strategy and the general course of our affairs and business. Our Supervisory Board consists of such number of members as is resolved by our AGM upon a non-binding proposal of our Supervisory Board, with a minimum of six members. Decisions by our AGM concerning the number and the identity of our Supervisory Board members are taken by a simple majority of the votes cast at a meeting, provided quorum conditions are met.

Our Supervisory Board was composed of the following nine members as of December 31, 2018:

Name	Position	Year First Appointed	Term Expires	Age
Nicolas Dufourcq	Chairman	2015	2021	55
Maurizio Tamagnini	Vice Chairman	2014	2020	53
Janet Davidson	Member	2013	2019	62

Heleen Kersten	Member	2014	2020	53
Jean-Georges Malcor	Member	2011	2020	62
Salvatore Manzi	Member	2016	2019	47
Alessandro Rivera	Member	2011	2020	48
Frédéric Sanchez	Member	2017	2020	58
Martine Verluyten	Member	2012	2019	67

Resolutions of our Supervisory Board require the approval of at least three-quarters of its members in office. Our Supervisory Board must meet upon request by two or more of its members or by our Managing Board. Our Supervisory Board meets at least five times a year, including once per quarter to approve our quarterly, semi-annual and annual accounts and their release. In 2018, the average attendance rate for the meetings of our Supervisory Board was 95.1%. Our Supervisory Board has adopted a Supervisory Board Charter, which is available on our website (www.st.com).

Our Supervisory Board may make a proposal to our AGM for the suspension or dismissal of one or more of its members. Each member of our Supervisory Board must resign no later than three years after appointment, as

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described in our Articles of Association, but may be reappointed following the expiration of his/her term of office. Pursuant to Dutch law, there is no mandatory retirement age for members of our Supervisory Board. Members of the Supervisory Board may be suspended or dismissed by our AGM. Certain of our Supervisory Board members are proposed by and may retain certain relationships with our direct or indirect shareholders represented through our major shareholder. See Item 7. Major Shareholders and Related Party Transactions Major Shareholders .

In accordance with the best practice provisions of the Dutch Corporate Governance Code our Supervisory Board undertakes to perform an evaluation of the performance of our Managing Board as well as its own functioning, its members and its committees. The evaluation for the year ended December 31, 2018 is still ongoing at the time of publication of this report.

Biographies of our Current Supervisory Board Members

Nicolas Dufourcq has been a member of our Supervisory Board since May 2015 and its Chairman since June 2017. He serves on our Supervisory Board s Nominating and Corporate Governance Committee and chairs its Compensation Committee and Strategic Committee. Mr. Dufourcq is a graduate of HEC (*Hautes Etudes Commerciales*) and ENA (*Ecole Nationale d Administration*). He began his career at the French Ministry of Finance and Economics before joining the Ministry of Health and Social affairs in 1992. In 1994, he joined France Telecom, where he created the Multimedia division, before going on to chair Wanadoo, the firm s listed Internet and Yellow Pages subsidiary. After joining the Capgemini Group in 2003, he was made responsible for the Central and Southern Europe region, successfully leading their financial turnaround. He was appointed Chief Financial Officer of the Group and member of the Executive Committee in September 2004. In 2005, he was named deputy Chief Executive Officer in charge of finance, risk management, IT, delivery, purchases and LEAN program and, in 2007, also in charge of the follow-up of the group s major contracts. On February 7, 2013, Mr. Dufourcq was appointed Chief Executive Officer of Bpifrance (*Banque Publique d Investissement*), which is indirectly controlled by the French Government and is one of the indirect shareholders of ST Holding. Mr. Dufourcq is also a member of the Supervisory Board of Euler Hermes Group and Orange Group.

Maurizio Tamagnini has been a member of our Supervisory Board since June 2014 and has been its Vice Chairman since June 2017. He was the Supervisory Board s Chairman from 2014 until June 2017. Mr. Tamagnini serves on our Supervisory Board s Nominating and Corporate Governance Committee, Compensation Committee and Strategic Committee. Mr. Tamagnini is currently Chief Executive Officer of FSI Sgr Spa, an asset management company participated, with a significant stake, among others, by Cassa depositi e prestiti Spa (CDP), which is 82.7% controlled by the Italian Government. FSI Sgr Spa manages FSI Mid-Market Growth Equity Fund, a private equity closed-end fund with approximately 1.3 billion capital endowment, specialized on growth equity investments in Italian midmarket companies with development potential. He is non-executive Chairman of FSI Investimenti Spa, which is controlled 77% by CDP. Until 31 March 2016, Mr. Tamagnini was Chief Executive Officer and Chairman of the Investment Committee of Fondo Strategico Italiano Spa (now CDP Equity Spa), an investment company controlled by CDP. He was previously Southern European Manager of the Corporate & Investments Banking division of Bank of America Merrill Lynch and a member of the Executive Committee of Bank of America Merrill Lynch for the EMEA region. Mr. Tamagnini has gained over 25 years of experience in the financial sector specializing in the areas of Corporate Finance, Private Equity, Debt and Equity. Until 21 April 2016, he was Chairman of the Joint Venture between CDP Equity and Qatar Holding (IQ Made in Italy Investment Company Spa) with capital endowment of up to 2 billion in total for investments in the food, brands, furniture & design and tourism sectors. Mr. Tamagnini is also a member of the International Advisory Board of BIDMC Harvard Medical School. He holds a degree in International Monetary Economics from Bocconi University in Milan and has also studied at the Rensselaer Polytechnic Institute Troy in New York, USA.

Janet Davidson has been a member of our Supervisory Board since June 2013. She serves on our Supervisory Board s Audit Committee and Strategic Committee. She began her career in 1979 as a member of the Technical Staff of Bell Laboratories, Lucent Technologies (as of 2006 Alcatel Lucent), and served from 1979 through 2011 in several key positions, most recently as Chief Strategy Officer (2005 2006), Chief Compliance Officer (2006 2008) and EVP Quality & Customer Care (2008 2011). From 2005 through 2012, Ms. Davidson was a member of the Lehigh University Board of Trustees. In 2007 she served on the Riverside Symphonia Board of Trustees and in 2005 and 2006, Ms. Davidson was a member of the Liberty Science Center Board of Trustees. Ms. Davidson was a member of the board of the Alcatel Lucent Foundation from 2011 until 2014. Ms. Davidson is also a member of the board of directors of Millicom since April 2016. On February 22, 2019, Ms. Davidson was elected to the board of directors of The AES Corporation and was appointed to the Financial Audit Committee and Compensation Committee of its board of directors. Ms. Davidson is a graduate of the Georgia Institute of Technology (Georgia Tech), Atlanta, GA, USA, and Lehigh University, Bethlehem, PA, USA and holds a Master s degree in Electrical Engineering.

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Heleen Kersten has been a member of our Supervisory Board since June 2014. She serves on our Supervisory Board s Audit Committee and Compensation Committee and chairs its Nominating and Corporate Governance Committee. Ms. Kersten is a partner at Stibbe in Amsterdam, where she held the position of managing partner from 2008 to 2013. Stibbe is a Benelux law firm with offices in Amsterdam, Brussels, Luxembourg, London, New York and Dubai. She began her career in 1989 with Stibbe before joining Davis Polk in New York and London (1992-1993). After her return to Stibbe Amsterdam, she rose through the ranks to become a partner in 1997. As a member of the Bar of Amsterdam since 1989, Ms. Kersten specializes in mergers and acquisitions, equity capital markets, corporate law and corporate governance. Ms. Kersten was a supervisory board member of the Dutch listed bank Van Lanschot N.V. until May 2015 and the Chairman of the supervisory board of Egeria Investment B.V. until April 2016. She is currently a supervisory board member of the Rijksmuseum (Stichting Het Rijksmuseum), since 2015. She is also a board member of the RCO Foundation (Stichting RCO Foundation), since 2010. Ms. Kersten holds master s degrees in Dutch law and tax law, both from Leiden University in the Netherlands.

Jean-Georges Malcor has been a member of our Supervisory Board since May 2011. He serves on our Supervisory Board s Audit Committee. Until his retirement on October 1, 2018, Mr. Malcor was the Chief Executive Officer of CGG. He is a graduate of Ecole Centrale de Paris. He also holds a Master of Sciences degree from Stanford University, and a Doctorat from Ecole des Mines. Mr. Malcor began his career at the Thales group as an acoustic engineer in the Underwater Activities division where he was particularly in charge of hydrophone and geophone design and towed streamer programs. He then moved to the Sydney based Thomson Sintra Pacific Australia, becoming Managing Director of the company in 1990. Back in France, he became Director of Marketing and Communications (1991), then Director, Foreign Operations of Thomson Sintra Activités Sous Marines (1993). In 1996, he was appointed Managing Director of Thomson Marconi Sonar Australia which was, in addition to its military activities, the lead developing company for the solid geophysical streamer. In 1999, Mr. Malcor became the first Managing Director of the newly formed joint venture Australian Defense Industry. During this time he operated the Sydney based Woolloomooloo Shipyard (the largest dry dock in the southern hemisphere). In 2002, he became Senior Vice President, International Operations of Thales International. From 2004 to 2009, he was Senior Vice President in charge of the Naval Division, supervising all naval activities in Thales including ship design, building and maintenance. In January 2009, he became Senior Vice President, in charge of the Aerospace Division. In June 2009, he moved to the position of Senior Vice President, Continental Europe, Turkey, Russia, Asia, Africa, Middle East, and Latin America. Mr. Malcor joined CGG in January 2010 as President and became CEO on June 30, 2010 until his retirement in October 2018. Since June 2013, Mr. Malcor has been a member of the Supervisory Board of the Fives Group. Since June 2018, he has served on the board and the strategic committee of ORTEC. In November 2018, he also joined the board of Atlas Arteria (ASX).

Salvatore Manzi has been a member of our Supervisory Board since May 2016. He serves on our Supervisory Board s Compensation Committee and Strategic Committee. Mr. Manzi is the founder and CEO of Ovidio Tech S.r.l., an Italian holding company investing in a wide range of activities (including in the IT, IoT, security, film production, and biomedical fields). The main company in the Ovidio group is Schema31 S.p.A., a company providing innovation service as a business process outsourcer for public administrations and large private customers, of which Mr. Manzi is the founder and, since 2007, has been the managing director. During the course of his professional career, Mr. Manzi directed several Italian software companies, where he was responsible for ICT projects in the areas of enterprise management, finance and control, training and R&D. A primary player in one of the major SAP projects in Italy (Rete Ferroviaria Italiana RFI SpA), Mr. Manzi carries a multi-year international executive management experience in the direction of R&D operations and enterprise ICT projects. Mr. Manzi was a member of the supervisory board of ST Holding NV from 2014 until May 25, 2016. Mr. Manzi holds a master degree in electrical engineering from the Florence University, Italy, and is a member of the National Board of Engineers, section of Rome (IT, construction, environmental and industrial engineering).

Alessandro Rivera has been a member of our Supervisory Board since May 2011. Mr. Rivera serves on our Supervisory Board s Audit Committee and Nominating and Corporate Governance Committee. Prior to his appointment as Director General of the Treasury in August 2018, Mr. Rivera was the Head of Directorate IV Financial Sector Policy and Regulation Legal Affairs at the Department of the Treasury, Ministry of Economy and Finance from 2008 to 2018. He served as Head of Unit in the Department of the Treasury from 2000 to 2008 and was responsible for a variety of policy matters: financial services and markets, banking foundations, accounting, finance, corporate governance and auditing. Since 2008, Mr. Rivera has been the Government representative in the Consiglio Superiore of the Bank of Italy, and in the Financial Services Committee. Since 2013 he has been a member of the Board of Directors and Compensation Committee of Cassa Depositi e Prestiti.

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Since 2017, he is also the Chairman of SGA S.p.A. From 2011 to 2014 he was a member of the Board of Directors and Compensation Committee of Poste Italiane S.p.A. From 2008 to 2011 he was a member of the European Securities Committee. He was a member of the Accounting Regulatory Committee from 2002 to 2008 and a member of the Audit Regulatory Committee from 2005 to 2008. He served on the board of Italia Lavoro S.p.A. from 2005 to 2008 and was a member of the Audit Committee and the Compensation Committee. Mr. Rivera was also the Chairman of the Audit Committee of the Fondo nazionale di garanzia degli intermediari finanziari (Italian investor compensation scheme) from 2003 to 2008. From 2001 to 2010, he was the Project Leader and Deputy Project Leader in several twinning projects with Eastern European Countries (the Russian Federation, the Czech Republic, Lithuania, and Bulgaria). He also served on the board of Mediocredito del Friuli Venezia Giulia S.p.A from 2001 to 2003.

Frédéric Sanchez has been a member of our Supervisory Board since June 20, 2017. He serves on our Supervisory Board s Compensation Committee, Strategic Committee and Nominating and Corporate Governance Committee. Mr. Sanchez is the chairman of the executive board of Fives, an industrial engineering group with heritage of over 200 years of engineering excellence and expertise. Fives designs and supplies machines, process equipment and production lines for the world s largest industrial groups in various sectors such as aluminum, steel, glass, automotive, logistics, aerospace, cement and energy, in both developing and developed countries. Mr. Sanchez started his career in 1985 with Renault in Mexico, then in the USA. In 1987 he became a mission manager at Ernst & Young. In 1990 he joined Fives-Lille group, in which he held various positions before being appointed chief financial officer in 1994 and becoming chief operating officer in 1997. In 2002, the Compagnie de Fives-Lille (renamed Fives in 2007) became a company with a Management and Supervisory Board chaired by Frederic Sanchez. Within MEDEF (French Business Confederation), Mr. Sanchez is President of MEDEF International and President of the Council of Entrepreneurs France-Saudi Arabia and UAE. Mr. Sanchez is also a member of the Supervisory Board of Mirion, an administrator of Thea, Primagaz and Business France and honorary co-president of the Alliance Industrie du Futur. Mr. Sanchez graduated from HEC Business School (1983) and Sciences-Po Paris (1985) and he also holds a Master Degree in Economics from Université Paris-Dauphine (1984).

Martine Verluyten has been a member of our Supervisory Board since May 2012. Ms. Verluyten serves on our Supervisory Board s Audit Committee and has been its Chair since April 22, 2013. Until 2011, Ms. Verluyten acted as CFO of Umicore N.V. based in Brussels. Previously she was CFO of Mobistar N.V. (2001-2006), having initially joined Mobistar in 2000 as Group Controller. She had earlier worked at Raychem since 1976, holding various management positions during her 23 year tenure, from Manager European Consolidations (1976-1979), to General Accounting Manager based in the US (1979-1983). She was then promoted to Division Controller Telecom Division Europe from 1983 to 1990. In 1990, she was appointed Finance & Administration Director back in Europe, then in 1995, Europe Controller Finance & Administration Director until 1999. Ms. Verluyten is also member of the board of directors of Thomas Cook plc (and serves as Chair of its Audit Committee) and GBL (group Bruxelles Lambert). Ms. Verluyten began her career in 1973 at KPMG as an Auditor.

Supervisory Board Committees

Membership and Attendance. As of December 31, 2018, the composition of the four standing committees of our Supervisory Board was as follows: (i) Ms. Martine Verluyten is the Chair of the Audit Committee, and Ms. Janet Davidson, Ms. Heleen Kersten, Mr. Jean-Georges Malcor and Mr. Alessandro Rivera are members of the Audit Committee; (ii) Mr. Nicolas Dufourcq is the Chairman of the Compensation Committee, and Mr. Maurizio Tamagnini, Ms. Heleen Kersten, Mr. Salvatore Manzi and Mr. Frédéric Sanchez are members of the Compensation Committee; (iii) Ms. Heleen Kersten is the Chair of the Nominating and Corporate Governance Committee, and Messrs. Nicolas Dufourcq, Alessandro Rivera, Frédéric Sanchez and Maurizio Tamagnini are members of the Nominating and Corporate Governance Committee; and (iv) Mr. Nicolas Dufourcq is the Chairman of the Strategic Committee, and Ms. Janet Davidson and Messrs. Salvatore Manzi, Frédéric Sanchez and Maurizio Tamagnini are members of the Strategic Committee.

Detailed information on attendance at full Supervisory Board and Supervisory Board Committee meetings during 2018 is as follows:

Number of Meetings attended in 2018	Supervisory Board	% Attendance	Audit Committee	% Attendance	Compen-sation Committee	% Attendance	Strategic Committee	% Attendance	Nominating & Corporate Governance Committee	% Attendance
Nicolas Dufourcq	8	89			2	100	2	100	5	100
Maurizio Tamagnini	9	100			2	100	2	100	5	100
Janet Davidson	9	100	9	90			2	100		
Heleen Kersten	9	100	8	80	2	100			5	100
Jean-Georges Malcor	9	100	9	90						
Salvatore Manzi	9	100			2	100	2	100		
Alessandro Rivera	7	78	8	80					4	80
Frédéric Sanchez	9	100			2	100	2	100	5	100
Martine Verluyten	8	89	10	100						

Audit Committee. Our Audit Committee assists the Supervisory Board in fulfilling its oversight responsibilities relating to corporate accounting, reporting practices, and the quality and integrity of our financial reports as well as our auditing practices, legal and regulatory related risks, execution of our auditors recommendations regarding corporate auditing rules and the independence of our external auditors.

Our Audit Committee met ten times during 2018. At many of the Audit Committee s meetings, the committee received presentations on current financial and accounting issues and had the opportunity to discuss with our CEO, CFO, Chief Accountant, Chief Audit and Risk Executive, President, Legal Counsel, Chief Compliance Officer and external auditors. Our Audit Committee also discussed with outside U.S. legal counsel corporate requirements pursuant to NYSE s corporate governance rules and the Sarbanes Oxley Act. Our Audit Committee also proceeded with its annual review of our internal audit function. Our Audit Committee reviewed our annual Consolidated Financial Statements in U.S. GAAP for the year ended December 31, 2018, and the results press release was published on January 24, 2019.

Our Audit Committee approved the compensation of our external auditors for 2018 and discussed the scope of their audit, audit related and non-audit related services for 2018.

At the end of each quarter, prior to each Supervisory Board meeting to approve our quarterly results, our Audit Committee reviewed our interim financial information and the proposed press release and had the opportunity to raise questions to management and the independent registered public accounting firm. In addition, our Audit Committee reviewed our quarterly Operating and Financial Review and Prospects and Consolidated Financial Statements (and notes thereto) before they were furnished to the SEC and voluntarily certified by the CEO and the CFO (pursuant to sections 302 and 906 of the Sarbanes Oxley Act). Our Audit Committee also reviewed Operating and Financial Review and Prospects and our Consolidated Financial Statements contained in this Form 20-F, prior to its approval by our Supervisory Board. Furthermore, our Audit Committee monitored our compliance with the European Directive and applicable provisions of Dutch law that require us to prepare a set of accounts pursuant to IFRS in advance of our AGM, which was held on May 31, 2018. See Item 3. Key Information Risk Factors Risks Related to Our Operations .

Also in 2018, our Audit Committee reviewed with our external auditors our compliance with Section 404 of the Sarbanes-Oxley Act. In addition, our Audit Committee regularly reviewed management s conclusions as to the effectiveness of internal control over financial reporting, supervised the implementation of our corporate Enterprise

Risk Management (ERM) process, and reviewed our Compliance & Ethics program.

As part of each of its quarterly meetings, our Audit Committee also reviewed our financial results as presented by Management/ and whistleblowing reports, including independent investigative reports provided by internal audit or outside consultants on such matters.

Compensation Committee. Our Compensation Committee advises our Supervisory Board in relation to the compensation of our President and Chief Executive Officer and sole member of our Managing Board, including the variable portion of such compensation based on performance criteria recommended by our Compensation Committee. Our Compensation Committee also reviews the stock based compensation plans for our senior managers and key employees. Our Compensation Committee met twice in 2018.

Among its main activities, in 2018 our Compensation Committee: (i) reviewed the objectives met as compared to the performance criteria relating to the bonus of our former CEO, Carlo Bozotti, for the fiscal year ended on December 31, 2017; (ii) defined the performance targets relating to the bonus of our new CEO, Jean-Marc Chery, for the fiscal year ending on December 31, 2018 (which targets are based on, *inter alia*, revenues growth, certain financial targets, the share price evolution versus PHLX Semiconductor Sector[SM] Index (SOX[SM]) and special programs); and (iii) established, on behalf and with the approval of the entire Supervisory Board, the applicable performance criteria, which must be met by senior managers and selected key employees participating in the employees stock award plans to benefit from such awards. For the 2018 unvested stock award plan, these performance criteria are based on sales evolution and operating income evolution, both as compared against a panel of ten semiconductor companies, and Return on Net Assets targets.

Strategic Committee. Our Strategic Committee advises the Supervisory Board on and monitor key developments within the semiconductor industry and our overall strategy, and is, in particular, involved in supervising the execution of corporate strategies and in reviewing long-term planning and budgeting. Our Strategic Committee met twice in 2018. In addition, there were strategic discussions, many of which occurred at extended Supervisory Board meetings and involved all Supervisory Board members.

Nominating and Corporate Governance Committee. Our Nominating and Corporate Governance Committee advises the Supervisory Board on the selection criteria and procedures relating to the appointment of members to our Supervisory Board and Managing Board, and the review of principles relating to corporate governance. Our Nominating and Corporate Governance Committee met five times during 2018 to discuss succession planning for our Supervisory Board and Managing Board, the establishment of an Executive Committee, recent developments in Dutch and U.S. law, best practices regarding corporate governance, and the update of our corporate governance documents.

Secretariat and Controllers. Our Supervisory Board appoints a Secretary and Vice Secretary. Furthermore, the Managing Board makes an Executive Secretary available to our Supervisory Board, who is also appointed by the Supervisory Board. The Secretary, Vice Secretary and Executive Secretary constitute the Secretariat of the Supervisory Board. The mission of the Secretariat is primarily to organize meetings, to ensure the continuing education and training of our Supervisory Board members and to maintain record keeping. Ms. Marie Artaud-Dewitte serves as Secretary and Mr. Gabriele Pagnotta serves as Vice Secretary. Ms. Artaud-Dewitte and Mr. Pagnotta serve as a Managing Director of ST Holding. Our Chief Compliance Officer, Philippe Dereeper, serves as Executive Secretary for our Supervisory Board, and for each of the four standing committees of our Supervisory Board.

Our Supervisory Board also appoints two financial experts (Controllers). The mission of the Controllers is primarily to assist our Supervisory Board in evaluating our operational and financial performance, business plan, strategic initiatives and the implementation of Supervisory Board decisions, as well as to review the operational reports provided under the responsibility of the Managing Board. The Controllers generally meet once a month with the management of the Company and report to our full Supervisory Board. The current Controllers are Messrs. Samuel Dalens and Giorgio Ambrosini. The STH Shareholders Agreement between our principal indirect shareholders contains provisions with respect to the appointment of the Secretary, Vice Secretary and Controllers. See Item 7. Major Shareholders and Related Party Transactions .

Managing Board

In accordance with Dutch law, our management is entrusted to the Managing Board under the supervision of our Supervisory Board. Jean-Marc Chery who was appointed on May 31, 2018 for a three-year term expiring at the 2021 AGM is currently the sole member of our Managing Board with the function of President and Chief Executive Officer. He succeeded Carlo Bozotti whose term expired at the end of our 2018 AGM on May 31, 2018. Under our Articles of Association, Managing Board members are appointed for a three-year term upon a non-binding proposal by our Supervisory Board at our AGM and adoption by a simple majority of the votes cast at the AGM, provided quorum conditions are met, which term may be renewed one or more times.

Our shareholders meeting may suspend or dismiss one or more members of our Managing Board, in accordance with the procedures laid down in our Articles of Association. Under Dutch law, our Managing Board is entrusted with our general management and the representation of the Company. Our Managing Board must seek prior approval from our shareholders meeting for decisions regarding a significant change in the identity or nature of the Company. Under our Articles of Association and our Supervisory Board Charter, our Managing Board must also seek prior approval from our Supervisory Board for certain other decisions with regard to the Company and our direct or indirect subsidiaries.

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In accordance with our Corporate Governance Charter, the sole member of our Managing Board and our senior managers may not serve on the board of a public company without the prior approval of our Supervisory Board. Pursuant to the Supervisory Board Charter, the sole member of our Managing Board must inform our Supervisory Board of any (potential) conflict of interest and pursuant to such charter and Dutch law, any Managing Board resolution regarding a transaction in relation to which the sole member of our Managing Board has a conflict of interest must be approved and adopted by our Supervisory Board. Should our entire Supervisory Board also have a conflict of interest, the resolution must be adopted by our shareholders meeting pursuant to Dutch law. We are not aware of any potential conflicts of interests between the private interest or other duties of our sole Managing Board member and our senior managers and their duties to us.

Pursuant to our Articles of Association and the Supervisory Board Charter, the following decisions by our Managing Board with regard to the Company and any of our direct or indirect subsidiaries (an ST Group Company) require prior approval from our Supervisory Board: (i) any modification of our or any ST Group Company s Articles of Association or other constitutional documents, other than those of wholly owned subsidiaries; (ii) other than for wholly owned subsidiaries, any change in our or any ST Group Company s authorized share capital or any issue, acquisition or disposal by us with the exception of shares in our share capital acquired in order to transfer these shares under employee stock option or stock purchase plans or any ST Group Company of own shares or change in share rights and any issue of instruments resulting in a share in the capital of any ST Group Company or its profits (iii) the liquidation or dissolution of the Company or any ST Group Company or the disposal of all or a substantial and material part of our business or assets, or those of any ST Group Company, or of any shares in any ST Group Company; (iv) any merger, acquisition or joint venture agreement (and, if substantial and material, any agreement relating to IP) to which we or any ST Group Company is, or is proposed to be, a party, as well as the formation of new companies by us or any ST Group Company (with the understanding that only acquisitions above $25 million per transaction are subject to prior Supervisory Board approval); (v) our draft Consolidated Balance Sheets and Consolidated Financial Statements, as well as our and any ST Group Company s profit distribution policies; (vi) entering into any agreement that may qualify as a related party transaction, including any agreement between us or any ST Group Company and any of our major shareholders; (vii) the appointment of members of the Executive Committee; (viii) the key parameters of our pluri-annual plans and our consolidated annual budgets, as well as any significant modifications to said plans and budgets, or any one of the matters set forth in our Articles of Association and not included in the approved plans or budgets; (ix) operations which have to be submitted for Supervisory Board prior approval even if their financing was already provided for in the approved annual budget; (x) our quarterly, semi-annual and annual Consolidated Financial Statements prepared in accordance with U.S. GAAP and, as required, according to IFRS; (xi) the exercise of any shareholder right in a ST joint venture company, which is a company (a) with respect to which we hold directly or indirectly either a minority equity position in excess of 25% or a majority position without the voting power to adopt extraordinary resolutions, or (b) in which we directly or indirectly participate and such participation has a value of at least one-third of our total assets according to the Consolidated Balance Sheets and notes thereto in our most recently adopted (statutory) annual accounts, with the understanding, for the avoidance of doubt, that decisions of the Managing Board regarding the general management and/or operations of such ST joint venture company are not subject to Supervisory Board approval and that the Managing Board reports to the Supervisory Board on the operations of the ST joint venture companies as part of its regular reporting to the Supervisory Board and in principle at least every six months; (xii) the strategy of our company; (xiii) the annual internal audit plan and the appointment, replacement, reassignment and dismissal of our Chief Audit and Risk Executive; (xiv) all proposals to be submitted to a vote at the AGM; (xv) the formation of all companies, acquisition or sale of any participation and conclusion of any cooperation and participation agreement; (xvi) all our pluri-annual plans and the budget for the coming year (covering investment policy, policy regarding research and development, and commercial policy and objectives, general financial policy and policy regarding personnel); and (xvii) all acts, decisions or operations covered by the foregoing and constituting a significant change with respect to decisions already approved by the Supervisory Board or not provided for in the above list and as specifically laid down by a

Supervisory Board resolution to that effect.

Senior Management

Changes within 2018

On January 25, 2018, we announced that, upon the proposal of our current President and Chief Executive Officer, the Supervisory Board had approved the establishment of a newly formed Executive Committee which became effective upon the shareholder approval of Mr. Chery s appointment at the 2018 AGM on May 31, 2018. On May 31, 2018 the mandate of our former President and Chief Executive Officer, Carlo Bozotti, expired. On the same date Carlo Ferro, our former Chief Financial Officer and President, Finance, Legal, Infrastructure and

Services, resigned from his position in the Company. Further changes to our senior management occurred following the resignations in 2018 of Bob Krysiak who served as Executive Vice President responsible for the Americas Region, Georges Penalver formerly responsible for Human Resources and Corporate Social Responsibility and Patrick Peubez who was in charge of our Product Quality Excellence. As of July 2018, Andrea Cuomo left his role as part of the Senior Management.

General management of our business

The sole member of our Managing Board, our President and Chief Executive Officer, is entrusted with our general management and is supported in his tasks by our Executive Committee and Executive Vice Presidents, who together constitute our Senior Management.

As a company committed to good governance, we hold corporate meetings on a regular basis. Such meetings, which involve the participation of several members of our Senior Management include:

Executive Committee, which meets once every month and oversees the general strategy and is responsible for the risk management of the Company.

Corporate Operations Review, which meets twice per quarter to review monthly results, short-term forecasts and monthly business results.

Corporate Staff Meeting, which meets once per quarter to review the business in its entirety and to plan and forecast for the next quarter and beyond.

Executive Committee

The Executive Committee has been established on May 31, 2018. The Executive Committee acts under the authority and responsibility of the Managing Board and in this respect manages the Company. The Managing Board remains legally responsible for the management of the Company. The responsibilities of the Executive Committee include overseeing the general strategy as well as the risk management in connection with the Company s activities, operational and financial objectives and financial reporting processes. The Executive Committee adopts resolutions based on consensus, or if no consensus can be reached, by a majority of the votes cast by the members of the Managing Board including the vote of the chairman of the Executive Committee.

The chairman of the Executive Committee is the President and Chief Executive Officer of the Company. Members of the Executive Committee are appointed by the Managing Board subject to the approval of the Supervisory Board. Members of the Executive Committee can be suspended and dismissed by the Managing Board without prior approval by the Supervisory Board.

The Executive Committee was composed of the following nine members as of December 31, 2018:

Name	Position	Years with Company	Years in Semi-Conductor Industry	Age
Jean-Marc Chery	President and Chief Executive Officer	34	34	58

Orio Bellezza	President, Technology, Manufacturing and Quality	35	35	59
Philippe Brun	President, Human Resources and Corporate Social Responsibility	32	32	60
Marco Cassis	President, Sales, Marketing, Communications & Strategy Development	31	31	55
Claude Dardanne	President, Microcontrollers and Digital ICs Group	36	39	66
Lorenzo Grandi	President, Finance, Infrastructure and Services, and Chief Financial Officer	31	31	57
Marco Monti	President, Automotive and Discrete Group	32	32	57
Steven Rose	President, Legal Counsel	27	27	56
Benedetto Vigna	President, Analog, MEMS and Sensors Group	24	24	49

Biographies of our Executive Committee Members

Jean-Marc Chery is STMicroelectronics President and Chief Executive Officer, and has held this position since May 31, 2018. He is the Sole Member of ST s Managing Board and chairs its Executive Committee. Mr. Chery began his career in the Quality organization of Matra, the French engineering group. In 1986, he joined Thomson Semiconducteurs, which subsequently became ST, and held various management positions in product planning and manufacturing, rising to lead ST s wafer fabs in Tours, France, and later in Rousset, France. In 2005, Mr. Chery led the company-wide 6-inch wafer-production restructuring program before taking charge of ST s Front-End Manufacturing operations in Asia Pacific. In 2008, he was promoted to Chief Technology Officer and assumed additional responsibilities for Manufacturing and Quality (2011) and the Digital Product Sector (2012). In 2014, Mr. Chery was appointed ST s Chief Operating Officer responsible for Technology and Manufacturing operations. In July 2017, Mr. Chery was appointed Deputy CEO with overall responsibility for Technology and Manufacturing, as well as for Sales and Marketing operations. Mr. Chery is President of the European microelectronics R&D program AENEAS and is Chairman of the France Malaysia Business Council at Medef International. Mr. Chery was born in Orleans, France, in 1960, and graduated with a degree in Engineering from the ENSAM engineering school in Paris, France.

Orio Bellezza is STMicroelectronics President, Technology, Manufacturing and Quality, and has held this position since May 31, 2018. He has been responsible for Front-End Manufacturing since 2008 and his mandate has been expanded to cover ST s technology, manufacturing operations, supply chain, and quality. Bellezza is a member of ST s Executive Committee since May 31, 2018. Mr. Bellezza joined SGS-ATES, a predecessor company to STMicroelectronics, in 1984 as a fab process engineer. He soon moved to ST s Central R&D organization and participated in several key projects, including the introduction of process technology modules for manufacturing sub-micron non-volatile memories. In 1996, Mr. Bellezza was appointed Director of ST s R&D facility in Agrate and led its upgrade and expansion into a manufacturing and development center for non-volatile memory and smart-power technologies. In 2002, he became Vice President of Central R&D, and in 2005, was appointed Vice President and Assistant General Manager of Front-End Technology and before the establishment of the Executive Committee was also part of the senior management. Mr. Bellezza also serves as Managing Director of the ST Italy legal entity. Mr. Bellezza has published technical papers and earned several patents in non-volatile memories. Mr. Bellezza was born in Bergamo, Italy, in 1959, and graduated cum laude with a degree in Chemistry from the University of Milan, Italy.

Philippe Brun is STMicroelectronics President, Human Resources and Corporate Social Responsibility. Responsible for HR at ST since August 2012, his mission has been expanded to cover the Company s social responsibility, environment, health and safety, internal communication, and Corporate Security. He is a member of ST s Executive Committee since July 3, 2018 and before the establishment of the Executive Committee was also part of the senior management. Mr. Brun started his career at the Pechiney Group. In 1986, he joined Thomson Semiconducteurs, a predecessor to STMicroelectronics, as a back-end process engineer. From 1989 to 1996, Mr. Brun managed Human Resources at the Grenoble, France site and served as Site Director at the Company s St. Genis facility (France). In 1996, he was promoted to Human Resources Director responsible for over 10,000 employees in ST s manufacturing organization worldwide. From 1999 to 2010, Mr. Brun served as Fab Operations and Site Director at ST s plant in Rousset, France. In January 2011, he was appointed Group VP for execution excellence in ST s Front-End Manufacturing organization. Mr. Brun was born in Lyon, France, in 1958, and graduated with an engineering degree from the Ecole Nationale Supérieure d Arts et Métiers (ENSAM) in France and holds a Master degree in Aerospace engineering from the University of Colorado and a management degree from the IFG School of Business (France).

Marco Cassis is STMicroelectronics President, Sales, Marketing, Communications and Strategy Development and has held this position since May 31, 2018. He is a member of ST s Executive Committee since May 31, 2018. Mr. Cassis joined SGS-Thomson Microelectronics (now STMicroelectronics) as a car-radio chip designer in 1987. Six years later, he moved to Japan to help expand ST s audio business with major Japanese players and contributed to the establishment of ST s strategic alliance with Pioneer. In 2000, Mr. Cassis took charge of the Audio Business Unit and was subsequently promoted to Director of Audio and Automotive Group. In 2004, Mr. Cassis was named Vice President of Marketing for automotive, computer peripheral, and telecom products and in 2005, he advanced to Vice President of the Automotive Segment Group and joined the Board of STMicroelectronics K.K., ST s Japanese subsidiary. Mr. Cassis was promoted to lead ST s operations in Japan in 2005 and his mandate was expanded to include Korea in 2010 and Greater China and South Asia in 2016, when he was appointed President of ST s Asia Pacific Region. In 2017, Mr. Cassis was promoted President, Global Sales and Marketing and was part of the senior management before the establishment of the Executive Committee. Mr. Cassis was born in Treviso, Italy, in 1963, and graduated with a degree in Electronic Engineering from the Polytechnic of Milan, Italy.

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Claude Dardanne is STMicroelectronics President, Microcontrollers and Digital ICs Group, and has held this position since January 2016. He is a member of ST s Executive Committee since May 31, 2018 and before the establishment of the Executive Committee was also part of the senior management. Mr. Dardanne started his career with Thomson Semiconducteurs, a predecessor company to ST. From 1982, he was responsible for microcontroller and microprocessor marketing. Between 1989 and 1994, Mr. Dardanne was Marketing Director at Apple Computer and Alcatel-Mietec. In 1994, he rejoined ST as Director of Central Marketing for the Memory Products Group, became Head of the EEPROM Division in 1998, and was later appointed Group Deputy General Manager and Head of the Smart Card Division. ST consolidated its Microcontroller, Memory, and Secure MCU activities in 2007 and appointed Dardanne Corporate Vice President and the MMS General Manager. Under his leadership, MMS has become a key asset in revenue and market-share growth and profitability and a worldwide leader in the microcontroller market. Mr. Dardanne was born near Limoges, France, in 1952, and graduated with a degree in Electronic Engineering from the Ecole Supérieure d Ingénieurs en Génie Electrique in Rouen, France.

Lorenzo Grandi is STMicroelectronics President, Finance, Infrastructure and Services, and Chief Financial Officer (CFO), and has held this position since May 31, 2018. Mr. Grandi s overall responsibilities at ST encompass, in addition to Finance, Treasury and Business Control, Capital Investment Control and Planning, Global Procurement, Information and Communication Technology, and Investor Relations. He is a member of ST s Executive Committee since May 31, 2018. Mr. Grandi joined SGS-THOMSON Microelectronics (now STMicroelectronics) in 1987 as a R&D process engineer. In 1990, he moved to ST s Memory Product Group (MPG) as Financial Analyst. In 1995, Mr. Grandi was promoted to the position of Group Controller of the Memory Product Group contributing to the expansion of ST s flash memory business. In 2005, Mr. Grandi joined the ST s Corporate Finance organization taking responsibility for Budgeting and Reporting. In 2012, Mr. Grandi was promoted to Corporate Vice President in charge of Corporate Control and before the establishment of the Executive Committee was also part of the senior management. Mr. Grandi was born in Sondrio, Italy, in 1961. He graduated cum laude in Physics from the University of Modena, Italy, and holds a MBA from SDA Bocconi School of Management in Milan, Italy.

Marco Monti is STMicroelectronics President, Automotive and Discrete Group. The head of ST s Automotive Product Group since 2012, his mandate was expanded to include discrete and power transistor products in January 2016. Mr. Monti is a member of ST s Executive Committee since May 31, 2018 and before the establishment of the Executive Committee was also part of the senior management. Mr. Monti joined ST in Central R&D in 1986 and transferred to the Automotive Division in 1988, where he designed automotive ICs incorporating smart-power technologies. He moved to Japan in 1990 working on a co-development activity designing a noise-reduction system for audio applications. Subsequently, Mr. Monti transferred into marketing, contributing to the expansion of ST s automotive business in Japan. In 2000, he became the marketing manager for ST s Automotive Division and started the Company s automotive microprocessor business two years later. In 2004, Mr. Monti was promoted to Division General Manager for Powertrain, Safety, and Chassis products, and he took responsibility for the Automotive Electronics Division in 2009. Then, in 2012, Mr. Monti was appointed Executive Vice President, General Manager of ST s Automotive Product Group. Mr. Monti was born in Milan, Italy, in 1961. He graduated cum laude in Electronic Engineering from the Polytechnic of Milan and earned a PhD in Electronics from the University of Pavia, Italy.

Steven Rose is STMicroelectronics President, Legal Counsel, and has held this position since May 31, 2018. He has been in charge of ST s legal affairs since 2013. Mr. Rose is a member of ST s Executive Committee since May 31, 2018 and before the establishment of the Executive Committee was also part of the senior management. Mr. Rose started his career as a corporate attorney at the law firm Gardere & Wynne in Dallas, Texas, providing legal advice and services to public and private companies. He joined SGS-THOMSON Microelectronics (now STMicroelectronics) in 1991 as the Associate General Counsel for the U.S. subsidiary, STMicroelectronics, Inc. In 2006, Mr. Rose was appointed to serve as the Senior Associate General Counsel for the Americas, Greater China & South Asia, and Japan & Korea regions, in addition to serving as Vice President, Secretary & General Counsel and a

Director of STMicroelectronics, Inc. Mr. Rose was born in Wichita, Kansas, United States of America, in 1962 and he obtained a degree in Accounting from Oklahoma State University and a Juris Doctor degree from the University of Oklahoma College of Law.

Benedetto Vigna is STMicroelectronics President, Analog, MEMS and Sensors Group, and has held this position since January 2016. He is a member of ST s Executive Committee since May 31, 2018. Mr. Vigna joined ST in 1995 and launched the Company s efforts in MEMS. Under his guidance, ST s MEMS sensors established the Company s leadership with large OEMs in motion-activated user interfaces. Mr. Vigna has piloted ST s successful moves into microphones, e-compasses, and touch-screen controllers, as well as environmental sensors, micro-actuators, industrial and automotive sensors, and low-power radios for IoT.

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Mr. Vigna s mandate was further expanded with analog ICs and RF products (2011) and smart-power devices for OEMs and mass market (2016). ST s Imaging division moved under his management in the fourth quarter of 2017. Mr. Vigna has more than 200 patents on micromachining, authored numerous publications, and sits on the boards of several EU-funded programs. Mr. Vigna s contributions to the industry have been recognized with the MEMS Industry Group s Executive of the Year Award (2013), the European SEMI Award (2013), the IEEE Frederik Philips Award (2015), and Manager of the Year 2017 by German magazine Markt & Technik. Mr. Vigna was born in Potenza, Italy, in 1969, and graduated cum laude with a degree in Subnuclear Physics from the University of Pisa, Italy.

Executive Vice Presidents

The group of Executive Vice Presidents consisted of the following people as of December 31, 2018:

Name	Position	Years with Company	Years in Semi-Conductor Industry	Age
Michael Anfang	Executive Vice President Sales & Marketing, Europe, Middle East and Africa Region	20	28	50
Eric Aussedat	Executive Vice President Imaging Sub-Group General Manager Analog, MEMS and Sensors Group	38	38	65
Stefano Cantu	Executive Vice President Supply Chain and Operations, General Manager Automotive and Discrete Group	24	24	50
Alberto Della Chiesa	Executive Vice President, Supply Chain	30	30	54
Paul Cihak	Executive Vice President, General Manager, Sales and Marketing, Americas Region	20	25	47
Fabio Gualandris	Executive Vice President, Head of Back-End Manufacturing & Technology	30	34	59
Joël Hartmann	Executive Vice President, Digital Front-End Manufacturing and Technology	18	40	63
Claudia Levo	Executive Vice President, Integrated Marketing & Communications	7	9	53
Matteo Lo Presti	Executive Vice President, Analog, MEMS and Sensors Group	25	25	54
Giuseppe Notarnicola	Executive Vice President, Corporate	13	13	57

	Treasury, Insurance, M&A, IP BU, Real Estate, and Italy Public Affairs			
Jerome Roux	Executive Vice President, Sales and Marketing, Asia Pacific Region	27	31	53
Thierry Tingaud	Executive Vice President Europe and France Public Affairs STMicroelectronics, President, STMicroelectronics France	34	34	59
Nicolas Yackowlew	Executive Vice President Product Quality & Reliability	23	24	49

Biographies of our Executive Vice Presidents

Michael Anfang is Executive Vice President, Sales & Marketing for STMicroelectronics Europe, Middle East and Africa Region (EMEA), and has held this position since November 2018. Anfang started his career with Siemens Semiconductor AG in 1990 in product engineering, followed by responsibilities in product design, automotive and strategic marketing. In 1999, he joined ST as an automotive business development manager. In 2002, Anfang was given responsibility for microcontroller product marketing at ST s Automotive Division in Agrate, Italy and was promoted to Director of Marketing & Applications in 2005. Four years later, he was appointed Digital Automotive Business Unit Director of the Automotive Product Group and became a member of the management team responsible for the MCU Joint Development Program between Freescale and

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STMicroelectronics. In 2013, Anfang joined the EMEA regional organization of STMicroelectronics as Automotive Marketing & Applications Vice President. Michael Anfang was born in Kitzbühel, Austria, in 1968. He graduated with a degree in Electronic Engineering from the Higher Technical School in Saalfelden, Austria, and a degree in Business Management and Marketing from the FU University in Hagen-Munich, Germany.

Eric Aussedat is Executive Vice President and General Manager of the Imaging Product Division, Analog, MEMS and Sensors Group and has held this position since October 2014. Mr. Aussedat joined Thomson Semiconducteurs, a predecessor company to ST, as Product Engineer in 1981. He held various positions in product engineering and planning and was promoted Planning Manager of the Video Products Group in 1986. Later on, he was appointed to manage the product and manufacturing planning operations of INMOS, a UK company acquired by ST. Subsequently, he supervised the Engineering and Test Strategy for the Programmable Product Group before his promotion to head ST s Microcontroller Division in 1995. In 2000-2004, Mr. Aussedat led the TV and Display Division and became General Manager of ST s Cellular Communication Division in 2005. Two years later, he was appointed General Manager of the Imaging Division. In 2012, Mr. Aussedat was appointed ST s Executive Vice President in charge of the Imaging, Bi-CMOS ASIC and Silicon Photonics Group. Mr. Aussedat graduated with a degree in Electronic Engineering from the Institut National Polytechnique in Grenoble and earned a diploma from the Institut d Administration des Entreprises of Grenoble.

Alberto Della Chiesa is Executive Vice President in charge of Supply Chain and has held this role since May 2012. Mr. Della Chiesa joined STMicroelectronics as a New Product Planning Engineer in 1988. He was in charge of new product introductions in the Automotive and Hard Disk Drive market and pioneered a number of ST s successful collaborative programs with major key customers. In his tenure at STMicroelectronics, Della Chiesa has covered different positions in both Planning and Operations. In 2005, he was appointed Director, Planning & Service for the Computer Peripherals Group, where he actively contributed to the creation of ST s first operations and planning structure in Singapore. Over time, Della Chiesa rose to become Group Vice President of Supply Chain, followed by the nomination of General Manager and consequently Head of Operations and Supply Chain for ST s Computers and Communications Infrastructure Product Group. Mr. Alberto Della Chiesa was born in Varese, Italy, in 1964, and holds a Bachelor s degree in Statistics from the Catholic University of Milan, with a specialization in the manufacturing processes. He is also CPIM certified with the American Production and Inventory Control Society (APICS) in Paris, France.

Stefano Cantù is Executive Vice President, Supply Chain and Operations General Manager at STMicroelectronics Automotive and Discrete Group and has held this position since April 2016. After experiences at Italtel and the Italian Ministry of Defense, Cantù joined the Planning organization of STMicroelectronics Dedicated Product Group in 1994. Five years later, he was appointed Central Planning Manager for the Telecom, Peripheral, and Automotive Group. In 2003-2004, Cantù managed production control at ST s manufacturing sites in Phoenix and Carrollton in Texas, US and in 2005, he moved to Planning Director at ST s Automotive Product Group. Cantù was promoted to Automotive Product Group Vice President responsible for Supply Chain in 2009 and the Group Operations were added to his mandate in 2012. Stefano Cantù was born in Milan, Italy, in 1968, and he graduated with a degree in Electronic Engineering from the Polytechnic of Milan.

Paul Cihak is Executive Vice President, Sales & Marketing for STMicroelectronics Americas Region, and has held this position since November 2018. Cihak began his career with Hewlett Packard in 1994. He spent five years working in HP s Inkjet printing business before being hired into strategic account management by STMicroelectronics in 1999. In 2003, Cihak managed an industry-leading e-Business supply chain project cited as one of the first successful B2B RosettaNet programs in the world. Cihak rose through the ranks to become Director of Sales in 2004, Vice President of Sales in 2007, and Vice President of ST s Computer and Peripheral accounts in 2011. He was promoted in 2012 to lead ST s largest sales Business Unit managing three Global Key Accounts for the Company. In

April 2014, Cihak was appointed Executive President, General Manager, Sales & Marketing for STMicroelectronics Europe, Middle East and Africa Region. Paul Cihak was born in San Diego, CA, in 1971. He graduated from the University of Oregon with a degree in History and Political Science and holds a MBA from Portland State University.

Fabio Gualandris is Executive Vice President, Head of ST s Back-End Manufacturing & Technology organization and has held this position since January 2016. Gualandris joined the R&D organization of SGS Microelettronica, a predecessor company to ST, in 1984. He was promoted to R&D Director of Operations in 1989 and became Automotive Business Unit Director in 1996. After two years in the US as President and CEO of Semitool, a semiconductor manufacturing equipment vendor, he rejoined ST in 2000 as Group VP responsible for the RAM/PSRAM Product Division and the Flash Automotive Business Unit. In 2005, Gualandris was appointed CEO of ST Incard, an ST smart-card subsidiary. In 2008-2010, he served as VP and Supply Chain General Manager at ST s memory joint venture with Intel. In 2011, Gualandris was appointed ST s Executive Vice President in charge of Product Quality Excellence. Gualandris has authored several technical and managerial papers and holds some international patents. He serves as Chairman of STS, ST s manufacturing joint venture in China, and previously sat on boards at Incard, Numonyx, and the Numonyx-Hynix joint venture. Fabio Gualandris was born in Bergamo, Italy, in 1959. He graduated in Physics from the University of Milan.

Joël Hartmann is Executive Vice President of STMicroelectronics, Digital & Smart Power Technology and Digital Front-End Manufacturing, and has held this position since February 2012. He manages ST s manufacturing operations in Crolles and Rousset, France, Technology and Design Platforms for the Company s digital products. From 1979 to 2000, Hartmann worked at CEA-Leti, France-based applied-research center. In 2000, he joined STMicroelectronics as Director of the Crolles2 Alliance, the semiconductor manufacturing R&D initiative of STMicroelectronics, NXP, and Freescale Semiconductor. In 2008, Hartmann was promoted to Group Vice President and Director of Advanced CMOS Logic & Derivative Technologies. From 2010 to 2012, he had additional responsibilities as a co-leader of the Semiconductor Research and Development Center in Fishkill, NY, within the IBM ISDA Technology Alliance for advanced CMOS process development. Hartmann sits on the Board of the SOI Industry Consortium Initiative and is a Member of the IEEE Electron Device Society. In 2017, he became a member of the French Académie des Technologies . Hartmann has filed 15 patents on semiconductor technology and devices and authored 10 publications in this field to date. Joël Hartmann was born in Toulon, France, in 1955. He graduated from the Ecole Nationale Supérieure de Physique de Grenoble with a degree in Physics.

Claudia Levo is Executive Vice President at STMicroelectronics with responsibility, since June 2018, for integrated Marketing and Communications strategies and plans. Her responsibilities encompass corporate communications, including PR, media and industry analyst relations, marketing communications and digital marketing. Mrs. Levo began her career in 1993, with Marconi, a global telecommunications company, where she had responsibility for a number of management roles within the Communication function, including marketing communications and internal and external communications across wide geographies. In 2005, Mrs. Levo managed the communication activities related to the integration of Marconi with Ericsson, and was subsequently appointed Vice President for Communications at the newly formed Ericsson Multimedia Business Unit. In 2008, Mrs. Levo was appointed Vice President Communications at Italtel. In early 2009 she joined ST-Ericsson, the wireless joint venture between STMicroelectronics and Ericsson, as Senior Vice President and head of Global Communications. In this capacity, she has successfully built the Global Communication function covering marketing and portfolio communication, public and media relations, investor relations and internal communication. Claudia Levo was born in Genoa, Italy, in 1965, and holds a language school diploma (Liceo Linguistico) in English and Russian.

Matteo Lo Presti is Executive Vice President, General Manager of the Analog sub-group within ST s Analog, MEMS and Sensors Group, and has held this position since January 2016. Mr. Lo Presti joined the Advanced Research Group of SGS-Thomson Microelectronics (now STMicroelectronics) in 1994 and was appointed Head of Fuzzy Logic R&D four years later. From 2002 to 2004, Mr. Lo Presti led the marketing and application labs for the Industrial and Automotive market segments in ST s Emerging Markets. He gained responsibility for the Company s Systems Lab in 2004 and the Subsystem Product Group and Technical Marketing for the Industrial & Multisegment Sector were added to his mandate in 2008 and 2009, respectively. In 2012, Mr. Lo Presti was promoted to Group Vice President, General Manager, Industrial and Power Conversion Division. From 1996 to 2004, Lo Presti served as a visiting professor at the University of Messina (Italy) and the University of Catania (Italy). He has authored more than 40 international publications and holds several industrial patents. Matteo Lo Presti was born in Misterbianco, Italy, in 1965, and graduated with a degree in Electronic Engineering from the University of Catania.

Giuseppe Notarnicola is STMicroelectronics Executive Vice President responsible for managing Corporate Treasury, a position he has held since February 2016. His responsibilities were expanded in 2013 to include Insurance and in 2018 to include M&A, IP BU, Real Estate and Public Affairs for Italy. Mr. Notarnicola started his career with Banca Nazionale del Lavoro (BNL), one of Italy s largest banks, in 1987. At BNL, he managed financial operations in Singapore, the Financial Department of the London branch, the global Head Office, financial advisory arm for corporate and institutional customers, and in 2004, was promoted to Head of Large Corporate clients. Mr. Notarnicola joined ST in 2006 where he initiated the Company s relationship with the European Investment Bank and managed the financing aspects of ST s Flash memory business spin-out, as well as all the Company s strategic funding in the capital markets. Mr. Notarnicola is President of ST Italy, Managing Director of STMicroelectronics Finance B.V. the Company s funding vehicle, and a board member of several

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other ST affiliates. Giuseppe Notarnicola was born in Codroipo near Udine, Italy, in 1961. He graduated cum laude in Business Administration from the LUISS Guido Carli University in Rome, Italy.

Jerome Roux is Executive Vice President, Sales and Marketing for the Company s Asia Pacific Region, and has held this position since July 2017. Mr. Roux began his career in the Planning department of SGS-THOMSON Microelectronics, a predecessor to STMicroelectronics, in 1988. He soon moved to the Company s packaging facility in Casablanca, Morocco as Material Manager. Afterwards, Mr. Roux moved to Singapore and then Shanghai as the Asia Pacific Marketing Director for ST s Discrete and Standard Product Group. He left ST briefly to join an ST supplier company as managing director and member of the board and returned to ST in 2006 as Group Vice President, Assembly & Testing Outsourcing Operations, based in Singapore. Global Purchasing responsibilities were added to his mandate in 2008. He was promoted to Corporate Vice President in 2012 and has managed Geographic and Distribution Sales in ST s Greater China & South Asia Region (since 2015) and Asia Pacific Region (since 2016). Mr. Roux serves as advisor to the French Government (CCEF) on Foreign Trade of the Singapore committee. Jerome Roux graduated from ISG Business School in Paris with a Master degree in Commerce (Management and Marketing).

Thierry Tingaud is STMicroelectronics Executive Vice President of Europe and France Public Affairs since July 2018. He also holds the position of President of STMicroelectronics France since 2012. In 1985, Mr. Tingaud joined Thomson Semiconductors, a predecessor company to STMicroelectronics in a telecom marketing role. Following several promotions, Tingaud was appointed Corporate Strategic Key Account Director in 1996, Vice President, Sales and Marketing for the European Telecommunications Business Unit in 1999, and then Corporate Vice President for Emerging Markets in 2006. He joined ST-Ericsson in 2009 as Vice President of Strategic Planning and Public Affairs and then was named Senior Vice President, General Manager of three Product Divisions. He rejoined ST in 2012 to lead West Europe Sales & Marketing and European Public Affairs. Mr. Tingaud is Vice-President of ESIA[1], Chairman of the Joint Steering Committee for the World Semiconductor Council, and the representative of the President and CEO of STMicroelectronics at the European Commission s High Level Group KET s, and at the Electronics Leaders Group. In June 2018, he was appointed to the High Level Group of Experts on AI by the European Commission and President of the filière électronique in France. Born in Paris in 1959, Thierry Tingaud graduated with a degree in Electronic Engineering from INSA Lyon (1982) and with a Master of Business Administration from ESSEC (1985).

Nicolas Yackowlew is Executive Vice President, Product Quality & Reliability at STMicroelectronics and has held this position since August 2018. Mr.Yackowlew began his career in 1996 as Product Quality Engineer at ST. He has successfully driven Quality and Reliability departments for many years at both the Division and Group levels. Mr.Yackowlew was promoted Division Quality & Reliability Manager in 2006 leading quality for Serial Non Volatile Memory. Three years later, he was appointed Quality & Reliability Director in charge of the Quality for Memory, Microcontrollers and Secured MCUs. In 2016, Yackowlew took the responsibility of Quality & Reliability for the Microcontroller and Digital ICs Group (MDG). Nicolas Yackowlew was born in Mulhouse (France) in 1969 and graduated with a degree in Chemistry from the University of Nice Sophia Antipolis, France.

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Compensation

Supervisory Board Compensation

Our Articles of Association provide that the compensation of our Supervisory Board members is determined by our General Meeting of Shareholders. The aggregate compensation for current and former members of our Supervisory Board with respect to service in 2018 was 928,000, before any applicable withholding taxes, as set forth in the following table.

Supervisory Board Members	Directors Fees[1]
Nicolas Dufourcq	0[2]
Maurizio Tamagnini	165,500
Janet Davidson	101,000
Heleen Kersten	110,500
Jean-Georges Malcor	98,500
Salvatore Manzi	94,500
Alessandro Rivera	103,500
Frédéric Sanchez	105,500
Martine Verluyten	149,000
Total	**928,000**

(1) These amounts include a fixed annual compensation for the directors mandate, together with attendance fees from January 1, 2018 until December 31, 2018.

(2) Mr. Dufourcq would have been entitled to receive 165,000 in 2018, but he waived his right to receive any compensation from the Company in relation to his mandate as a member of the Supervisory Board.

We do not have any service agreements with members of our Supervisory Board. We did not extend any loans or overdrafts to any of our Supervisory Board members. Furthermore, we have not guaranteed any debts or concluded any leases with any of our Supervisory Board members or their families.

Senior Management Compensation

Our Senior Management, including the sole member of our Managing Board and our President and Chief Executive Officer, received a combination of short term and long term compensation. The following table sets forth the total cash amount paid as compensation in 2018, 2017 and 2016 to the 22, 20 and 19 members, respectively, of our Senior Management (including the sole member of our Managing Board, our President and Chief Executive Officer) on duty on December 31st of each year, before applicable withholding taxes and social contributions (amounts in millions):

	2018	2017	2016
Total cash amount paid as compensation[1]	**$ 20.8**	**$ 17.3**	**$ 13.4**

(1) Total cash amount paid as compensation comprises fixed salary, annual cash bonus incentive, pension contributions and other cash benefits. In addition, non-cash amounts accrued as compensation, including unvested stock awards and other non-cash benefits, as well as all applicable withholding taxes and social contributions, were approximately $26.7 million in 2018, $14.2 million in 2017 and $8.3 million in 2016.

The annual cash bonus incentive, which we call Corporate Executive Incentive Program (the EIP), entitles selected executives to a yearly bonus based upon the assessment of the achievement of individual objectives that are set on a yearly basis and focused, *inter alia*, on return on net assets, customer service, profit, cash flow and market share. The maximum bonus awarded under the EIP is based upon a percentage of the executive s salary and is adjusted to reflect the overall performance of our Company.

The amounts paid in 2018 to the 22 members of our Senior Management (including the sole member of our Managing Board, our President and Chief Executive Officer) pursuant to the Corporate Executive Incentive Program represented approximately 49% of the total compensation paid to our Senior Management.

	Bonus paid in 2018 (2017 performance)	**Bonus paid in 2017 (2016 performance)**	**Bonus paid in 2016 (2015 performance)**
Bonus (cash) amount	**$ 10,181,945**	**$ 6,095,335**	**$ 3,342,855**
Ratio bonus / base salary + EIP	**48.84%**	**35.22%**	**24.99%**

Our Supervisory Board has approved the establishment of a complementary pension plan for certain members of our Senior Management, comprising the sole member of our Managing Board, President and Chief

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Executive Officer, and certain other key executives as selected by the sole member of our Managing Board, President and Chief Executive Officer, according to the general criteria of eligibility and service set up by the Supervisory Board upon the proposal of its Compensation Committee. With respect to such plan, we have set up an independent foundation under Swiss law which manages the plan and to which we make contributions. Pursuant to this plan, in 2018, we made a contribution of approximately $0.5 million to the plan of the sole member of our Managing Board, President and Chief Executive Officer, and $0.4 million to the plan for all other beneficiaries. The amount of pension plan payments made for other beneficiaries, such as former employees retired in 2018 and/or no longer salaried in 2018, was $0.9 million.

We did not extend any loans or overdrafts to the sole member of our Managing Board, President and Chief Executive Officer, nor to any other member of our Senior Management. Furthermore, we have not guaranteed any debts or concluded any leases with the sole member of our Managing Board, President and Chief Executive Officer, nor with any other member of our Senior Management or their families.

The members of our Senior Management, including the sole member of our Managing Board, President and Chief Executive Officer, were covered in 2018 under certain group life and medical insurance programs provided by us. The aggregate additional amount set aside by us in 2018 to provide pension, retirement or similar benefits for our Senior Management, including the sole member of our Managing Board, President and Chief Executive Officer, as a group is, including the amounts allocated to the complementary pension plan described above and is estimated to have been approximately $4.9 million, which includes statutory employer contributions for state run retirement, similar benefit programs and other miscellaneous allowances.

For the year 2018, the Senior Management pay ratio is 19.6 (2017: 17.4). This ratio is based on:

(i) the average remuneration of our Senior Management, including the compensation of Carlo Bozotti until May 31, 2018 (excluding any payments made in connection with the settlement of acquired rights for 2018) and the compensation of Jean-Marc Chery from June 1, 2018,

compared to

(ii) the average remuneration of our global indirect employees (i.e., all employees other than those directly manufacturing our products), excluding the compensation of our Senior Management and Managing Board and President and Chief Executive Officer. See Managing Board Compensation below.

Managing Board Compensation

The remuneration of the sole member of our Managing Board, President and Chief Executive Officer, is determined by our Supervisory Board on the advice of the Compensation Committee and within the scope of the remuneration policy as adopted by our 2005 AGM. The sole member of our Managing Board, President and Chief Executive Officer, received compensation in the form of: a fixed salary, annual bonus, stock awards, employer social contributions, company car allowance, pension contributions and miscellaneous allowances. Set forth in the following table is the total compensation of the sole member of our Managing Board, President and Chief Executive Officer, in 2018, 2017 and 2016, which comprises, with relation to 2018 (i) the total compensation of Carlo Bozotti until May 31, 2018 (excluding any accelerated compensation), (ii) the total compensation of Jean-Marc Chery from June 1, 2018 and (iii) accelerated compensation relating to Carlo Bozotti s departure:

	2018	2017	2016
Salary	$ 927,820	$ 903,186	$ 860,468
Bonus(1)	$ 3,214,578	$ 1,044,514	
Charges and Non-cash Benefits(2)	$ 6,496,372	$ 1,575,660	$ 770,212
Total	**$ 10,638,770**	**$ 3,523,360**	**$ 1,630,680**

(1) The bonus paid in 2018, 2017 and 2016 was approved by the Compensation Committee and Supervisory Board with respect to the 2017, 2016 and 2015 financial year, respectively, based on the evaluation and assessment of the actual fulfillment of a number of pre-defined objectives for such year.

(2) Including stock awards, employer social contributions, company car allowance, pension contributions and miscellaneous allowances. In accordance with the resolutions adopted at our AGM held on May 30, 2012, the bonus of our former President and Chief Executive Officer, Carlo Bozotti, in 2018, 2017 and 2016 included a portion of a bonus payable in stock awards and corresponding to 86,782, 59,435 and 50,567 vested shares, respectively, based on fulfillment of a number of pre-defined objectives. In addition, our current sole member of our Managing Board, President and Chief Executive Officer, Jean-Marc Chery, was granted, in accordance with the compensation policy adopted by our General Meeting of Shareholders and subsequent shareholder authorizations, up to 100,000 unvested Stock Awards. The vesting of such stock awards is conditional upon the sole member of our Managing Board, President and Chief Executive Officer s, continued service with us.

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Set forth in the following table is the total compensation of our former President and Chief Executive Officer, Carlo Bozotti, in 2018.

	Regular income	Settlement of acquired rights for 2018 (2018 bonus, accelerated shares, or USAs)	Total
Salary	$ 392,057		$ 392,058
Bonus(1)(3)	$ 1,418,884	$ 1,795,693	$ 3,214,577
Charges and Non-cash Benefits(2)	$ 2,818,927	$ 3,354,993	$ 6,173,921
Total	**$ 4,629,869**	**$ 5,150,687**	**$ 9,780,557**

(1) The bonus paid in 2018, 2017 and 2016 was approved by the Compensation Committee and Supervisory Board with respect to the 2017, 2016 and 2015 financial year, respectively, based on the evaluation and assessment of the actual fulfillment of a number of pre-defined objectives for such year.

(2) Including stock awards, employer social contributions, company car allowance, pension contributions and miscellaneous allowances. In accordance with the resolutions adopted at our AGM held on May 30, 2012, the bonus of our former President and Chief Executive Officer, Carlo Bozotti, in 2018, 2017 and 2016 included a portion of a bonus payable in stock awards and corresponding to 86,782, 59,435 and 50,567 vested shares, respectively, based on fulfillment of a number of pre-defined objectives. The vesting of such stock awards is conditional upon the sole member of our Managing Board, President and Chief Executive Officer s, continued service with us.

(3) Bonus paid in 2018 with respect to 2018 and 2017 financial year.

Set forth in the following table is the total compensation of the current sole member of our Managing Board, President and Chief Executive Officer, Mr. Jean-Marc Chery, in 2018:

Salary	$ 535,762
Bonus	
Charges and Non-cash Benefits(1)	$ 322,451
Total	**$ 858,213**

(1) Including stock awards, employer social contributions, company car allowance, pension contributions and miscellaneous allowances. Our current sole member of our Managing Board, President and Chief Executive Officer, Mr. Jean-Marc Chery, was granted, in accordance with the compensation policy adopted by our General Meeting of Shareholders and subsequent shareholder authorizations, up to 100,000 unvested Stock Awards. The

vesting of such stock awards is conditional upon the sole member of our Managing Board, President and Chief Executive Officer s, continued service with us.

The current sole member of our Managing Board, President and Chief Executive Officer, was appointed on May 31, 2018 for a three-year term expiring at the 2021 AGM. He has employment agreements with us, the first with our Dutch parent company, which relates to his activities as sole member of our Managing Board and representative of the Dutch legal entity, and the second with one of our entities in Switzerland, which relates to his activities as President and Chief Executive Officer, the EIP, Pension and other items covered by the compensation policy adopted by our General Meeting of Shareholders. While the relationship between a member of the managing board and a listed Dutch company will be treated as a mandate agreement, not an employment agreement, existing employment agreements, including the employment agreement between us and our sole member of the Managing Board, will remain in effect.

(i) CEO Bonus

In accordance with the resolutions adopted at our AGM held on May 30, 2012, the annual bonus of the sole member of our Managing Board and President and Chief Executive Officer is composed of a portion payable in cash (up to a maximum of 150% of the base salary for the relevant year) and a portion payable in shares (up to a maximum of 60% of the base salary for the relevant year), all subject to the assessment and fulfillment of a number of pre-defined conditions which are set annually by the Compensation Committee of our Supervisory Board.

Consistent with the remuneration policy adopted by our General Meeting of Shareholders, the Supervisory Board, upon the recommendation of its Compensation Committee, set the conditions and performance criteria that must be met by Mr. Jean-Marc Chery for the attribution of his 2018 bonus. Those conditions are based, *inter alia*, on revenues growth, certain financial targets, the share price evolution versus the SOX^{SM}, as well as certain

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special programs. The evaluation and assessment of the fulfillment of those conditions and performance criteria, will be done by the Compensation Committee of our Supervisory Board within the first months of the following year (i.e. in 2019 for the 2018 CEO bonus), in order to determine the actual amount of the CEO bonus for 2018.

(ii) CEO Stock Awards

The Supervisory Board, upon recommendation of the Compensation Committee, determines whether the performance criteria, as described below, have been met and conclude whether and to which extent all eligible employees, including the sole member of our Managing Board, President and Chief Executive Officer, are entitled to any stock awards under the stock award plan. The stock awards vest 32% after one year, a further 32% after two years and the remaining 36% after three years, respectively, after the date of the grant as defined by the plan, provided that the eligible employee is still an employee at such time (subject to the acceleration provisions in the event of a change in control).

(iii) Unvested Stock Awards Allocation

Year(1)	Performance Achieved	Result	Weighted Performance Criteria
2017	100%	3 criteria out of 3 met	Evolution of Sales Criteria met (33.3%) Evolution of Operating Income Criteria met (33.3%) Return on Net Assets (RONA) Criteria met (33.3%)
2016	45%(2)	2 criteria out of 4 met	Evolution of Sales criteria met (30%) Evolution of Operating Income criteria not met (50%) Days of Sale Outstanding (DSO) met (15%) Return on Net Assets (RONA) not met (5%)
2015	33.33%(2)	1 criteria out of 3 met	Evolution of Sales Criteria not met (33.3%) Evolution of Operating Income Criteria met (33.3%) Return on Net Assets (RONA) Criteria not met (33.3%)

(1) For 2018, the assessment of the fulfillment of the conditions and performance criteria, will be done by the Compensation Committee of our Supervisory Board in March/April, 2019 in order to determine the actual number of stock awards to be allocated for 2018.

(2) In accordance with the resolution adopted by our General Meeting of Shareholders, the maximum grant allowed in relation to the CEO stock award for each of 2014, 2015, 2016, 2017 and 2018 was 100,000 unvested stocks awards.

During 2018, our former President and Chief Executive Officer, Carlo Bozotti did not have any stock options, and did not purchase or sell any of our shares in his capacity as President and Chief Executive Officer, other than the sale of 340,000 vested stock awards shares. Since May 31, 2018, our current sole member of our Managing Board, President and Chief Executive Officer, Mr. Jean-Marc Chery, did not have any stock options, and did not purchase or sell any of our shares, other than the sale of 10,000 vested stock awards shares.

For further information regarding stock options and other stock based compensation granted to members of our Supervisory Board, the Managing Board and our Senior Management, please refer to Note 15 to our Consolidated Financial Statements.

Share Ownership

None of the members of our Supervisory Board, Managing Board or Senior Management holds shares or options to acquire shares representing more than 1% of our issued share capital.

Stock Awards and Options

Our stock-based compensation plans are designed to incentivize, attract and retain our executives and key employees by aligning compensation with our performance and the evolution of our share price. We have adopted stock based compensation plans comprising either stock options or unvested stock awards for our Senior Management as well as key employees. Furthermore, until 2012, the Compensation Committee (on behalf of the Supervisory Board and with its approval) granted stock-based awards (the options to acquire common shares in the share capital of the Company) to the members and professionals of the Supervisory Board. For a description of our stock option plans and unvested share award plans, please see Note 14 to our Consolidated Financial Statements, which is incorporated herein by reference.

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Pursuant to the shareholders resolutions adopted by our general meetings of shareholders, our Supervisory Board, upon the proposal of the Managing Board and the recommendation of the Compensation Committee, took the following actions:

approved conditions relating to our 2015 unvested stock award allocation under the 2013 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees);

approved conditions relating to our 2016 unvested stock award allocation under the 2013 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees);

approved, for a four-year period, our 2017 Unvested Stock Award Plan for Executives and Key Employees, under which directors, managers and selected employees may be granted stock awards upon the fulfillment of restricted criteria, such as those linked to our performance (for selected employees) and continued service with us; and

approved conditions relating to our 2018 unvested stock award allocation under the 2017 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees).

The exercise of stock options and the sale or purchase of shares of our stock by the members or professionals of our Supervisory Board, the sole member of our Managing Board and President and Chief Executive Officer, and all our employees are subject to an internal policy which involves, *inter alia*, certain blackout periods.

Employees

The tables below set forth the breakdown of employees by main category of activity and geographic area for the past three years.

	At December 31,		
	2018	**2017**	**2016**
France	10,314	10,296	9,902
Italy	10,266	10,108	9,736
Rest of Europe	904	884	883
United States	744	744	741
Mediterranean (Malta, Morocco, Tunisia)	4,897	4,616	4,700
Asia	18,828	18,820	17,518
Total	**45,953**	**45,468**	**43,480**

	At December 31,		
	2018	**2017**	**2016**

Research and Development	7,387	7,370	7,533
Marketing and Sales	2,211	2,170	2,113
Manufacturing	31,317	31,016	29,011
Administration and General Services	2,190	2,135	2,098
Divisional Functions	2,848	2,777	2,725
Total	**45,953**	**45,468**	**43,480**

Our future success will partly depend on our ability to continue to attract, retain and motivate highly qualified technical, marketing, engineering and management personnel, as well as on our ability to timely adapt the size and/or profile of our personnel to changing industry needs. Unions are represented at almost all of our manufacturing facilities and at several of our R&D sites. We use temporarily employees if required during production spikes and, in Europe, during summer vacation. We have not experienced any significant strikes or work stoppages in recent years.

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Item 7. Major Shareholders and Related Party Transactions
Major Shareholders

The following table sets forth certain information with respect to the ownership of our issued common shares as of December 31, 2018 based on information available to us:

	Common Shares Owned	
Shareholders	**Number**	**%**
STMicroelectronics Holding N.V. (ST Holding)	250,704,754	27.5
Public	647,600,362	71.1
Treasury shares	12,851,840	1.4
Total	**911,156,920**	**100**

We are not aware of any significant change over the past three years in the percentage ownership of our shares by ST Holding, our major shareholder. ST Holding does not have any different voting rights from those of our other shareholders.

Shareholders Agreement

According to the report on Schedule 13G (ST Holding 13G) jointly filed on February 12, 2019 by ST Holding with the SEC, the Italian Ministry of the Economy and Finance (the Italian Shareholder), FT1CI (the French Shareholder and together with the Italian Shareholder, the STH Shareholders) and Bpifrance Participations S.A. (Bpifrance), the Italian Government and the French Government, each indirectly through the Italian Shareholder and the French Shareholder, respectively, hold 13.7% of our share capital as of December 31, 2018. On November 17, 2016, *Commissariat à l Energie Atomique et aux Énergies Alternatives* (CEA) and Bpifrance, which were, at the time, the shareholders of the French Shareholder, entered into a share purchase agreement pursuant to which CEA transferred 721,513 shares of the French Shareholder to Bpifrance. As a result of the transaction, Bpifrance increased its shareholding in the French Shareholder from 79.2% to 95.1%, with CEA retaining the remaining 4.9% in the French Shareholder. On November 16, 2018, CEA and Bpifrance entered into a second purchase agreement, pursuant to which CEA transferred 222,265 shares, representing its remaining ownership interest in the French Shareholder, to Bpifrance. As a result of this transaction, Bpifrance became the sole shareholder of the French Shareholder. The filers of the ST Holding 13G have entered into a shareholders agreement which governs relations between them, including for certain matters relating to the ownership of our shares and the actions of our management to the extent shareholder approval is required (the STH Shareholders Agreement). Below is a brief summary of certain details from the ST Holding 13G.

Corporate Governance

Managing Board and Supervisory Board members can only be appointed by the General Meeting of Shareholders upon a proposal by the Supervisory Board. The Supervisory Board passes resolutions, including on such a proposal, by at least three quarters of the votes of the members in office. The STH Shareholders Agreement, to which STM is not a party, furthermore provides that: (i) each of the STH Shareholders, the French Shareholder, on the one hand, and the Italian Shareholder, on the other hand, may propose the same number of members for election to the Supervisory Board by our shareholders, and ST Holding shall vote in favor of such members; and (ii) any decision relating to the voting rights of ST Holding shall require the unanimous approval of the STH Shareholders. ST Holding may therefore be in a position to effectively control actions that require shareholder approval, including, as discussed above, the proposal of six out of nine members for election to our Supervisory Board (three members by each STH Shareholder) and the appointment of our Managing Board, as well as corporate actions, and the issuance of new shares or other securities. As a result of the STH Shareholders Agreement, the Chairman of our Supervisory Board is proposed by an STH Shareholder for a three-year term, and the Vice-Chairman of our Supervisory Board is proposed by the other STH Shareholder for the same period, and vice-versa for the following three-year term. The STH Shareholder proposing the appointment of the Chairman may furthermore propose the appointment of the Assistant Secretary of our Supervisory Board, and the STH Shareholder proposing the appointment of Vice-Chairman proposes the appointment of the Secretary of our Supervisory Board. Finally, each STH Shareholder also proposes the appointment of a Financial Controller to the Supervisory Board.

Ownership of ST Shares

The STH Shareholders Agreement provides that each STH Shareholder retains the right to cause ST Holding to dispose of its stake in us at its sole discretion pursuant to the issuance of financial instruments, an equity swap, a structured finance deal or a straight sale; however, except in the case of a public offer, no sales by any party to the STH Shareholders Agreement may be made of any of our shares or any shares of the French Shareholder or ST Holding to any of our top ten competitors or any company controlling such a competitor. The STH Shareholders Agreement also requires all of the parties to the STH Shareholders Agreement to hold their stakes in us at all time through the current holding structure of ST Holding, subject to certain limited exceptions, and precludes all such parties and their affiliates from acquiring any of our common shares other than through ST Holding.

Change of Control Provision

The STH Shareholders Agreement provides for tag-along rights, pre-emptive rights, and provisions with respect to a change of control of any of the STH Shareholders or any controlling shareholder of FT1CI, on the one hand, and the Italian Ministry of the Economy and Finance, on the other hand. The STH Shareholders may transfer shares of ST Holding and/or FT1CI, as applicable, to any of their respective affiliates, which could include entities ultimately controlled by the Italian Government or the French Government.

Preference Shares

We have an option agreement with an independent foundation, Stichting Continuiteït ST (the Stichting), whereby the Stichting can acquire a maximum of 540,000,000 preference shares in the event of actions which the board of the Stichting determines would be contrary to our interests, our shareholders and our other stakeholders and which in the event of a creeping acquisition or an unsolicited offer for our common shares are not supported by our Managing Board and Supervisory Board If the Stichting exercises its call option and acquires preference shares, it must pay at least 25% of the par value of such preference shares. 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 hostile by our Managing Board and Supervisory Board, as described above, occur and which the board of the Stichting determines to be contrary to our interests and our shareholders and other stakeholders. In addition, any issuance of additional capital within the limits of our authorized share capital, as approved by our shareholders, is subject to approval by our Supervisory Board, other than pursuant to an exercise of the call option granted to the Stichting.

Related Party Transactions

See Note 26 to our Consolidated Financial Statements, incorporated herein by reference, for transactions with significant shareholders, their affiliates and other related parties, which also include transactions between us and our equity method investments.

Item 8. Financial Information

Consolidated Statements and Other Financial Information

Please see Item 18. Financial Statements for a list of the financial statements filed with this Form 20-F.

Legal Proceedings

For a description of our material pending legal proceedings, please see Note 24 Contingencies, Claims and Legal Proceedings to our Consolidated Financial Statements, which is incorporated herein by reference.

Dividend Policy

Our dividend policy reads as follows: STMicroelectronics seeks to use its available cash in order to develop and enhance its position in a competitive semiconductor market while at the same time managing its cash resources to reward its shareholders for their investment and trust in STMicroelectronics. Based on its results, projected capital requirements as well as business conditions and prospects, the Managing Board proposes on an annual basis to the Supervisory Board, whenever deemed possible and desirable in line with STMicroelectronics objectives and financial situation, the distribution of a quarterly cash dividend, if any. The Supervisory Board, upon the proposal of the Managing Board, decides or proposes on an annual basis, in accordance with this policy, which portion of the profits or distributable reserves shall not be retained in reserves to fund future growth or for other purposes and makes a proposal concerning the amount, if any, of the quarterly cash dividend .

On May 31, 2018, our shareholders approved a cash dividend of US$0.24 per outstanding share of our common stock, which was distributed in quarterly installments of US$0.06 in each of the second, third and fourth quarters of 2018 and will also be distributed in the first quarter of 2019. Future dividends, if any, and their timing and amounts may be affected by our accumulated profits, our capacity to generate cash flow, our financial situation, the general economic situation and prospects and any other factors that the Supervisory Board, upon the recommendation of our Managing Board, shall deem important. For a history of dividends paid by us to our shareholders in the past three years, see Note 15 to our Consolidated Financial Statements Shareholders Equity Dividends .

Item 9. Listing
Market Information

Our common shares are traded on the NYSE under the symbol STM and CUSIP #861012102, are listed on the compartment A (large capitalizations) of Euronext Paris under the ISIN Code NL0000226223 and are also traded on the Borsa Italiana. Since 2014, our 2019 and 2021 Convertible Bonds, which were early redeemed in 2017, have traded on the Frankfurt Stock Exchange. In 2017, ST issued a $1.5 billion dual-tranche offering of new Convertible Bonds due 2022 and 2024 that trade on the Frankfurt Stock Exchange.

Effective September 18, 2017 our common shares were selected by the independent Conseil Scientifique to be included in the CAC 40, a free float market capitalization weighted index that reflects the performance of the 40 largest and most actively traded shares listed on Euronext Paris, and is the most widely used indicator of the Paris stock market. Our common shares are also included in the FTSE MIB Index, which measures the performance of 40 Italian equities and seeks to replicate the broad sector weights of the Italian stock market, and the FTSE MIB Dividend Index, the index which represents the cumulative value of ordinary gross dividends paid by the individual constituents of the underlying FTSE MIB Index, expressed in terms of index points.

Of the 898,305,080 common shares outstanding as of December 31, 2018, 92,598,207, or 10.3%, were registered in the common share registry maintained on our behalf in New York and 805,706,873 or 89.7%, of our common shares outstanding were listed on Euroclear France and traded on Euronext Paris and on the Borsa Italiana in Milan.

Item 10. Additional Information
A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

We were incorporated under the laws of The Netherlands by deed of May 21, 1987 and are registered with the trade register (*handelsregister*) of the Dutch Chamber of Commerce (*Kamer van Koophandel*) under no. 33194537. Set forth below is a summary of certain provisions of our Articles of Association and relevant Dutch law. The summary below does not purport to be complete and is qualified in its entirety by reference to our Articles of Association, most recently amended on June 20, 2017, and relevant Dutch law.

Object and Purposes (Article 2)

The purpose of our company is to participate in or take, in any manner, any interests in other business enterprises; to manage such enterprises; to carry on business in semiconductors and electronic devices; to take and grant licenses and other industrial property interests; to assume commitments in the name of any enterprises with which we may be associated within a group of companies; and to take any other action, such as but not limited to the granting of securities or the undertaking of obligations on behalf of third parties, which in the broadest sense of the term, may be related or contribute to the aforementioned objects.

Supervisory Board Members

Our Articles of Association do not include any provisions related to a Supervisory Board member s:

- power to vote on proposals, arrangements or contracts in which such member is materially interested;
- power, in the absence of an independent quorum, to vote on compensation to themselves or any members of the Supervisory Board;
- borrowing powers exercisable by the directors and how such borrowing powers can be varied;
- mandatory retirement age; or
- number of shares in our company required to qualify as a Supervisory Board member.

Our Supervisory Board Charter and Dutch law, however, explicitly prohibits members of our Supervisory Board from participating in discussions and voting on matters where they have a conflict of interest. If our entire Supervisory Board has a conflict of interest, our shareholders meeting is the competent corporate body to adopt the relevant resolution. Our Articles of Association provide that our shareholders meeting must adopt the compensation of our Supervisory Board members. Neither our Articles of Association nor our Supervisory Board Charter has a requirement or policy that Supervisory Board members hold a minimum number of our common shares.

In accordance with Dutch law, we have balanced participation by men and women on our Supervisory Board, which is deemed to exist if at least 30% of the seats are held by men and at least 30% of the seats held by women. Currently, our Supervisory Board comprises nine members of which 3 are female and 6 are male.

Distribution of Profits (Articles 37, 38, 39 and 40)

Subject to certain exceptions, dividends may only be paid out of the profits as shown in our adopted annual accounts. Our profits must first be used to set up and maintain reserves required by Dutch law and our Articles of Association. Subsequently, if any of our preference shares are issued and outstanding, preference shareholders shall be paid a dividend, which will be a percentage of the paid up part of the par value of their preference shares. Our Supervisory Board may then, upon proposal of our Managing Board, also establish reserves out of our annual profits. The portion of our annual profits that remains after the establishment or maintenance of reserves and the payment of a dividend to our preference shareholders is at the disposal of our shareholders meeting. No distribution may be made to our shareholders when the equity after such distribution is or becomes inferior to the fully-paid share capital, increased by the legal reserves. Our preference shares are cumulative by nature, which means that if in a financial year the dividend or the preference shares cannot be (fully) paid, the deficit must first be paid in the following financial year(s).

Our Supervisory Board independently as well as our shareholders meeting, upon the proposal of our Supervisory Board, may each declare distributions out of our share premium reserve and other reserves available for shareholder distributions under Dutch law. Pursuant to a resolution of our Supervisory Board, distributions adopted by the shareholders meeting may be fully or partially made in the form of our new shares to be issued. Our Supervisory Board may, subject to certain statutory provisions, make one or more interim distributions in respect of any year before the accounts for such year have been adopted at a shareholders meeting. Rights to cash dividends and distributions that have not been collected within five years after the date on which they became due and payable shall revert to us.

For the history of dividends paid by us to our shareholders in the past five years, see Note 15 to our Consolidated Financial Statements.

Notice Convening the Shareholders Meeting (Articles 25, 26, 27, 28 and 29)

Our ordinary shareholders meetings are held at least annually, within six months after the close of each financial year, in The Netherlands. Extraordinary shareholders meetings may be held as often as our Supervisory Board deems necessary, and must be held upon the written request of registered shareholders or other persons entitled to attend shareholders meetings of at least 10% of the total issued share capital to our Managing Board or our Supervisory Board specifying in detail the business to be dealt with. Such written requests may not be submitted electronically.

The notice convening the shareholders meeting shall be given in such manner as shall be authorized or required by law with due observance of the statutory notice period, which is currently 42 days prior to the meeting.

One or more shareholders or other persons entitled to attend shareholders meetings representing at least one-tenth of our issued share capital may, provided that the request was made at least five days prior to the date of convocation of the meeting, request proposals to be included on the agenda. Furthermore, a request that a proposal be included on the agenda can be made in writing to our Managing Board within sixty days of a meeting by persons who are entitled to attend our shareholders meetings who, solely or jointly, represent at least 1% of our issued share capital or a market value of at least 50 million. The aforementioned requests may not be submitted electronically and must comply with conditions stipulated by our Managing Board, subject to the approval of our Supervisory Board, which shall be posted on our website. Pursuant to Dutch law a shareholder requesting discussion of an agenda item must disclose to us its entire beneficial interest (long and short position) and we are required to disclose this information on our website.

We are exempt from the proxy solicitation rules under the United States Securities Exchange Act of 1934. Euroclear France will provide notice of shareholders meetings to, and compile voting instructions from, holders of shares held directly or indirectly through Euroclear France. The Depository Trust Company (DTC) will provide notice of shareholders meetings to holders of shares held directly or indirectly through DTC and the New York Transfer Agent and Registrar will compile voting instructions. In order for holders of shares held directly or indirectly through Euroclear France to attend shareholders meetings in person, such holders must withdraw their shares from Euroclear France and have such shares registered directly in their name or in the name of their nominee. In order for holders of shares held directly or indirectly through DTC to attend shareholders meetings of shareholders in person, such holders need not withdraw such shares from DTC but must follow rules and procedures established by the New York Transfer Agent and Registrar.

Attendance at Shareholders Meetings and Voting Rights (Articles 30, 31, 32, 33 and 34)

Each share is entitled to one vote.

All shareholders and other persons entitled to attend shareholders meetings may attend in person or be represented by a person holding a written proxy. Shareholders and other persons entitled to vote, may do so pursuant to our Articles of Association. Subject to the approval of our Supervisory Board, our Managing Board may resolve to facilitate the use of electronic means of communication in relation to the participation and voting in shareholders meetings. Dutch law prescribes a fixed registration date of 28 days prior to the shareholders meeting, which means that shareholders and other persons entitled to attend shareholders meetings are those persons who have such rights at the 28th day prior to the shareholders meeting and, as such, are registered in a register designated by our Managing Board, regardless of who is a shareholder or otherwise a person entitled to attend shareholders meetings at the time of the meeting if a registration date would not be applicable. In the notice convening the shareholders meeting, the time of registration must be mentioned as well as the manner in which shareholders and other persons entitled to attend shareholders meetings can register themselves and the manner in which they can exercise their rights.

All matters regarding admittance to the shareholders meeting, the exercise of voting rights and the result of voting, as well as any other matters regarding the business of the shareholders meeting, shall be decided upon by the chairman of that meeting, in accordance with the requirements of Section 2:13 of the Dutch Civil Code.

Our Articles of Association allow for separate meetings for holders of common shares and for holders of preference shares. At a meeting of holders of preference shares at which the entire issued capital of shares of such class is represented, valid resolutions may be adopted even if the requirements in respect of the place of the meeting and the giving of notice have not been observed, provided that such resolutions are adopted by unanimous vote. Also, valid resolutions of preference shareholder meetings may be adopted outside a meeting if all persons entitled to vote on our preference shares indicate in writing that they vote in favor of the proposed resolution, provided that no depositary receipts for preference shares have been issued with our cooperation.

Authority of our Shareholders Meeting (Articles 12, 16, 19, 25, 28, 32 and 41)

Our AGM may decide upon (i) the discharge of the members of our Managing Board for their management during the past financial year and the discharge of the members of our Supervisory Board for their supervision during the past financial year; (ii) the adoption of our statutory annual accounts and the distribution of dividends; (iii) the appointment of the members of our Supervisory Board and our Managing Board; and (iv) any other resolutions listed on the agenda.

Furthermore, our shareholders meeting has to approve resolutions of our Managing Board regarding a significant change in the identity or nature of us or our enterprise, including in any event (i) transferring our enterprise or practically our entire enterprise to a third party, (ii) entering into or canceling any long-term cooperation between us or a subsidiary of us and any other legal person or company or as a fully liable general partner of a limited partnership or a general partnership, provided that such cooperation or the cancellation thereof is of essential importance to us, and (iii) us or a subsidiary of us acquiring or disposing of a participating interest in the capital of a company with a value of at least one-third of our total assets according to our Consolidated Balance Sheets and notes thereto in our most recently adopted annual accounts.

Our Articles of Association may only be amended (and our liquidation can only be decided on) if amendments are proposed by our Supervisory Board and approved by a simple majority of the votes cast at a shareholders meeting at which at least 15% of the issued and outstanding share capital is present or represented. The complete proposal for the amendment (or liquidation) must be made available for inspection by the shareholders and the other persons entitled to attend shareholders meetings at our offices as from the day of the notice convening such meeting until the end of the meeting. Any amendment of our Articles of Association that negatively affects the rights of the holders of a certain class of shares requires the prior approval of the meeting of holders of such class of shares.

Quorum and Majority (Articles 4, 13 and 32)

Unless otherwise required by our Articles of Association or Dutch law, resolutions of shareholders meetings require the approval of a majority of the votes cast at a meeting at which at least 15% of the issued and outstanding share capital is present or represented, subject to the provisions explained below. We may not vote our common shares held in treasury. Blank and invalid votes shall not be counted.

A quorum of shareholders, present or represented, holding at least half of our issued share capital, is required to dismiss a member of our Managing Board, unless the dismissal is proposed by our Supervisory Board. In the event of the lack of a quorum, a second shareholders meeting must be held within four weeks, with no applicable quorum requirement. Any decision or authorization by the shareholders meeting which has or could have the effect of excluding or limiting preferential subscription rights must be taken by a majority of at least two-thirds of the votes cast, if at the shareholders meeting less than 50% of the issued and outstanding share capital is present or represented. Otherwise such a resolution can be taken by a simple majority at a meeting at which at least 15% of the issued and outstanding share capital is represented.

Disclosure of holdings and capital interest under Dutch Law

Holders of our shares (including certain comparable instruments, such as instruments with a value (partly) dependent on shares or distributions on shares, or contracts creating an economic position similar to shares) or voting rights (including potential interests, such as via options or convertible bonds) may have disclosure obligations under Dutch law. Any person or entity whose direct or indirect interest in our share capital or voting rights (including potential interest) reaches, exceeds or falls below a certain threshold must make a disclosure to the AFM immediately. The threshold percentages are 3%, 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 75% and 95%. If a person s direct or indirect interest in the share capital or voting rights passively reaches, exceeds or falls below the abovementioned thresholds (e.g. as a result of a change in the capital of the company), the person in question must give notice to the AFM no later than the fourth trading day after the AFM has published the change in the share capital and/or voting rights in the public register. In addition, a notification requirement applies in respect of shares with special statutory rights (e.g. priority shares), regardless of the abovementioned percentages.

Furthermore, each person who is or ought to be aware that the substantial holding he holds in the Company, reaches, exceeds or falls below any of the abovementioned thresholds vis-à-vis his most recent notification to the AFM, which change relates to the composition of the notification as a result of certain acts (e.g. (i) the exchange of certain financial instruments for shares or depositary receipts for shares, (ii) the exchange of shares for depositary receipts for shares, or (iii) as a result of the exercise of rights pursuant to a contract for the acquisition of voting rights) must give notice to the AFM no later than the fourth trading day after he became or ought to be aware of this change.

For the purpose of calculating the percentage of capital interest or voting rights, among others, the following interests must be taken into account: (i) those directly held by him; (ii) those held by his controlled undertakings for purposes of the Dutch Financial Supervision Act; (iii) shares held by a third party for such person s account and the votes such third party may exercise; (iv) the votes held by a third party if such person has concluded an oral or written voting agreement with such party which provides for a lasting common policy on voting; (v) the votes held by a third party if such person has concluded an oral or written agreement with such party which provides for a temporary and paid transfer of the votes; and (vi) the votes which a person may exercise as a proxy but in his own discretion. A person who has a 3% or larger interest in the share capital or voting rights and who ceases to be a controlled undertaking must without delay notify the AFM. As of that moment, all notification obligations under the Dutch Financial Supervision Act will become applicable to the former controlled undertaking itself. The management company of a common fund (*beleggingsfonds*) shall be deemed to have the disposal of the shares held by the depositary and the related voting rights. The depositary of a common fund shall be deemed not to have the disposal of shares or voting rights. Furthermore, special rules apply to the attribution of the ordinary shares which are part of the property of a partnership or other community of property. A holder of a pledge or right of usufruct in respect of our shares can also be subject to a notification obligation if such person has, or can acquire, the right to vote on our shares. If a pledgor or usufructuary acquires such voting rights, this may also trigger a notification obligation for the holder of our shares. A person is also deemed to hold shares if he has a financial instrument (i) whose rise in value depends in part on the rise in value of the underlying shares or on dividend or other payments on those shares (in other words, a long position must be held in those shares), and (ii) which does not entitle him to acquire shares in a listed company (i.e., it is a cash-settled financial instrument). In addition, a person who may, by virtue of an option, be obliged to buy shares in a listed company is also equated with a shareholder. Moreover, a person who has entered into a contract (other than a cash-settled financial instrument) that gives him an economic position comparable to that of a shareholder in a listed company is also deemed to hold shares for the purposes of the disclosure obligation.

The holder of a financial instrument representing a short position in our shares is required to notify the AFM if such short position, expressed in a capital percentage, reaches or crosses a threshold percentage. The threshold percentages are the same as referred to above in this section. Short position refers to the gross short position (i.e., a long position held by the holder cannot be offset against the short position). There is also a requirement to notify the AFM of the net short position (i.e., long positions are offset against short positions) if such short position, expressed in a capital percentage, reaches or crosses a threshold percentage; The threshold percentages are 0.2% and each 0.1% above that. Notifications as of 0.5% and each 0.1% above that will be published by the AFM. The notification shall be made no later than 3:30 pm CET on the following trading day.

Under Dutch law, the sole member of our Managing Board and each of the members of our Supervisory Board must without delay notify the AFM of any changes in his interest or potential interest in our share capital or voting rights. Under the European Market Abuse Regulation, the sole member of our Managing Board, the members of the Executive Committee and each of the members of our Supervisory Board, as well as any other person who would have the power to take managerial decisions affecting the future developments and business prospects of the Company having regular access to inside information relating, directly or indirectly, to the Company, must notify the AFM of any transactions conducted for his or her own account relating to the shares or in financial instruments the value of which is also based on the value of the shares. In addition, certain persons who are closely associated with members of the Managing Board, the Executive Committee and Supervisory Board or any of the other persons as described above, are required to notify the AFM of any transactions conducted for their own account relating to the shares or in financial instruments the value of which is also based on the value of the shares.

The AFM publishes all notifications on its public website (www.afm.nl). Non-compliance with the notification obligations under European or Dutch law can lead to imprisonment or criminal fines, or administrative fines or other administrative sanctions. In addition, non-compliance with these notification obligations may lead to civil sanctions, including, without limitation, suspension of the voting rights attaching to our shares held by the offender for a maximum of three years, (suspension and) nullification of a resolution adopted by our shareholders meeting (if it is likely that such resolution would not have been adopted if the offender had not voted) and a prohibition for the offender to acquire our shares or votes for a period of no more than five years. Shareholders are advised to consult with their own legal advisers to determine whether notification obligations apply to them.

Share Capital (Articles 4, 5 and 6)

Our shares may not be issued at less than their par value. Our common shares must be fully paid up at the time of their issuance. Our preference shares must be paid up for at least 25% of their par value at the time of their issuance (and the remaining 75% if and when requested by our Managing Board). Our authorized share capital is not restricted by redemption provisions, sinking fund provisions or liability to further capital calls by us. Our Articles of Association allows for the acquisition of own shares and the cancellation of shares.

Type II shares are common shares in the form of an entry in our shareholders register with the issue of a share certificate consisting of a main part without a dividend coupon. In addition to type II shares, type I shares are available. Type I shares are common shares in the form of an entry in our shareholders register without the issue of a share certificate. Type II shares are only available should our Supervisory Board decide to offer them. Our preference shares are in the form of an entry in our shareholders register without issue of a share certificate.

Non-issued authorized share capital, which is different from issued share capital, allows us to proceed with capital increases excluding the preemptive rights, upon our Supervisory Board s decision. Other securities in circulation which give access to our share capital include (i) the options giving the right to subscribe to our shares granted to our employees, including the sole member of our Managing Board and our senior managers; (ii) the options giving the right to subscribe to our shares granted in the past to the members of our Supervisory Board, its secretaries and controllers, as described in Item 6. Directors, Senior Management and Employees ;

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(iii) our Bonds; and (iv) the option giving the right to subscribe to our preference shares to Stichting Continuïteit ST. See Item 7. Major Shareholders and Related Party Transactions Preference Shares. We do not have securities not representing our share capital.

Our shareholders meeting, upon proposal and on the terms and conditions set by our Supervisory Board, has the power to issue shares and rights to subscribe for shares. The shareholders meeting may authorize our Supervisory Board, for a period of no more than five years, to issue shares and rights to subscribe for shares and to determine the terms and conditions of such issuances.

Each holder of common shares has a pro rata preemptive right to subscribe to an offering of common shares issued for cash in proportion to the number of common shares which he owns. There is no preemptive right with respect to an offering of shares for non-cash consideration, with respect to an offering of shares to our employees or to the employees of one of our subsidiaries, or with respect to preference shares.

Our shareholders meeting, upon proposal by our Supervisory Board, has the power to limit or exclude preemptive rights in connection with new issuances of shares. Such a resolution of the shareholders meeting must be taken with a majority of at least two-thirds of the votes cast if at such shareholders meeting less than 50% of the issued and outstanding share capital is present or represented. Otherwise such a resolution can be taken by a simple majority of the votes cast at a shareholders meeting at which at least 15% of our issued and outstanding share capital is present or represented. Our shareholders meeting may authorize our Supervisory Board, for a period of no more than five years, to limit or exclude preemptive rights.

Acquisition of Shares in Our Own Share Capital (Article 5)

We may acquire our own shares, subject to certain provisions of Dutch law and of our Articles of Association. Share acquisitions may be effected by our Managing Board, subject to the approval of our Supervisory Board, only if the shareholders meeting has authorized our Managing Board to effect such repurchases, which authorization may apply for a maximum period of 18 months. We may not vote shares we hold in treasury. Our purchases of our own shares are subject to acquisition price conditions as authorized by our shareholders meeting. Our Articles of Association provide that we shall be able to acquire shares in our own share capital in order to transfer these shares under employee stock option or stock purchase plans, without an authorization of our shareholders meeting.

Upon the proposal of our Supervisory Board, our shareholders meeting may, in accordance with the legal provisions, reduce our issued capital by canceling the shares that we hold in treasury, by reducing the par value of the shares or by canceling our preference shares.

Liquidation Rights (Articles 42 and 43)

In the event of our dissolution and liquidation, after payment of all debts and liquidation expenses, the holders of preference shares if issued, would receive the paid up portion of the par value of their preference shares. Any assets then remaining shall be distributed among the registered holders of common shares in proportion to the par value of their shareholdings.

Limitations on Right to Hold or Vote Shares

There are currently no limitations imposed by Dutch law or by our Articles of Association on the right of non-resident holders to hold or vote the shares.

C. Material Contracts

None.

D. Exchange Controls

None.

E. Taxation

Dutch Taxation

The following is a general summary and the tax consequences as described herein may not apply to a holder of common shares. Any potential investor should consult his tax adviser for more information about the tax consequences of acquiring, owning and disposing of common shares in his particular circumstances.

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This summary solely addresses the principal Dutch tax consequences of the acquisition, ownership and disposal of common shares and does not purport to describe every aspect of taxation that may be relevant to a particular holder. Tax matters are complex, and the tax consequences of the acquisition, ownership and disposal to a particular holder of common shares will depend in part on such holder s circumstances. Accordingly, you are urged to consult your own tax advisor for a full understanding of the tax consequences of the acquisition, ownership and disposal to you, including the applicability and effect of Dutch tax laws. Where in this summary English terms and expressions are used to refer to Dutch concepts, the meaning to be attributed to such terms and expressions shall be the meaning to be attributed to the equivalent Dutch concepts under Dutch tax law. Where in this summary the terms The Netherlands and Dutch are used, these refer solely to the European part of the Kingdom of The Netherlands. This summary assumes that we are organized, and that our business will be conducted, in the manner outlined in this Form 20-F. A change to such organizational structure or to the manner in which we conduct our business may invalidate the contents of this summary, which will not be updated to reflect any such change.

This summary is based on the tax law of The Netherlands (unpublished case law not included) as it stands at the date of this Form 20-F. The tax law upon which this summary is based, is subject to changes, possibly with retroactive effect. Any such change may invalidate the contents of this summary, which will not be updated to reflect such change.

The summary in this Dutch Taxation paragraph does not address your Dutch tax consequences if you are a holder of common shares who:

(i) may be deemed an owner of common shares for Dutch tax purposes pursuant to specific statutory attribution rules in Dutch tax law;

(ii) is, although in principle subject to Dutch corporation tax, in whole or in part, specifically exempt from that tax in connection with income from common shares;

(iii) is an investment institution as defined in the Dutch Corporation Tax Act 1969;

(iv) owns common shares in connection with a membership of a management board or a supervisory board, an employment relationship, a deemed employment relationship or management role; or

(v) has a substantial interest in us or a deemed substantial interest in us for Dutch tax purposes. Generally, you hold a substantial interest if (a) you either alone or, in the case of an individual, together with your partner or any of your relatives by blood or by marriage in the direct line (including foster-children) or of those of your partner for Dutch tax purposes own or are deemed to own, directly or indirectly, five percent or more of our shares or of any class of our shares, or rights to acquire, directly or indirectly, such an interest in our shares or profit participating certificates relating to five percent or more of our annual profits or to five percent or more of our liquidation proceeds, or (b) your shares, rights to acquire shares or profit participating certificates in us are held by you following the application of a non-recognition provision.

Taxes on income and capital gains for Non-resident holders of common shares

Individuals

If you are an individual who is neither resident nor deemed to be resident in The Netherlands for purposes of Dutch income tax, you will not be subject to Dutch income tax in respect of any benefits derived or deemed to be derived from or in connection with your common shares, except if

(i) you derive profits from an enterprise, whether as an entrepreneur or pursuant to a co-entitlement to the net value of such enterprise, other than as a shareholder, and such enterprise is carried on, in whole or in part, through a permanent establishment or a permanent representative in The Netherlands, and your common shares are attributable to such permanent establishment or permanent representative; or

(ii) you derive benefits or are deemed to derive benefits from or in connection with common shares that are taxable as benefits from miscellaneous activities performed in The Netherlands.

Corporate entities

If you are a corporate entity, or an entity including an association, a partnership and a mutual fund, taxable as a corporate entity, which is neither resident, nor deemed to be resident in The Netherlands for purposes of

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Dutch corporation tax, you will not be subject to Dutch corporation tax in respect of any benefits derived or deemed to be derived from or in connection with common shares, except if

(i) you derive profits from an enterprise directly which is carried on in whole or in part, through a permanent establishment or a permanent representative which is taxable in The Netherlands, and to which permanent establishment or permanent representative your common shares are attributable; or

(ii) you derive profits pursuant to a co-entitlement to the net value of an enterprise which is managed in The Netherlands, other than as a holder of securities, and to which enterprise your common shares are attributable.

General

If you are neither resident nor deemed to be resident in The Netherlands, you will for Dutch tax purposes not carry on or be deemed to carry on an enterprise, in whole or in part, through a permanent establishment or a permanent representative in The Netherlands by reason only of the execution and/or enforcement of the documents relating to the issue of common shares or the performance by us of our obligations under such documents or under the common shares.

Dividend withholding tax

General

We are generally required to withhold Dutch dividend withholding tax at a rate of 15% from dividends distributed by us, subject to possible relief under Dutch domestic law, the Treaty on the Functioning of the European Union or an applicable Dutch income tax treaty depending on a particular holder of common shares individual circumstances.

The concept dividends distributed by us as used in this Dutch Taxation paragraph includes, but is not limited to, the following:

- distributions in cash or in kind, deemed and constructive distributions and repayments of capital not recognized as paid-in for Dutch dividend withholding tax purposes;

- liquidation proceeds and proceeds of repurchase or redemption of common shares in excess of the average capital recognized as paid-in for Dutch dividend withholding tax purposes;

- the par value of common shares issued by us to a holder of common shares or an increase of the par value of common shares, as the case may be, to the extent that it does not appear that a contribution, recognized for Dutch dividend withholding tax purposes, has been made or will be made; and partial repayment of capital, recognized as paid-in for Dutch dividend withholding tax purposes, if and to the extent that there are net profits, unless (a) the general meeting of our shareholders has resolved in advance to make such repayment and (b) the par value of the common shares concerned has been reduced by an equal amount by way of an amendment to our articles of association.

If we receive a profit distribution from a qualifying foreign entity, or a repatriation of qualifying foreign branch profit, that is exempt from Dutch corporation tax and that has been subject to a foreign withholding tax of at least 5%, we may be entitled to retain a portion of the Dutch dividend withholding tax imposed in respect of a dividend distributed by us, that ordinarily would be required to be remitted to the Dutch tax authorities. Such portion is the lesser of:

- 3% of the dividends paid by us in respect of which Dutch dividend withholding tax is withheld; and

- 3% of the qualifying profit distributions grossed up by the foreign tax withheld on such distributions received from foreign subsidiaries and branches prior to the distribution of the dividend by us during the current calendar year and the two preceding calendar years (to the extent such distributions have not been taken into account previously when applying this test).

Non-resident holders of common shares are urged to consult their tax advisers regarding the general creditability or deductibility of Dutch dividend withholding tax and, in particular, the impact on such investors of our potential ability to receive a reduction as described in the previous paragraph.

Gift and inheritance taxes

No Dutch gift tax or Dutch inheritance tax will arise with respect to an acquisition or deemed acquisition of common shares by way of gift by, or upon the death of, a holder of common shares who is neither resident nor deemed to be resident in The Netherlands for purposes of Dutch gift tax or Dutch inheritance tax except if, in the event of a gift whilst not being a resident nor being a deemed resident in The Netherlands for purposes of Dutch gift tax or Dutch inheritance tax, the holder of common shares becomes a resident or a deemed resident in The Netherlands and dies within 180 days after the date of the gift.

For purposes of Dutch gift tax and Dutch inheritance tax, a gift of common shares made under a condition precedent is deemed to be made at the time the condition precedent is satisfied.

Registration taxes and duties

No Dutch registration tax, transfer tax, stamp duty or any other similar documentary tax or duty, other than court fees, is payable in The Netherlands in respect of or in connection with the execution and/or enforcement (including by legal proceedings and including the enforcement of any foreign judgment in the courts of The Netherlands) of the documents relating to the issue of common shares, the performance by us of our obligations under such documents, or the transfer of common shares, except that Dutch real property transfer tax may be due upon an acquisition in connection with common shares of real property situated in The Netherlands, (an interest in) an asset that qualifies as real property situated in The Netherlands, or (an interest in) a right over real property situated in The Netherlands, for the purposes of Dutch real property transfer tax.

United States Federal Income Taxation

The following discussion is a general summary of the material U.S. federal income tax consequences to a U.S. holder (as defined below) of the ownership and disposition of our common shares. You are a U.S. holder only if you are a beneficial owner of common shares:

- that is, for U.S. federal income tax purposes, (a) a citizen or individual resident of the United States, (b) a U.S. domestic corporation or a U.S. domestic entity taxable as a corporation, (c) an estate, the income of which is subject to U.S. federal income taxation regardless of its source, or (d) a trust, if a court within the United States can exercise primary supervision over the administration of the trust and one or more U.S. persons are authorized to control all substantial decisions of the trust;

- that owns, directly, indirectly or by attribution, less than 10% of our voting power or outstanding share capital;

- that holds the common shares as capital assets;

- whose functional currency for U.S. federal income tax purposes is the U.S. dollar;

- that is a resident of the United States and not also a resident of The Netherlands for purposes of the U.S./NL Income Tax Treaty;

- that is entitled, under the limitation on benefits provisions contained in the U.S./NL Income Tax Treaty, to the benefits of the U.S./NL Income Tax Treaty; and

- that does not have a permanent establishment or fixed base in The Netherlands.

This summary does not discuss all of the tax consequences that may be relevant to you in light of your particular circumstances. Also, it does not address holders that may be subject to special rules including, but not limited to, U.S. expatriates, tax-exempt organizations, persons subject to the alternative minimum tax, banks, securities broker-dealers, financial institutions, regulated investment companies, insurance companies, traders in securities who elect to apply a mark-to-market method of accounting, persons holding our common shares as part of a straddle, hedging or conversion transaction, or persons who acquired common shares pursuant to the exercise of employee stock options or otherwise as compensation. Because this is a general summary, you are advised to consult your own tax advisor with respect to the U.S. federal, state, local and applicable foreign tax consequences of the ownership and disposition of our common shares. In addition, you are advised to consult your own tax advisor concerning whether you are entitled to benefits under the U.S./NL Income Tax Treaty.

If a partnership (including for this purpose any entity treated or arrangement as a partnership for U.S. federal income tax purposes) holds common shares, the tax treatment of a partner generally will depend upon the status of the partner and the activities of the partnership. If you are a partner in a partnership that holds common shares, you are urged to consult your own tax advisor regarding the specific tax consequences of the ownership and the disposition of common shares.

This summary is based on the Internal Revenue Code of 1986, as amended, the U.S./NL Income Tax Treaty, judicial decisions, administrative pronouncements and existing, temporary and proposed Treasury regulations as of the date of this Form 20-F, all of which are subject to change or changes in interpretation, possibly with retroactive effect.

Dividends

In general, you must include the gross amount of distributions paid (including the amount of any Dutch taxes withheld from those distributions) to you by us with respect to the common shares in your gross income as foreign-source taxable dividend income. The amount of any distribution paid in foreign currency (including the amount of any Dutch withholding tax thereon) will be equal to the U.S. dollar value of the foreign currency on the date of actual or constructive receipt by you regardless of whether the payment is in fact converted into U.S. dollars at that time. Gain or loss, if any, realized on a subsequent sale or other disposition of such foreign currency generally will be U.S.-source ordinary income or loss. Special rules govern and specific elections are available to accrual method taxpayers to determine the U.S. dollar amount includible in income in the case of taxes withheld in a foreign currency. Accrual basis taxpayers are urged to consult their own tax advisors regarding the requirements and elections applicable in this regard.

Subject to applicable limitations, Dutch taxes withheld from a distribution paid to you at a rate not exceeding the rate provided in the U.S./NL Income Tax Treaty will be eligible for credit against your U.S. federal income tax liability. As described in Taxation Dutch Taxation above, under limited circumstances we may be entitled to retain a portion of the Dutch withholding tax that otherwise would be required to be remitted to the taxing authorities in The Netherlands. If we withhold an amount from dividends paid to you that we then are not required to remit to any taxing authority in The Netherlands, the amount in all likelihood would not qualify as a creditable tax for U.S. federal income tax purposes. We will endeavor to provide you with information concerning the extent to which we have applied the reduction described above to dividends paid to you. The limitation on foreign taxes eligible for credit is calculated separately with respect to specific classes of income. For this purpose, dividends distributed by us with respect to the common shares generally will constitute passive category income or in the case of certain U.S. holders, general category income . The use of foreign tax credits is subject to complex rules and limitations. In lieu of a credit, a U.S. holder who itemizes deductions may elect to deduct all of such holder s foreign taxes in the taxable year. A deduction does not reduce tax on a dollar-for-dollar basis like a credit, but the deduction for foreign taxes is not subject to the same limitations applicable to foreign tax credits. You should consult your own tax advisor to determine whether and to what extent a credit would be available to you.

Certain non-corporate U.S. holders (including individuals) are eligible for reduced rates of U.S. federal income tax in respect of qualified dividend income . For this purpose, qualified dividend income generally includes dividends paid by a non-U.S. corporation if, among other things, the U.S. holders meet certain minimum holding period and other requirements and the non-U.S. corporation satisfies certain requirements, including either that (i) the shares of the non-U.S. corporation are readily tradable on an established securities market in the United States, or (ii) the non-U.S. corporation is eligible for the benefits of a comprehensive income tax treaty with the United States (such as the U.S./NL Income Tax Treaty) which provides for the exchange of information. We currently believe that dividends paid by us with respect to our common shares should constitute qualified dividend income for U.S. federal income tax purposes; however, this is a factual matter and subject to change. You are urged to consult your own tax advisor regarding the availability to you of a reduced dividend tax rate in light of your own particular situation. A dividends-received deduction will not be allowed with respect to dividends paid by us to corporate U.S. holders.

Sale, Exchange or Other Disposition of Common Shares

Upon a sale, exchange or other disposition of common shares, you generally will recognize capital gain or loss in an amount equal to the difference between the amount realized and your tax basis in the common shares, as determined in U.S. dollars. This gain or loss generally will be U.S.-source gain or loss, and will be treated as long-term capital gain or loss if you have held the common shares for more than one year. If you are an individual, capital gains generally will be subject to U.S. federal income tax at preferential rates if specified minimum holding periods are met. The deductibility of capital losses is subject to significant limitations.

Net Investment Income Tax

Certain U.S. holders that are individuals, estates or trusts and whose income exceeds certain thresholds generally will be subject to a 3.8% tax on net investment income , including, among other things, dividends on, and gains from the sale or other taxable disposition of, our common shares, subject to certain limitations and exceptions. You should consult your own tax advisor regarding the effect, if any, of such tax on your ownership and disposition of our common shares.

Passive Foreign Investment Company Status

We believe that we should not be classified as a passive foreign investment company (a PFIC) for U.S. federal income tax purposes for the year ended December 31, 2018 and we do not expect to become a PFIC in the foreseeable future. This conclusion is a factual determination that must be made annually at the close of each taxable year and therefore we can provide no assurance that we will not be a PFIC in our current or any future taxable year. If we were to be characterized as a PFIC for any taxable year, the tax on certain distributions on our common shares and on any gains realized upon the disposition of common shares may be materially less favorable than as described herein. In addition, if we were a PFIC in a taxable year in which we were to pay dividends or the prior taxable year, such dividends would not be qualified dividend income (as described above) and would be taxed at the higher rates applicable to other items of ordinary income. You should consult your own tax advisor regarding the application of the PFIC rules to your ownership of our common shares.

U.S. Information Reporting and Backup Withholding

Dividend payments with respect to common shares and proceeds from the sale, exchange, retirement or other disposition of our common shares may be subject to information reporting to the U.S. Internal Revenue Service (the IRS) and possible U.S. backup withholding. Backup withholding will not apply to you, however, if you furnish a correct taxpayer identification number and make any other required certification, or if you are otherwise exempt from backup withholding. U.S. persons required to establish their exempt status generally must provide certification on IRS Form W-9. Backup withholding is not an additional tax. Amounts withheld as backup withholding may be credited against your U.S. federal income tax liability, and you may obtain a refund of any excess amounts withheld under the backup withholding rules by timely filing the appropriate claim for refund with the IRS and furnishing any required information.

In addition, U.S. holders should be aware of annual reporting requirements with respect to the holding of certain foreign financial assets, including our common shares that are not held in an account maintained by certain types of financial institutions, if the aggregate value of all of such assets exceeds $50,000 (or $100,000 for married couples filing a joint return). You should consult your own tax advisor regarding the application of the information reporting and backup withholding rules to our common shares and the application of the annual reporting requirements to your particular situation.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

Any statement in this Form 20-F about any of our contracts or other documents is not necessarily complete. If the contract or document is filed as an exhibit to this Form 20-F the contract or document is deemed to modify the description contained in this Form 20-F. You must review the exhibits themselves for a complete description of the contract or document.

Our Articles of Association, the minutes of our AGM, reports of the auditors and other corporate documentation may be consulted by the shareholders and any other individual authorized to attend the meetings at our head office at Schiphol Airport Amsterdam, The Netherlands, at the registered offices of the Managing Board in Geneva, Switzerland and at Crédit Agricole-Indosuez, 9, Quai du Président Paul-Doumer, 92400 Courbevoie, France.

You may review a copy of our filings with the U.S. Securities and Exchange Commission (the SEC), including exhibits and schedules filed with it, at the SEC s public reference facilities in Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further

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information. In addition, the SEC maintains an internet site (www.sec.gov) that contains reports and other information regarding issuers that file electronically with the SEC. These SEC filings are also available to the public from commercial document retrieval services.

WE ARE REQUIRED TO FILE REPORTS AND OTHER INFORMATION WITH THE SEC UNDER THE SECURITIES EXCHANGE ACT OF 1934. REPORTS AND OTHER INFORMATION FILED BY U.S. WITH THE SEC MAY BE INSPECTED AND COPIED AT THE SEC S PUBLIC REFERENCE FACILITIES DESCRIBED ABOVE OR THROUGH THE INTERNET (WWW.SEC.GOV). AS A FOREIGN PRIVATE ISSUER, WE ARE EXEMPT FROM THE RULES UNDER THE EXCHANGE ACT PRESCRIBING THE FURNISHING AND CONTENT OF PROXY STATEMENTS AND OUR OFFICERS, DIRECTORS AND MAJOR SHAREHOLDERS ARE EXEMPT FROM THE REPORTING AND SHORT-SWING PROFIT RECOVERY PROVISIONS CONTAINED IN SECTION 16 OF THE EXCHANGE ACT. UNDER THE EXCHANGE ACT, AS A FOREIGN PRIVATE ISSUER, WE ARE NOT REQUIRED TO PUBLISH FINANCIAL STATEMENTS AS FREQUENTLY OR AS PROMPTLY AS UNITED STATES COMPANIES.

I. Subsidiary Information

Not applicable.

Item 11. Quantitative and Qualitative Disclosures About Market Risk

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.

Our interest income (expense), net, as reported in our Consolidated Statements of Income, is the balance between interest income received from our cash and cash equivalents and marketable securities investments and interest expense paid on our financial liabilities and bank fees (including fees on committed credit lines). Our interest income is dependent upon fluctuations in interest rates, mainly in U.S. dollars and Euros, since we invest primarily on a short-term basis; any increase or decrease in the market interest rates would mean an equivalent increase or decrease in our interest income. See Item 5. Operating and Financial Review and Prospects Impact of Changes in Interest Rates .

We place our cash and cash equivalents, or a part of it, with financial institutions with at least a single A long-term rating from two of the major rating agencies, meaning at least A3 from Moody s and A- from S&P or Fitch, or better, invested as term deposits and Government securities and, as such, we are exposed to the fluctuations of the market interest rates on our placement and our cash, which can have an impact on our accounts. We manage the credit risks associated with financial instruments through credit approvals, investment limits and centralized monitoring procedures but do not normally require collateral or other security from the parties to the financial instruments. As of December 31, 2018, the marketable securities have a value of $330 million. They are classified as available-for-sale and are reported at fair value. This fair value measurement corresponds to a Level 1 fair value hierarchy measurement. The estimated value of these securities could further decrease in the future as a result of credit market deterioration and/or other downgrading.

We do not anticipate any material adverse effect on our financial position, results of operations or cash flows resulting from the use of our instruments in the future. There can be no assurance that these strategies will be effective or that transaction losses can be minimized or forecasted accurately.

The information below summarizes our market risks associated with cash and cash equivalents, short-term deposits, marketable securities and debt obligations as of December 31, 2018. The information below should be read in conjunction with Note 25 to our Consolidated Financial Statements.

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The table below presents principal amounts and related weighted-average interest rates by year of maturity for our investment portfolio and debt obligations (in millions of U.S. dollars, except percentages):

	Total	2019	2020	2021	2022	2023	Thereafter	Fair Value at December 31, 2018
Assets:								
Cash and cash equivalents	$ 2,266							$ 2,266
Cash at bank and on hand	$ 128							$ 128
Deposits at call with banks	$ 2,138							$ 2,138
Current marketable securities	$ 330							$ 330
Average yield to maturity	2.52%							
Long-term debt:	$ 2,094	146	146	62	753	3	984	$ 1,764
Average interest rate(1)	2.58%							

(1) The average rate of the cash interests on our total debt at redemption value is 0.48%.

	Amounts in millions of U.S. dollars
Long-term debt by currency as of December 31, 2018:	
U.S. dollar	1,757
Euro	337
Total in U.S. dollars	2,094

	Amounts in millions of U.S. dollars
Long-term debt by currency as of December 31, 2017:	
U.S. dollar	1,855
Euro	67
Total in U.S. dollars	1,922

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The following table provides information about our FX forward contracts and FX currency options not designated as a hedge at December 31, 2018 (in millions of U.S. dollars):

FORWARD CONTRACTS AND CURRENCY OPTIONS AT DECEMBER 31, 2018

				Notional Amount	Average Rate	Fair Value
Buy	**AUD**	Sell	**USD**	1	0.71	0
Buy	**EUR**	Sell	**USD**	43	1.14	0
Buy	**GBP**	Sell	**USD**	3	1.28	0
Buy	**EUR**	Sell	**JPY**	12	128.21	0
Buy	**USD**	Sell	**JPY**	7	111.48	0
Buy	**USD**	Sell	**SGD**	2	1.38	0
Buy	**USD**	Sell	**BRL**	2	3.91	0
Buy	**USD**	Sell	**PHP**	1	53.17	0
Buy	**USD**	Sell	**INR**	2	67.00	0
Buy	**CHF**	Sell	**USD**	43	0.99	0
Buy	**CZK**	Sell	**USD**	1	22.47	0
Buy	**USD**	Sell	**EUR**	5	1.14	0
Buy	**HKD**	Sell	**USD**	2	7.83	0
Buy	**JPY**	Sell	**EUR**	20	127.53	0
Buy	**JPY**	Sell	**USD**	18	110.22	0
Buy	**MYR**	Sell	**USD**	27	4.17	0
Buy	**SEK**	Sell	**USD**	3	9.00	0
Buy	**SGD**	Sell	**USD**	71	1.37	0
Buy	**TND**	Sell	**USD**	1	3.00	0
Buy	**TWD**	Sell	**USD**	8	30.52	0
Buy	**CNY**	Sell	**USD**	43	6.91	0
Buy	**PHP**	Sell	**USD**	10	53.00	0
Buy	**ZAR**	Sell	**USD**	0	14.37	0
Buy	**INR**	Sell	**USD**	42	70.96	0
Buy	**KRW**	Sell	**USD**	12	1,119.37	0
Buy	**CNH**	Sell	**USD**	0	6.89	0

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The following table provides information about our FX forward contracts and FX currency options not designated as a hedge at December 31, 2017 (in millions of U.S. dollars):

FORWARD CONTRACTS AND CURRENCY OPTIONS AT DECEMBER 31, 2017

				Notional Amount	Average Rate	Fair Value
Buy	**AUD**	Sell	**USD**	0	0.78	0
Buy	**EUR**	Sell	**USD**	5	1.19	0
Buy	**GBP**	Sell	**USD**	13	1.34	0
Buy	**USD**	Sell	**JPY**	0	112.36	0
Buy	**USD**	Sell	**MYR**	1	4.12	0
Buy	**USD**	Sell	**BRL**	3	3.30	0
Buy	**USD**	Sell	**CNY**	2	6.57	0
Buy	**USD**	Sell	**ZAR**	0	12.30	0
Buy	**USD**	Sell	**KRW**	2	1126.00	0
Buy	**CHF**	Sell	**USD**	48	0.98	0
Buy	**CZK**	Sell	**USD**	1	21.32	0
Buy	**USD**	Sell	**EUR**	259	1.20	0
Buy	**HKD**	Sell	**USD**	2	7.82	0
Buy	**HUF**	Sell	**USD**	0	256.41	0
Buy	**JPY**	Sell	**EUR**	10	135.06	0
Buy	**JPY**	Sell	**USD**	26	112.92	0
Buy	**MYR**	Sell	**USD**	29	4.10	0
Buy	**SEK**	Sell	**USD**	3	8.35	0
Buy	**SGD**	Sell	**USD**	73	1.34	0
Buy	**TND**	Sell	**USD**	1	2.47	0
Buy	**TWD**	Sell	**USD**	8	29.86	0
Buy	**CNY**	Sell	**USD**	44	6.60	1
Buy	**PHP**	Sell	**USD**	13	50.54	0
Buy	**MAD**	Sell	**EUR**	10	11.25	0
Buy	**INR**	Sell	**USD**	32	65.59	1
Buy	**KRW**	Sell	**USD**	14	1,111.59	1
Buy	**CNH**	Sell	**USD**	1	6.53	0

Our FX forward contracts and FX currency options, including collars, designated as a hedge, are further described in Note 25 to our Consolidated Financial Statements.

Item 12. Description of Securities Other than Equity Securities

We sell ordinary shares in the United States that are evidenced by American registered certificates (New York Shares). In connection therewith, a holder of our New York Shares may have to pay, either directly or indirectly, certain fees and charges, as described in Item 12D.3. In addition, we receive fees and other direct and indirect payments from our New York Agent that are related to our New York Shares, as described in Item 12D.4.

Fees and Charges that a holder of our New York Shares May Have to Pay

J.P. Morgan collects fees for the delivery and surrender of New York Shares directly from investors depositing or surrendering New York Shares for the purpose of withdrawal or from intermediaries acting for them.

Persons depositing or withdrawing our New York Shares must pay to J.P. Morgan:

Up to $5.00 per 100 New York Shares (or portion of 100 New York Shares) for the issuance of New York Shares, including issuances resulting from a distribution of shares or rights or other property, and cancellation of New York Shares for the purpose of withdrawal, including if the New York Share agreement terminates;

Taxes (including applicable interest and penalties) and other governmental charges;

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Registration fees as may from time to time be in effect for the registration of New York Shares;

Cable, telex, facsimile and electronic transmission and delivery expenses;

Expenses and charges incurred by J.P. Morgan in the conversion of foreign currency or the sale of any securities or property; and

Any charges incurred by J.P. Morgan in connection with compliance with exchange control regulations and other regulatory requirements applicable to New York Shares.

Fees and Other Payments Made by the New York Agent to Us

In 2018, J.P. Morgan paid a total of $0.85 million to us under our New York Share program. Specifically, the following types of fees were paid: our NYSE annual listing fees; investor relations fees paid to third party vendors; J.P. Morgan custodian fees, standard out-of-pocket maintenance costs paid to vendors for the New York Shares (primarily consisting of expenses related to our AGM, such as those for the production and distribution of proxy materials, customization of voting cards and tabulation of shareholder votes) and other expenses related to Sarbanes-Oxley compliance.

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PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15. Controls and Procedures

Disclosure Controls and Procedures

Evaluation

Our management, including the CEO and CFO, performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Securities and Exchange Act of 1934 (Disclosure Controls) as of the end of the period covered by this Form 20-F. Disclosure Controls are controls and procedures designed to reasonably assure that information required to be disclosed in our reports filed under the Securities and Exchange Act of 1934, such as this Form 20-F, is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms. Disclosure Controls are also designed to reasonably assure that such information is accumulated and communicated to our management, including the CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

The evaluation of our Disclosure Controls included a review of the controls objectives and design, our implementation of the controls and their effect on the information generated for use in this Form 20-F. The components of our Disclosure Controls are also evaluated on an ongoing basis by our Corporate Audit Department, which reports directly to our Audit Committee. The overall goals of these various evaluation activities are to monitor our Disclosure Controls, and to modify them as necessary. Our intent is to maintain the Disclosure Controls as dynamic systems that change as conditions warrant.

Based on their evaluation, our CEO and CFO have concluded that, as of the end of the period covered by this Form 20-F, our Disclosure Controls were effective.

Changes in Internal Control over Financial Reporting

There were no changes to our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Securities and Exchange Act of 1934) that occurred during the period covered by this form 20-F that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls

No system of internal control over financial reporting, including one determined to be effective, may prevent or detect all misstatements. It can provide only reasonable assurance regarding financial statement preparation and presentation.

Also, projections of the results of any evaluation of the effectiveness of internal control over financial reporting into future periods are subject to inherent risk. The relevant controls may become inadequate due to changes in circumstances or the degree of compliance with the underlying policies or procedures may deteriorate.

Other Reviews

We have sent this Form 20-F to our Audit Committee and Supervisory Board, which had an opportunity to raise questions with our management and independent auditors before we filed it with the SEC.

Management s Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company s assets that could have a material effect on the financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. See Item 3. Key Information Risk Factors .

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2018, the end of our fiscal year. Management based its assessment on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control-Integrated Framework* (*2013*). Management s assessment included evaluation of such elements as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies and our overall control environment. The management assessment provided sufficient insight into any weaknesses in the effectiveness of the internal risk management and control systems which ensure that the financial reporting does not contain any material inaccuracies and identified the material risks and uncertainties that were relevant for the expectation of the company s continuity for the period of twelve months following the assessment. Based on this assessment the management concluded that, as of December 31, 2018, our internal control over financial reporting was effective and the financial reporting is prepared on a going concern basis.

The effectiveness of the Company s internal control over financial reporting as of December 31, 2018 has been audited by Ernst &Young AG, an independent registered public accounting firm, as stated in their report.

Report of Independent Registered Public Accounting Firm

To the Supervisory Board and Stockholders of STMicroelectronics N.V.

Opinion on Internal Control over Financial Reporting

We have audited STMicroelectronics N.V. s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, STMicroelectronics N.V. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of STMicroelectronics N.V. as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and schedules and our report dated February 28, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young AG

Petit-Lancy, Switzerland

February 28, 2019

Item 16A. Audit Committee Financial Expert

Our Supervisory Board has concluded that Martine Verluyten, the Chair of our Audit Committee, qualifies as an audit committee financial expert as defined in Item 16A and is independent as defined in the listing standards applicable to us as a listed issuer as required by Item 16A(2) of Form 20-F.

Item 16B. Code of Ethics

We have adopted written standards of business conduct and ethics (Code of Conduct) designed to promote honest and ethical business conduct, to deter wrongdoing and to provide principles to which our employees are expected to adhere and advocate. Our Code of Conduct is applicable to all of our employees and senior managers. We believe our Code of Conduct is effective in its mission and we believe our employees are in compliance with the Code of Conduct. We have adapted and will amend our Code of Conduct as appropriate to reflect regulatory or other changes. Our Code of Conduct provides that if any employee or senior manager to whom it applies acts in contravention of the principles set forth therein, we will take appropriate steps in terms of the procedures in place for fair disciplinary action. This action may, in cases of severe breaches, include dismissal. Our Code of Conduct is available on our website in the Corporate Governance section, at http://investors.st.com.

Item 16C. Principal Accountant Fees and Services

Our independent external auditors are elected at the AGM. At our AGM held in May 2015, Ernst & Young was appointed as our independent external auditor for the 2016-2019 fiscal years. The following table presents the aggregate fees for professional audit services and other services rendered to us by Ernst & Young in 2018 and 2017.

	2018	Percentage of Total Fees	2017	Percentage of Total Fees
Audit Fees				
Statutory Audit, Certification, Audit of Individual and Consolidated Financial Statements	4,556,500	96.3%	4,852,000	96.8%
Audit-Related Fees	173,934	3.7%	153,699	3.1%
Non-audit Fees				
Tax Fees			3,879	0.1%
All Other Fees				
Total	**4,730,434**	**100%**	**$ 5,009,578**	**100%**

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Audit Fees consist of fees billed for the annual audit of our Company s Consolidated Financial Statements, the statutory audit of the financial statements of the Company s subsidiaries and consultations on complex accounting issues relating to the annual audit. Audit Fees also include services that only our independent external auditor can reasonably provide, such as comfort letters and carve-out audits in connection with strategic transactions.

Audit-related services are assurance and related fees consisting of the audit of employee benefit plans, due diligence services related to acquisitions and certain agreed-upon procedures.

Tax Fees include fees billed for tax compliance services, including the preparation of original and amended tax returns and claims for refund; tax consultations, such as assistance in connection with tax audits and expatriate tax compliance.

Audit Committee Pre-approval Policies and Procedures

Our Audit Committee is responsible for selecting the independent registered public accounting firm to be employed by us to audit our financial statements, subject to ratification by the Supervisory Board and approval by our shareholders for appointment. Our Audit Committee also assumes responsibility (in accordance with Dutch law) for the retention, compensation, oversight and termination of any independent external auditor employed by us. We adopted a policy (the Policy), which was approved in advance by our Audit Committee, for the pre-approval of audit and permissible non-audit services provided by our independent external auditors. The Policy defines those audit-related services eligible to be approved by our Audit Committee.

All engagements with our independent external auditors, regardless of amount, must be authorized in advance by our Audit Committee, pursuant to the Policy and its pre-approval authorization or otherwise.

The independent external auditors submit a proposal for audit-related services to our Audit Committee on a quarterly basis in order to obtain prior authorization for the amount and scope of the services. The independent external auditors must state in the proposal that none of the proposed services affect their independence. The proposal must be endorsed by the office of our CFO with an explanation of why the service is needed and the reason for sourcing it to the audit firm and validation of the amount of fees requested.

We do not intend to retain our independent external auditors for permissible non-audit services other than by exception and within a limited amount of fees, and the Policy provides that such services must be explicitly authorized by our Audit Committee.

The Chief Audit and Risk Executive is responsible for monitoring that the actual fees are complying with the pre-approval amount and scope authorized by our Audit Committee. During 2018, all services provided to us by Ernst & Young were approved by our Audit Committee pursuant to paragraph (c)(7)(i) of Rule 2-01 of Regulation S-X.

Item 16D. Exemptions from the Listing Standards for Audit Committees

Not applicable.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers

Period	Total Number of Securities Purchased	Average Price Paid per Security	Total Number of Securities Purchased as Part of Publicly Announced Programs	Maximum Number of Securities that May yet be Purchased Under the Programs
2018-01-01 to 2018-01-31				
2018-02-01 to 2018-02-28				
2018-03-01 to 2018-03-31				
2018-04-01 to 2018-04-30				
2018-05-01 to 2018-05-31				
2018-06-01 to 2018-06-30				
2018-07-01 to 2018-07-31				
2018-08-01 to 2018-08-31				
2018-09-01 to 2018-09-30				
2018-10-01 to 2018-10-31				
2018-11-01 to 2018-11-30	3,954,839	12.66	3,954,839	47,000,000
2018-12-01 to 2018-12-31	388,138	12.84	4,342,977	47,000,000

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As of December 31, 2018, we held 12,851,840 of our common shares in treasury pursuant to repurchases made in prior years, and as of January 31, 2019 we held 14,210,188 of such shares.

Item 16F. Change in Registrant s Certifying Accountant.

Not applicable.

Item 16G. Corporate Governance

As we have common shares listed on the NYSE, pursuant to SEC and NYSE rules, in this Item 16G we provide a concise summary of any significant ways in which our corporate governance practices differ from those followed by U.S. companies under NYSE listing standards.

As a Dutch company, we are subject to the Dutch Corporate Governance Code. We have summarized our policies and practices in the field of corporate governance in our Corporate Governance Charter, including our corporate organization, the remuneration principles which apply to our Managing and Supervisory Boards, our information policy and our corporate policies relating to business ethics and conflicts of interests. We are committed to informing our shareholders of any significant changes in our corporate governance policies and practices at our AGM. Along with our Supervisory Board Charter (which we last updated in October 2017 and which also includes the charters of our Supervisory Board Committees) and our Code of Conduct, the current version of our Corporate Governance Charter is posted on our website (www.st.com), and these documents are available in print to any shareholder who may request them.

Below is a description of the significant ways our corporate governance practices as a Dutch company differ from those followed by U.S. companies listed on the NYSE:

Because we are a Dutch company, the Audit Committee is an advisory committee to the Supervisory Board, which reports to the Supervisory Board, and our General Meeting of Shareholders appoints our statutory auditors. Our Audit Committee has established a charter outlining its duties and responsibilities with respect to, among others, the monitoring of our accounting, auditing, financial reporting and the appointment, retention and oversight of our external auditors. In addition, our Audit Committee has established procedures for the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters, and the confidential anonymous submission by our employees regarding questionable accounting or auditing matters.

Pursuant to our Supervisory Board Charter, the Supervisory Board is responsible for handling and deciding on potential reported conflicts of interests between the Company and members of the Supervisory Board, as well as the Managing Board. See Item 7. Major Shareholders and Related Party Transactions .

Our Supervisory Board is carefully selected based upon the combined experience and expertise of its members. In fulfilling their duties under Dutch law, Supervisory Board members serve the best interests of all of our stakeholders and of our business and must act independently in their supervision of our management. Our Supervisory Board has adopted criteria to assess the independence of its members in accordance with corporate governance listing standards of the NYSE. Our Supervisory Board has on various occasions discussed Dutch corporate governance standards, the implementing rules and corporate governance standards of the SEC and of the NYSE, as well as other corporate governance standards. The Supervisory Board has determined, based on the evaluations by an ad hoc committee, the following independence criteria for its members: Supervisory Board members must not have any material relationship with STMicroelectronics N.V., or any of our consolidated subsidiaries, or our management. A material relationship can include commercial, industrial, banking, consulting, legal, accounting, charitable and familial relationships, among others, but does not include a relationship with direct or indirect shareholders.

We believe we are fully compliant with all material NYSE corporate governance standards, to the extent possible for a Dutch company listed on Euronext Paris, Borsa Italiana, as well as the NYSE.

Our consistent commitment to good corporate governance principles is evidenced by:

Our corporate organization under Dutch law that entrusts our management to a Managing Board acting under the supervision and control of a Supervisory Board totally independent from the Managing Board. Members of our Managing Board and of our Supervisory Board are appointed and dismissed by our shareholders;

Our early adoption of policies on important issues such as business ethics and conflicts of interest and strict policies to comply with applicable regulatory requirements concerning financial reporting, insider trading and public disclosures;

Our compliance with Dutch securities laws, because we are a company incorporated under the laws of The Netherlands, as well as our compliance with American, French and Italian securities laws, as applicable, because our shares are listed in these jurisdictions, in addition to our compliance with the corporate, social and financial laws applicable to our subsidiaries in the countries in which we do business;

Our broad-based activities in the field of corporate social responsibility, encompassing environmental, social, health, safety, educational and other related issues including our corporate governance statement which evidences our policy objectives with respect to diversity as well as the results of implementing our diversity policy for the year ended December 31, 2018;

Our implementation of a non-compliance reporting channel (managed by an independent third party) for issues regarding accounting, internal controls or auditing. A special ombudsperson has been appointed by our Supervisory Board, following the proposal of its Audit Committee, to collect all complaints, whatever their source, regarding accounting, internal accounting controls or auditing matters, as well as the confidential, anonymous submission by our employees of concerns regarding questionable accounting or auditing matters;

Our Corporate Ethics Committee and Local Ethics Committees, whose mandate is to provide support to our management in its efforts to foster a business ethics culture consistent across regions, functions and organizations;

Our Chief Compliance Officer, who reports to our CEO, also acts as Executive Secretary to our Supervisory Board; and

Our Chief Audit and Risk Executive, who reports directly to our Audit Committee for Internal Audit and directly to the CEO for ERM is also responsible for our whistle-blowing hotline and related investigations.

No member of the Supervisory Board or Managing Board has been (i) subject to any convictions in relation to fraudulent offenses during the five years preceding the date of this Form 20-F, (ii) no member has been associated with any company in bankruptcy, receivership or liquidation in the capacity of member of the administrative, management or supervisory body, partner with unlimited liability, founder or senior manager in the five years preceding the date of this Form 20-F or (iii) subject to any official public incrimination and/or sanction by statutory or regulatory authorities (including professional bodies) or disqualified by a court from acting as a member of the administrative, management or supervisory bodies of any issuer or from acting in the management or conduct of the affairs of any issuer during the five years preceding the date of this Form 20-F.

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PART III

Item 17. Financial Statements

Not applicable.

Item 18. Financial Statements

Item 19. Exhibits

8.1	Subsidiaries and Equity-method Investments of the Company.
12.1	Certification of Jean-Marc Chery, President and Chief Executive Officer and Sole Member of the Managing Board of STMicroelectronics N.V., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certification of Lorenzo Grandi, President, Finance, Infrastructure and Services and Chief Financial Officer of STMicroelectronics N.V., pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
13.1	Certification of Jean-Marc Chery, President and Chief Executive Officer and Sole Member of the Managing Board of STMicroelectronics N.V., and Lorenzo Grandi, President, Finance, Infrastructure and Services and Chief Financial Officer of STMicroelectronics N.V., pursuant to 18 U.S.C. §1350, as adopted by Section 906 of the Sarbanes-Oxley Act of 2002
15.1	Consent of Independent Registered Public Accounting Firm
101	Interactive Data File

CERTAIN TERMS

ASD	application-specific discrete technology
ASIC	application-specific integrated circuit
ASSP	application-specific standard product
BCD	bipolar, CMOS and DMOS process technology
Bi-CMOS	bipolar and CMOS process technology
CMOS	complementary metal-on silicon oxide semiconductor
DMOS	diffused metal-on silicon oxide semiconductor
DRAMs	dynamic random access memory
EMAS	Eco-Management and Audit Scheme, the voluntary European Community scheme for companies performing industrial activities for the evaluation and improvement of environmental performance
EEPROM	electrically erasable programmable read-only memory
FD-SOI	fully depleted silicon-on-insulator
EMS	electronics manufacturing services
EWS	electrical wafer sorting
GPS	global positioning system
HID	high-intensity discharge
IC	integrated circuit
IGBT	insulated gate bipolar transistors
IP	intellectual property
IPAD	integrated passive and active devices
ISO	International Organization for Standardization
LED	light-emitting diode
MASK WORK	the two- or three-dimensional layout of an integrated circuit.
MEMS	micro-electro-mechanical system
MOS	metal-on silicon oxide semiconductor process technology
MOSFET	metal-on silicon oxide semiconductor field effect transistor
NFC	near field communication
OEM	original equipment manufacturer
QFP	quad-flat no-leads package
QFN	quad-flat package
RAM	random access memory
RF	radio frequency
SAM	serviceable available market
SiC	silicon carbide
SOI	silicon on insulator
SOIC	small-outline integrated circuit
TAM	total available market
VIPpower	vertical integration power

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SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

STMICROELECTRONICS N.V.

Date: February 28, 2019

By: /s/ Jean-Marc Chery
Jean-Marc Chery
President and Chief Executive Officer and Sole Member of our Managing Board

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Report of Independent Registered Public Accounting Firm

To the Supervisory Board and Stockholders of STMicroelectronics N.V.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of STMicroelectronics N.V. (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedule listed on page S-1 (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 28, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

/s/ Ernst & Young AG

We have served as the Company s auditor since 2016.

Petit-Lancy, Switzerland

February 28, 2019

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STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF INCOME

	Twelve months ended		
In million of U.S. dollars except per share amounts	**December 31, 2018**	**December 31, 2017**	**December 31, 2016**
Net sales	9,612	8,308	6,944
Other revenues	52	39	29
Net revenues	**9,664**	**8,347**	**6,973**
Cost of sales	(5,803)	(5,075)	(4,514)
Gross profit	**3,861**	**3,272**	**2,459**
Selling, general and administrative	(1,095)	(981)	(907)
Research and development	(1,398)	(1,296)	(1,331)
Other income and expenses, net	53	55	99
Impairment, restructuring charges and other related closure costs	(21)	(45)	(93)
Operating income	**1,400**	**1,005**	**227**
Interest expense, net	(7)	(22)	(20)
Other components of pension benefit costs	(11)	(12)	(13)
Income (loss) on equity-method investments	8	(2)	7
Loss on financial instruments, net	(1)	(16)	
Income before income taxes and noncontrolling interest	**1,389**	**953**	**201**
Income tax expense	(96)	(143)	(31)
Net income	**1,293**	**810**	**170**
Net income attributable to noncontrolling interest	(6)	(8)	(5)
Net income attributable to parent company	**1,287**	**802**	**165**
Earnings per share (Basic) attributable to parent company stockholders	**1.43**	**0.91**	**0.19**
Earnings per share (Diluted) attributable to parent company stockholders	**1.41**	**0.89**	**0.19**

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

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STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In million of U.S. dollars	Twelve months ended December 31, 2018	December 31, 2017	December 31, 2016
Net income	**1,293**	**810**	**170**
Other comprehensive income (loss), net of tax:			
Currency translation adjustments arising during the period	(87)	224	(57)
Foreign currency translation adjustments	(87)	224	(57)
Net unrealized gains arising during the period	(2)	(2)	
Net unrealized gains (losses) on securities	(2)	(2)	
Net unrealized (losses) gains arising during the period	(79)	122	(33)
Less: reclassification adjustment for (income) losses included in net income	(1)	(30)	9
Net unrealized gains (losses) on derivatives	(80)	92	(24)
Net gains (losses) arising during the period	(11)	3	(8)
Less: amortization of prior service cost included in net periodic pension cost	1		1
Defined benefit pension plans	(10)	3	(7)
Other comprehensive (loss) income, net of tax	**(179)**	**317**	**(88)**
Comprehensive income (loss)	**1,114**	**1,127**	**82**
Less: comprehensive income (loss) attributable to noncontrolling interest	6	8	6
Comprehensive income (loss) attributable to the company s stockholders	**1,108**	**1,119**	**76**

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STMicroelectronics N.V.

CONSOLIDATED BALANCE SHEETS

	As at	
In million of U.S. dollars	**December 31, 2018**	**December 31, 2017**
Assets		
Current assets:		
Cash and cash equivalents	2,266	1,759
Marketable securities	330	431
Trade accounts receivable, net	1,277	1,149
Inventories	1,562	1,335
Other current assets	419	425
Total current assets	**5,854**	**5,099**
Goodwill	121	123
Other intangible assets, net	212	209
Property, plant and equipment, net	3,495	3,094
Non-current deferred tax assets	672	624
Long-term investments	61	57
Other non-current assets	452	475
	5,013	**4,582**
Total assets	**10,867**	**9,681**
Liabilities and equity		
Current liabilities:		
Short-term debt	146	118
Trade accounts payable	981	893
Other payables and accrued liabilities	874	897
Dividends payable to stockholders	60	60
Accrued income tax	59	52
Total current liabilities	**2,120**	**2,020**
Long-term debt	1,764	1,583
Post-employment benefit obligations	385	385
Long-term deferred tax liabilities	14	11
Other long-term liabilities	160	215
	2,323	**2,194**
Total liabilities	**4,443**	**4,214**

Commitment and contingencies		
Equity		
Parent company stockholders equity		
Common stock (preferred stock: 540,000,000 shares authorized, not issued; common stock: Euro 1.04 par value, 1,200,000,000 shares authorized, 911,156,920 shares issued, 898,305,080 shares outstanding)	1,157	1,157
Capital surplus	2,843	2,718
Retained earnings	1,991	973
Accumulated other comprehensive income	509	688
Treasury stock	(141)	(132)
Total parent company stockholders equity	6,359	5,404
Noncontrolling interest	65	63
Total equity	**6,424**	**5,467**
Total liabilities and equity	**10,867**	**9,681**

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

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STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF EQUITY

In million of U.S. dollars, except per share amounts	Common Stock	Capital Surplus	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interest	Total Equity
Balance as of December 31, 2015	**1,157**	**2,779**	**(289)**	**525**	**460**	**61**	**4,693**
Stock-based compensation expense		39	47	(47)			39
Comprehensive income (loss):							
Net income				165		5	170
Other comprehensive income (loss), net of tax				(89)		1	(88)
Comprehensive income (loss)							82
Dividends to noncontrolling interest						(6)	(6)
Dividends, $0.24 per share				(212)			(212)
Balance as of December 31, 2016	**1,157**	**2,818**	**(242)**	**431**	**371**	**61**	**4,596**
Repurchase of common stock			(297)				(297)
Issuance of senior unsecured convertible bonds		242					242
Settlement of senior unsecured convertible bonds		(403)	361				(42)
Stock-based compensation expense		61	46	(46)			61
Comprehensive income (loss):							
Net income				802		8	810
Other comprehensive income (loss), net of tax					317		317
Comprehensive income (loss)							1,127
Dividends to noncontrolling interest						(6)	(6)
Dividends, $0.24 per share				(214)			(214)
Balance as of December 31, 2017	**1,157**	**2,718**	**(132)**	**973**	**688**	**63**	**5,467**
Repurchase of common stock			(62)				(62)
Stock-based compensation expense		125	53	(53)			125
Comprehensive income (loss):							
Net income				1,287		6	1,293
Other comprehensive income (loss), net of tax				(179)			(179)
Comprehensive income (loss)							1,114
Dividends to noncontrolling interest						(4)	(4)
Dividends, $0.24 per share				(216)			(216)

Balance as of December 31, 2018	**1,157**	**2,843**	**(141)**	**1,991**	**509**	**65**	**6,424**

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

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STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Twelve Months Ended		
In million of U.S. dollars	**December 31, 2018**	**December 31, 2017**	**December 31, 2016**
Cash flows from operating activities:			
Net income	**1,293**	**810**	**170**
Items to reconcile net income and cash flows from operating activities:			
Depreciation and amortization	791	650	696
Interest and amortization of issuance costs on convertible bonds	37	34	22
Interest paid on settled convertible debt		(30)	
Loss on financial instruments, net		16	
Non-cash stock-based compensation	125	61	38
Other non-cash items	(116)	(85)	(85)
Deferred income tax	20	60	(34)
(Income) loss on equity-method investments	(8)	2	(7)
Impairment, restructuring charges and other related closure costs, net of cash payments	(12)	(6)	34
Changes in assets and liabilities:			
Trade receivables, net	(155)	(206)	(121)
Inventories	(254)	(94)	63
Trade payables	4	141	68
Other assets and liabilities, net	120	324	199
Net cash from operating activities	**1,845**	**1,677**	**1,043**
Cash flows from investing activities:			
Payment for purchase of tangible assets	(1,263)	(1,301)	(611)
Proceeds from sale of tangible assets	1	3	4
Payment for purchase of marketable securities		(99)	
Proceeds from matured marketable securities	100		
Investment in short-term deposits	(26)		
Proceeds from matured short-term deposits	26		
Payment for purchase of intangible assets	(50)	(71)	(42)
Payment for business acquisitions, net of cash and cash equivalents acquired			(78)
Net cash used in investing activities	**(1,212)**	**(1,468)**	**(727)**
Cash flows from financing activities:			
Proceeds from long-term debt	281	7	13
Net proceeds from issuance of senior unsecured convertible bonds		1,502	

Repayment of long-term debt	(103)	(119)	(191)
Repayment of issued debt		(970)	
Repurchase of common stock	(62)	(297)	
Dividends paid to stockholders	(216)	(214)	(251)
Dividends paid to noncontrolling interests	(4)	(6)	(6)
Payment of withholding tax on vested shares	(18)	(9)	(3)
Other financing activities			(1)
Net cash used in financing activities	**(122)**	**(106)**	**(439)**
Effect of changes in exchange rates	(4)	27	(19)
Net cash increase (decrease)	**507**	**130**	**(142)**
Cash and cash equivalents at beginning of the period	**1,759**	**1,629**	**1,771**
Cash and cash equivalents at end of the period	**2,266**	**1,759**	**1,629**
Supplemental cash information:			
Interest paid	12	12	13
Income tax paid	60	52	42

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

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(In millions of U.S. dollars, except share and per-share amounts)

1. THE COMPANY

STMicroelectronics N.V. (the Company) is registered in The Netherlands with its corporate legal seat in Amsterdam, the Netherlands, and its corporate headquarters located in Geneva, Switzerland.

The Company is a global independent semiconductor company 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 Company participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

2. ACCOUNTING POLICIES

The accounting policies of the Company conform to accounting principles generally accepted in the United States of America (U.S. GAAP). All balances and values in the current and prior periods are in millions of U.S. dollars, except share and per-share amounts. Under Article 35 of the Company s Articles of Association, the financial year extends from January 1 to December 31, which is the period-end of each fiscal year.

2.1 Principles of consolidation

The Company s consolidated financial statements include the assets, liabilities, results of operations and cash flows of its majority-owned subsidiaries. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases. Intercompany balances and transactions have been eliminated in consolidation.

The Company assesses each investment in equity securities to determine whether the investee is a Variable Interest Entity (VIE). The Company consolidates the VIEs for which the Company is determined to be the primary beneficiary. The primary beneficiary of a VIE is the party that: (i) has the power to direct the most significant activities of the VIE and (ii) is obligated to absorb losses or has the rights to receive returns that would be considered significant to the VIE. Assets, liabilities, and the noncontrolling interest of newly consolidated VIEs are initially measured at fair value in the same manner as if the consolidation resulted from a business combination.

When the Company owns some, but not all, of the voting stock of a consolidated entity, the shares held by third parties represent a noncontrolling interest. The consolidated financial statements are prepared based on the total amount of assets and liabilities and income and expenses of the consolidated subsidiaries. However, the portion of these items that does not belong to the Company is reported on the line Noncontrolling interest in the consolidated financial statements.

2.2 Use of estimates

The preparation of consolidated financial statements in accordance with U.S. GAAP requires management to make estimates and assumptions. The primary areas that require significant estimates and judgments by management include, but are not limited to:

- sales returns and allowances,

- inventory obsolescence reserves and normal manufacturing capacity thresholds to determine costs capitalized in inventory,

- recognition and measurement of loss contingencies,

- valuation at fair value of assets acquired or sold, including intangibles, goodwill, investments and tangible assets,

- annual and trigger-based impairment review of goodwill and intangible assets, as well as the assessment, in each reporting period, of events, which could trigger impairment testing on long-lived assets,

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assessment of other-than-temporary impairment charges on financial assets, including equity-method investments,

recognition and measurement of restructuring charges and other related exit costs,

assumptions used in assessing the number of awards expected to vest on stock-based compensation plans,

assumptions used in calculating pension obligations and other long-term employee benefits,

allocation between debt and equity of the various components of an issued, or converted, hybrid instrument and measurement at fair value of the liability component based on a discount rate adjustment technique income approach, and

determination of the amount of taxes expected to be paid and tax benefit expected to be received, including deferred income tax assets, valuation allowance and provisions for uncertain tax positions and claims.

The Company bases the estimates and assumptions on historical experience and on various other factors such as market trends, market information used by market participants and the latest available business plans that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. While the Company regularly evaluates its estimates and assumptions, the actual results experienced by the Company could differ materially and adversely from those estimates.

2.3 Foreign currency

The U.S. dollar is the reporting currency of the Company. The U.S. dollar is the currency of the primary economic environment in which the Company operates since the worldwide semiconductor industry uses the U.S. dollar as a currency of reference for actual pricing in the market. Furthermore, the majority of the Company s transactions are denominated in U.S. dollars, and revenues from external sales in U.S. dollars largely exceed revenues in any other currency. However, certain significant costs are largely incurred in the countries of the Euro zone and other non-U.S. dollar currency areas.

The functional currency of each subsidiary of the Company is either the local currency or the U.S. dollar, depending on the basis of the economic environment in which each subsidiary operates. Foreign currency transactions, including operations in local currency when the U.S. dollar is the functional currency, are measured into the functional currency using the prevailing exchange rate. Foreign exchange gains and losses resulting from the re-measurement at reporting date of monetary assets and liabilities denominated in foreign currencies are recognized in the consolidated statements of income on the line Other income and expenses, net .

For consolidation purposes, the results and financial position of the subsidiaries whose functional currency is different from the U.S. dollar are translated into the reporting currency as follows:

(a) assets and liabilities for each consolidated balance sheet presented are translated at the closing exchange rate as of the balance sheet date;

(b) income and expenses for each consolidated statement of income presented are translated at the average monthly exchange rate;

(c) the resulting exchange differences are reported as Currency Translation Adjustments (CTA), a component of Other comprehensive income (loss) in the consolidated statements of comprehensive income.

2.4 Cash and cash equivalents

Cash and cash equivalents includes cash on hand, deposits held at call with external financial institutions and other short-term highly liquid investments with original maturities to the Company of three months or less. They are both readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. Bank overdrafts are not netted against cash and cash equivalents and are shown as part of current liabilities on the consolidated balance sheets.

2.5 Trade accounts receivable

Trade accounts receivable are amounts due from customers for goods sold and services rendered to third parties in the ordinary course of business. They are reported net of allowances for doubtful accounts. The Company maintains an allowance for doubtful accounts for potential estimated losses resulting from its customers inability to make required payments. Additionally, the Company evaluates its customers financial condition periodically and records an allowance for any specific account it considers as doubtful. The carrying amount of the receivable is thus reduced through the use of an allowance account, and the amount of the charge is recognized on the line Selling, general and administrative in the consolidated statements of income. Subsequent recoveries, if any, of amounts previously provided for are credited against the same line in the consolidated statements of income. When a trade accounts receivable is uncollectible, it is written-off against the allowance account for trade accounts receivable.

In the event of transfers of receivables such as factoring, the Company derecognizes the receivables only to the extent that the Company has surrendered control over the receivables in exchange for a consideration other than beneficial interest in the transferred receivables.

2.6 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is based on the weighted average cost by adjusting standard cost to approximate actual manufacturing costs on a quarterly basis; the cost is therefore dependent on the Company s manufacturing performance. In the case of underutilization of manufacturing facilities, the costs associated with the unused capacity are not included in the valuation of inventories but charged directly to cost of sales. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation.

The Company performs, on a continuous basis, inventory write-offs of products, which have the characteristics of slow-moving, old production dates and technical obsolescence. Indeed, the Company evaluates its product inventory to identify obsolete or slow-selling items as well as inventory that is not of saleable quality and records a specific reserve if the Company estimates the inventory will eventually become obsolete. Reserve for obsolescence is estimated for excess uncommitted inventory based on the previous quarter sales, order backlog and production plans.

2.7 Income taxes

Income tax for the period comprises current and deferred income tax. Current income tax represents the income tax expected to be paid or the tax benefit expected to be received related to the current year taxable profit and loss in each tax jurisdiction. Deferred income tax is recognized, using the liability method, for all temporary differences arising between the tax bases of assets and liabilities and their carrying amount in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination or specific capital investment tax incentive that, at the time of the transaction, affects neither accounting nor taxable profit and loss. Moreover, deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill. Deferred income tax is determined using tax rates and laws that are enacted at the balance sheet date and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled. The effect on deferred tax assets and liabilities from changes in tax laws and tax rates is recognized on the line Income tax benefit (expense) in the consolidated statements of income in the period in which the law is enacted. Deferred income tax assets are recognized in full, but the Company assesses whether future taxable profit will be available against which temporary differences can be utilized. A valuation allowance is provided for deferred tax assets when management considers it is more likely than not that they will not be realized.

The Company recognizes a deferred tax liability on undistributed earnings of subsidiaries when there is a presumption that the earnings will be remitted to the parent. A deferred tax asset is recognized on compensation for the grant of stock awards to the extent that such charge constitutes a temporary difference in the subsidiaries local tax jurisdictions. Changes in the stock price do not impact the deferred tax asset and do not result in any adjustments prior to vesting. When the actual tax deduction is determined, generally upon vesting, it is compared to the deferred tax asset as recognized over the vesting period. When a windfall tax benefit is determined (as the excess tax benefit of the actual tax deduction over the deferred tax asset) the excess tax benefit is recorded as a discrete item in the consolidated statements of income on the line Income tax benefit (expense) . In case of shortfall, only the actual tax benefit is to be recognized in the consolidated financial statements and the Company writes off the deferred tax asset at the level of the actual tax deduction.

At each reporting date, the Company assesses all material open income tax positions in all tax jurisdictions to determine any uncertain tax positions. The Company uses a two-step process for the evaluation of uncertain tax positions. The first step consists in determining whether a benefit may be recognized; the assessment is based on a more-likely-than-not recognition threshold. If the sustainability is lower than 50%, a full provision should be accounted for. In case of a sustainability threshold in step one higher than 50%, the Company must perform a second step in order to measure the amount of recognizable tax benefit, net of any liability for tax uncertainties. The measurement methodology in step two is based on a cumulative probability approach, resulting in the recognition of the largest amount that is greater than 50% likely of being realized upon settlement with the taxing authority. The unrecognized tax benefit is recorded as a reduction of a deferred tax asset to the extent that a net operating loss carryforward, a similar tax loss, or a tax credit carryforward is available at the reporting date under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of the tax position. The Company accrues for interest and penalties on uncertain tax liabilities reported on the consolidated balance sheets. Interests and penalties are classified as components of income tax expense in the consolidated statements of income.

2.8 Assets held for sale

Asset groups are classified as assets held for sale when their carrying amount is to be recovered principally through a sale transaction rather than through continuing use. The asset groups are classified as assets held for sale when the following conditions have been met: management has approved the plan to sell; assets are available for immediate sale; assets are actively being marketed; sale is probable of occurring within one year; price is reasonable in the market and it is unlikely that there will be significant changes in the assets to be sold or a withdrawal to the plan to sell. Asset groups classified as held for sale are reported as current assets in the consolidated balance sheets at the lower of their carrying amount and fair value less costs to sell. Long-lived assets classified as held for sale are no longer depreciated. When the held-for-sale accounting treatment requires an impairment charge for the difference between the carrying amount and fair value, such impairment is reflected on the consolidated statements of income on the line Impairment, restructuring charges and other related closure costs .

2.9 Business combinations and goodwill

The purchase accounting method is applied to all business combinations. The identifiable assets acquired, equity instruments issued, and liabilities assumed are measured at fair value on the acquisition date. Any contingent purchase price and acquired contingencies are recorded at fair value on the acquisition date and at each reporting date. Acquisition-related transaction costs and restructuring costs relating to the acquired business are expensed as incurred. Acquired in-process research and development (IPR&D) is capitalized and recorded as an intangible asset on the acquisition date, subject to impairment testing until the research or development is completed or abandoned. The excess of the aggregate of the consideration transferred and the fair value of any noncontrolling interest in the acquiree over the net of the acquisition-date fair value of the identifiable assets acquired and liabilities assumed is recorded as goodwill. In case of a bargain purchase, the Company reassesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed; the noncontrolling interest in the acquiree, if any; the Company s previously held equity interest in the acquiree, if any; and the consideration transferred. If after this review, a bargain purchase is still indicated, it is recognized in earnings attributed to the Company. The purchase of additional interests in a partially owned subsidiary is treated as an equity transaction as well as all transactions concerning the sale of subsidiary stock or the issuance of stock by the partially owned subsidiary as long as there is no change in control of the subsidiary. If as a consequence of selling subsidiary shares, the Company no longer controls the subsidiary, the Company recognizes a gain or loss in earnings.

Goodwill is carried at cost less accumulated impairment losses. Goodwill is not amortized but is tested annually for impairment, or more frequently if indicators of impairment exist. Goodwill subject to potential impairment is tested at a reporting unit level. The impairment test determines whether the fair value of each reporting unit for which goodwill is allocated is lower than the total carrying amount of relevant net assets allocated to such reporting unit, including its allocated goodwill. If lower, the implied fair value of the reporting unit goodwill is then compared to the carrying value of the goodwill and an impairment charge is recognized for any excess in the consolidated statements of income on the line Impairment, restructuring charges and other related closure costs . Significant management judgments and estimates are used in forecasting the future discounted cash flows associated with the reporting unit, including: the applicable industry s sales volume forecast and selling price evolution, the reporting unit s market penetration and its revenues evolution, the market acceptance of certain new technologies and products, the relevant cost structure, the discount rates applied using a weighted average cost of capital and the perpetuity rates used in calculating cash flow terminal values.

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2.10 Intangible assets with finite useful lives

Intangible assets subject to amortization include the intangible assets purchased from third parties recorded at cost and intangible assets acquired in business combinations recorded at fair value. Amortization begins when the intangible asset is available for use and is calculated using the straight-line method to allocate the cost of the intangible assets over their estimated useful lives.

The carrying value of intangible assets with finite useful lives is evaluated whenever changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized in the consolidated statements of income on the line Impairment, restructuring charges and other related closure costs for the amount by which the asset s carrying amount exceeds its fair value. The Company evaluates the remaining useful life of an intangible asset at each reporting date to determine whether events and circumstances warrant a revision to the remaining period of amortization.

Trademarks, technologies and licenses

Separately acquired trademarks and licenses are recorded at historical cost. Trademarks and licenses acquired in a business combination are recognized at fair value at the acquisition date. Trademarks and licenses have a finite useful life which ranges from 3 to 7 years and are carried at cost less accumulated amortization and impairment losses, if any.

Computer software

Separately acquired computer software is recorded at historical cost. Costs associated with maintaining computer software programs are expensed as incurred and reported as Cost of sales , Selling, general and administrative , or Research and development in the consolidated statements of income according to their intended use. The capitalization of costs for internally generated software developed by the Company for its internal use begins when the preliminary project stage is completed and when the Company, implicitly or explicitly, authorizes and commits to funding a computer software project. It must be probable that the project will be completed and will be used to perform the function intended. Amortization on computer software begins when the software is available for use and is calculated using the straight-line method over the estimated useful life, which does not exceed 4 years.

2.11 Property, plant and equipment

Property, plant and equipment are stated at historical cost, net of accumulated depreciation and any impairment losses. Property, plant and equipment acquired in a business combination are recognized at fair value at the acquisition date. Major additions and improvements are capitalized, while minor replacements and repairs are expensed and reported as Cost of sales , Selling, general and administrative , or Research and development in the consolidated statements of income according to their intended use.

Land is not depreciated. Depreciation on fixed assets is computed using the straight-line method over their estimated useful lives, as follows:

Buildings	33 years
Facilities and leasehold improvements	5-10 years
Machinery and equipment	2-10 years

Computer and R&D equipment	3-6 years
Other	2-5 years

The Company evaluates each period whether there is reason to suspect that tangible assets or groups of assets held and used might not be recoverable. Several impairment indicators exist for making this assessment, such as: restructuring plans, significant changes in the technology, market, economic or legal environment in which the Company operates, available evidence of obsolescence of the asset, or indication that its economic performance is, or will be, worse than expected. In determining the recoverability of assets to be held and used, the Company initially assesses whether the carrying value of the tangible assets or group of assets exceeds the undiscounted cash flows associated with these assets. If exceeded, the Company then evaluates whether an impairment charge is required by determining if the asset s carrying value also exceeds its fair value. This fair value is normally estimated by the Company based on independent market appraisals or the sum of discounted future cash flows, using market assumptions such as the utilization of the Company s fabrication facilities and the ability to upgrade such facilities, change in the selling price and the adoption of new technologies. The Company also evaluates, and adjusts if appropriate, the assets useful lives, at each date or when impairment indicators are identified.

When property, plant and equipment are retired or otherwise disposed of, the net book value of the assets is removed from the Company s books. Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are included in Other income and expenses, net in the consolidated statements of income.

Lease arrangements in which the Company has substantially all the risks and rewards of ownership are classified as capital leases. Assets leased under capital leases are included in Property, plant and equipment, net on the consolidated balance sheets and recorded at inception at the lower of their fair value and the present value of the minimum lease payments. They are depreciated over the shorter of their estimated useful life and the lease term unless there is a reasonable certainty that ownership will be obtained by the end of the lease term. The financial liability corresponding to the contractual obligation to proceed to future lease payments is included as Long-term debt on the consolidated balance sheets, as described in Note 2.14. Lease arrangements classified as operating leases are arrangements in which the lessor retains a significant portion of the risks and rewards of ownership of the leased assets. Payments made under operating leases are recognized on a straight-line basis over the lease period and reported as Cost of sales , Selling, general and administrative , or Research and development in the consolidated statements of income according to the intended use of the leased asset.

2.12 Investments in equity securities

Investments in equity securities that have readily determinable fair values and for which the Company does not have the ability to exercise significant influence are classified as equity securities measured at fair value through earnings, as described in Note 2.23. For investments in equity securities without readily determinable fair values and for which the Company does not have the ability to exercise significant influence, the Company has elected to apply the cost-method as a measurement alternative. Under the cost-method of accounting, investments are carried at historical cost, less impairment adjusted for subsequent observable price changes. An impairment loss is recorded when there are identified events or changes in circumstances that may have a significant adverse effect on the value of the investment. The loss is immediately recorded in the consolidated statements of income on the line Gain (loss) on financial instruments, net when it is assessed to be other-than-temporary and is based on the Company s assessment of any significant and sustained reductions in the investment s value. Gains and losses on investments sold are determined on the specific identification method and are recorded as a non-operating element on the line Gain (loss) on financial instruments, net in the consolidated statements of income.

Equity-method investments are all entities over which the Company has the ability to exercise significant influence but not control, generally representing a shareholding of between 20% and 50% of the voting rights. These investments are valued under the equity-method and are initially recognized at cost. Goodwill on equity-method investments is included in the carrying value of the investment and is not individually tested for impairment. The Company s share in the result of operations of equity-method investments is recognized in the consolidated statements of income on the line Income (loss) on equity-method investments and in the consolidated balance sheets as an adjustment to the carrying amount of the investments. Where there has been a change recognized directly in the equity of the investee, the Company recognizes its share in the adjustment, when applicable, directly in the consolidated statement of equity. The financial statements of the equity-method investments are prepared for the same reporting period as the Company or with a time lag not exceeding three months if the investee cannot issue consolidated financial statements within the closing timeframe requirements of the Company. At each period-end, the Company assesses whether there is objective evidence that its interests in equity-method investments are impaired. Once a determination is made that an other-than-temporary impairment exists, the Company writes down the carrying value of the equity-method investment to its fair value at the balance sheet date, which establishes a new cost basis. The fair value of an equity-method investment is measured on a non-recurring basis using primarily a combination of an income approach, based on discounted cash flows, and a market approach with financial metrics of comparable public companies.

2.13 Provisions

In determining loss contingencies, the Company considers the likelihood of the incurrence of a liability as well as the ability to reasonably estimate the amount of such loss or liability. An estimated loss from a loss contingency is accrued when information available indicates that it is probable that a liability had been incurred at the date of the consolidated financial statements and when the amount of the loss can be reasonably estimated.

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2.14 Long-term debt

(a) Convertible debt

The Company evaluates at initial recognition of a convertible debt the different components and features of the hybrid instruments and determines whether certain elements are embedded derivative instruments which require bifurcation. Components of convertible debt instruments that may be settled in cash upon conversion based on a net-share settlement basis are accounted for separately as long-term debt and equity when the conversion feature of the convertible bonds constitute an embedded equity instrument. When an equity instrument is identified, proceeds from issuance are allocated between debt and equity by measuring first the liability component and then determining the equity component as a residual amount. The liability component is measured as the fair value of a similar nonconvertible debt, which results in the recognition of a debt discount. On subsequent periods, the Company amortizes the debt discount through earnings on the line Interest income (expense), net of the consolidated statements of income, using the interest method, based on the expected maturity of the debt. The equity component, reported on the line Capital Surplus of the consolidated statement of shareholders equity, is not remeasured.

Debt issuance costs are reported as a deduction of debt. They are subsequently amortized through earnings on the line Interest income (expense), net of the consolidated statements of income, using the effective interest rate method.

In case of conversion from the bondholders, the fair value of the consideration transferred is allocated between the liability component and the equity component. The difference between the carrying amount of the debt at the settlement date and the fair value of the debt component is recorded in earnings as a loss on debt extinguishment and reported on the line Loss on financial instruments, net of the consolidated statements of income. The liability component is measured as the fair value of a similar nonconvertible debt prior to settlement. The reacquired equity component is recorded in equity and reported on the line Capital Surplus of the consolidated statement of shareholders equity.

(b) Bank loans

Bank loans and non-convertible senior bonds are recognized at historical cost, net of debt issuance costs incurred. They are subsequently reported at amortized cost; any difference between the proceeds (net of debt issuance costs) and the redemption value is recognized through earnings on the line Interest income (expense), net of the consolidated statements of income over the period of the borrowings using the effective interest rate method.

(c) Capital leases

Lease arrangements in which the Company has substantially all the risks and rewards of ownership are classified as capital leases. The Company reports the leased assets on the line Property, plant and equipment, net on the consolidated balance sheets and recognizes a financial liability for the contractual obligation to future lease payments, which is reported as Long-term debt on the consolidated balance sheets. Each lease payment is allocated between the debt repayment and interest expense.

2.15 Employee benefits

(a) Pension obligations

The Company sponsors various pension schemes for its employees. These schemes conform to local regulations and practices in the countries in which the Company operates. Such plans include both defined benefit and defined contribution plans. For defined benefit pension plans, the liability recognized in the consolidated balance sheets is the present value of the defined benefit obligation at the balance sheet date less the fair value of plan assets. The overfunded or underfunded status of the defined benefit plans are calculated as the difference between plan assets and the projected benefit obligations. Significant estimates are used in determining the assumptions incorporated in the calculation of the pension obligations, which is supported by input from independent actuaries. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in Accumulated Other Comprehensive Income (Loss) in the consolidated statements of equity and are charged or credited to income over the employees expected average remaining working lives. Past service costs are recognized immediately in earnings, unless the changes to the pension scheme are conditional on the employees remaining in service for a specified period of time (the vesting period). In this case, the past service costs are recognized in Accumulated Other Comprehensive Income (Loss) in the consolidated statements of equity and are amortized on a straight-line basis over the vesting period. The net periodic benefit cost of the year is determined based on the assumptions used at the end of the previous year.

For defined contribution pension plans, the Company pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Company has no further payment obligations once the contributions have been paid. The contributions are recognized as employee benefit expense when they are due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

(b) Other post-employment obligations

The Company provides post-employment benefits to some of its retirees. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and to the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment using an accounting methodology similar to that for defined benefit pension plans. Actuarial gains and losses arising from experience adjustments, and changes in actuarial assumptions, are charged or credited to income over the expected average remaining working lives of the related employees.

(c) Termination benefits

Termination benefits are payable when an employee is involuntarily terminated, or whenever an employee accepts voluntary termination in exchange for termination benefits. For the accounting treatment and timing recognition of involuntary termination benefits, the Company distinguishes between one-time termination benefit arrangements and ongoing termination benefit arrangements. A one-time termination benefit arrangement is established by a termination plan and applies to a specified termination event. One-time involuntary termination benefits are recognized as a liability when the termination plan meets certain criteria and has been communicated to employees. If employees are required to render future service in order to receive these one-time termination benefits, the liability is recognized ratably over the future service period. Termination benefits other than one-time termination benefits are termination benefits for which the communication criterion is not met but that are committed to by management, or termination obligations that are not specifically determined in a new and single plan. These termination benefits are all legal, contractual and past practice termination obligations to be paid to employees in case of involuntary termination. These termination benefits are accrued for when commitment creates a present obligation to others for the benefits expected to be paid, when it is probable that employees will be entitled to the benefits and the amount can be reasonably estimated.

In case of special termination benefits related to voluntary redundancy programs, the Company recognizes a provision for voluntary termination benefits at the date on which the employee irrevocably accepts the offer and the amount can be reasonably estimated.

(d) Profit-sharing and bonus plans

The Company recognizes a liability and an expense for bonuses and profit-sharing plans when a contractual obligation exists or where there is a past practice that has created a present obligation.

(e) Other long-term employee benefits

The Company provides long-term employee benefits such as seniority awards in certain countries. The entitlement to these benefits is usually conditional on the employee completing a minimum service period. The expected costs of these benefits are accrued over the period of employment. Actuarial gains and losses arising from experience adjustments, and changes in actuarial assumptions, are charged or credited to earnings in the period of change. These obligations are valued annually with the assistance of independent qualified actuaries.

(f) Share-based compensation

The Company grants unvested stock awards to senior executives and selected employees for services. The awards granted to employees vest over a three-year service period. For certain employees, awards contingently vest upon achieving certain performance conditions. The Company measures the cost of the awards based on the grant-date fair value of the awards, reflecting the market price of the underlying shares at the date of the grant, reduced by the present value of the dividends expected to be paid on the shares during the requisite service period. That cost is recognized using graded vesting over the period during which an employee is required to provide service in exchange for the award or the requisite service period. Compensation is recognized only for the awards that ultimately vest. The compensation cost is recorded through earnings against equity, under Capital surplus in the consolidated statements of equity. The compensation cost is calculated based on the number of awards expected to vest, which includes assumptions on the number of awards to be forfeited due to the employees failing to fulfill the service condition, and forfeitures following the non-completion of one or more performance conditions.

Liabilities for the Company s portion of payroll taxes are recognized at vesting, which is the event triggering the payment of the social contributions in most of the Company s local tax jurisdictions. Employee-related social charges are measured based on the intrinsic value of the share and recorded at vesting date.

2.16 Share capital

Ordinary shares are classified as Common stock within equity on the consolidated balance sheets. Incremental costs directly attributable to the issuance of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Where the Company purchases its own equity share capital (treasury stock), the consideration paid, including any directly attributable incremental costs (net of income taxes), is deducted from equity attributable to the Company s shareholders until the shares are cancelled, reissued or disposed of.

2.17 Comprehensive income (loss)

Comprehensive income (loss) is defined as the change in equity of a business during a period except those changes resulting from investment by stockholders and distributions to stockholders. In the accompanying consolidated financial statements, Other comprehensive income (loss) and Accumulated other comprehensive income primarily consists of foreign currency translation adjustments, temporary unrealized gains (losses) on debt securities classified as available-for-sale, unrealized gains (losses) on derivatives designated as cash flow hedge and the impact of recognizing the funded status of defined benefit plans, net of tax.

2.18 Revenue Recognition

Prior to adoption of the new guidance applicable starting January 1, 2018, revenue from products sold to customers was recognized when all the following conditions had been met: (a) persuasive evidence of an arrangement existed; (b) delivery had occurred; (c) the selling price was fixed or determinable; and (d) collection was reasonably assured. Revenue recognition usually occurred at the time of shipment. Upon adoption of the new guidance, arrangements with customers are considered contracts if all the following criteria are met: (a) parties have approved the contract and are committed to perform their respective obligations; (b) each party s rights regarding the goods or services to be transferred can be identified; (c) payment terms for the goods or services to be transferred can be identified; (d) the contract has commercial substance and (e) collectability of substantially all of the consideration is probable. The Company recognizes revenue from products sold to a customer, including distributors, when it satisfies a performance obligation by transferring control over a product to the customer. In certain circumstances, the Company may enter into agreements that concern principally 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 Company expects to be entitled in exchange for transferring the promised goods or services to the customer. The payment terms typically range between 30 and 90 days.

Consistent with standard business practice in the semiconductor industry, price protection is granted to distribution customers on their existing inventory of the Company s products to compensate them for declines in market prices. The Company accrues a provision for price protection based on a rolling historical price trend computed on a monthly basis as a percentage of gross distributor sales. This historical price trend represents differences in recent months between the invoiced price and the final price to the distributor, adjusted if required, to accommodate a significant change in the current market price. The short outstanding inventory time period, visibility into the inventory product pricing and long distributor pricing history have enabled the Company to reliably estimate price protection provisions at period-end. The Company records the accrued amounts as a deduction of Net sales in the consolidated statements of income at the time of the sale. The new accounting guidance has had no impact on this accounting practice.

The Company s customers occasionally return the Company s products for technical reasons. The Company s standard terms and conditions of sale provide that if the Company determines that products do not conform, the Company will repair or replace the non-conforming products, or issue a credit note or rebate of the purchase

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price. Quality returns are identified shortly after sale in customer quality control testing. Quality returns are usually associated with end-user customers, not with distribution channels. The Company records the accrued amounts as a deduction of Net sales in the consolidated statements of income, using past history and current conditions to form a reasonable estimate of future returns. The new accounting guidance has had no impact on this accounting practice.

The Company s insurance policy relating to product liability covers third party physical damages and bodily injury, indirect financial damages as well as immaterial non-consequential damages caused by defective products. The Company records a provision for warranty costs as a charge against Cost of sales in the consolidated statements of income, based on historical trends of warranty costs incurred as a percentage of sales, which management has determined to be a reasonable estimate of the probable losses to be incurred for warranty claims in a period. The new accounting guidance has had no impact on this accounting practice. Any potential warranty claims are subject to the Company s determination that the Company is at fault for damages, and such claims usually must be submitted within a short period of time following the date of sale. This warranty is given in lieu of all other warranties, conditions or terms expressed or implied by statute or common law. The Company s contractual terms and conditions typically limit its liability to the sales value of the products which gave rise to the claims.

In addition to product sales, the Company enters into arrangements with customers consisting in transferring licenses or related to license services. The revenue generated from these arrangements are reported on the line Other revenues of the consolidated statement of income. Other revenues also include patent royalty income, sale of scrap materials and manufacturing by-products.

2.19 Funding

The Company receives funding mainly from governmental agencies and income is recognized when all contractual conditions for receipt of these funds are fulfilled. The Company s primary sources for government funding are French, Italian and other country governmental entities. Such funding is generally provided to encourage research and development activities, industrialization and local economic development. The conditions for receipt of government funding may include eligibility restrictions, approval by EU authorities, annual budget appropriations, compliance with European Commission regulations, as well as specifications regarding objectives and results. Certain specific contracts contain obligations to maintain a minimum level of employment and investment during a certain period of time. There could be penalties if these objectives are not fulfilled. Other contracts contain penalties for late deliveries or for breach of contract, which may result in repayment obligations. Funding related to these contracts is recorded when the conditions required by the contracts are met. The Company s funding programs are classified under three general categories: funding for research and development activities, capital investment, and loans.

Funding for research and development activities is the most common form of funding that the Company receives. Public funding for research and development is recorded as Other income and expenses, net in the Company s consolidated statements of income. 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 are met. Furthermore, French research tax credits (Crédit Impôt Recherche) and Italian research tax credits (Credito d Imposta Ricerca & Sviluppo) are deemed to be grants in substance. The French research tax credits are to be paid in cash by the taxing authorities within three years in case they are not deducted from income tax payable during this period of time. The Italian tax credits are compensated against payroll-related social charges. Unlike other research and development funding, the amounts to be received are determinable in advance and accruable as the funded research expenditures are made. They are thus reported as a reduction of Research and development in the consolidated statements of income.

Capital investment funding is recorded as a reduction of Property, plant and equipment, net and is recognized in the Company s consolidated statements of income according to the depreciation charges of the funded assets during their useful lives. The Company also receives capital funding in Italy, which can be recovered through the reduction of various governmental liabilities, including income taxes, value-added tax and employee-related social charges.

Funding receivables are reported as non-current assets unless cash settlement features of the receivables evidence that collection is expected within one year. Long-term receivables that do not present any tax attribute or legal restriction are reflected in the consolidated balance sheets at their net present value. The subsequent accretion of the discounting effect is recorded as non-operating income in Interest income (expense), net in the consolidated statements of income.

The Company receives certain loans, mainly related to large capital investment projects, at preferential interest rates. The Company records these loans as Long-term debt in the consolidated balance sheets.

2.20 Advertising costs

Advertising costs are expensed as incurred and are recorded as Selling, general and administrative in the consolidated statements of income. Advertising expenses for 2018, 2017 and 2016 were $15 million, $14 million and $11 million, respectively.

2.21 Research and development

Research and development expenses include costs incurred by the Company, the Company s share of costs incurred by other research and development interest groups, and costs associated with co-development contracts. Research and development expenses do not include marketing design center costs, which are accounted for as Selling, general and administrative in the consolidated statements of income and process engineering, pre-production or process transfer costs which are recorded as Cost of sales in the consolidated statements of income. Research and development costs are expensed as incurred. The amortization expense recognized on technologies and licenses purchased by the Company from third parties to facilitate the Company s research is reported as Research and development in the consolidated statements of income.

2.22 Start-up and phase-out costs

Start-up costs represent costs incurred in the start-up and testing of the Company s new manufacturing facilities, before reaching the earlier of a minimum level of production or six-months after the fabrication line s quality qualification. The costs of phase-outs are associated with the latest stages of facilities closure when the relevant production volumes become immaterial. Start-up costs and phase-out costs are included in Other income and expenses, net in the consolidated statements of income.

2.23 Financial assets

The Company did not hold at December 31, 2018 and 2017 any financial assets classified as held-to-maturity or financial assets for which the Company would have elected to apply the fair value option. Consequently, the Company classified its financial assets in the following categories: trading and available-for-sale. The classification depends on the nature of the instruments and the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

Purchases and sales of financial assets are recognized on the trade date the date on which the Company commits to purchase or sell the asset. Equity securities measured at fair value through earnings and debt securities classified as available-for-sale are initially recognized and subsequently carried at fair value. Financial assets are derecognized when the rights to receive cash flows from the investments have expired or have been transferred and the Company has transferred substantially all risks and rewards of ownership; the relevant gain (loss) is reported as a non-operating element on the consolidated statements of income on the line Gain (loss) on financial instruments, net . The basis on which the cost of a security sold and the amount reclassified out of accumulated other comprehensive income into earnings are determined is the specific identification method.

The fair values of quoted debt and equity securities are based on current market prices. If the market for a financial asset is not active and if no observable market price is obtainable, the Company measures fair value by using assumptions and estimates. In measuring fair value, the Company makes maximum use of market inputs and minimizes the use of unobservable inputs.

Financial assets measured at fair value through earnings

A financial asset is classified in this category if it is a security acquired principally for the purpose of selling in the short term, an equity security for which the Company has not elected the cost-method measurement alternative or a derivative instrument not designated as a hedge. Financial assets in this category are classified as current assets when they are expected to be realized within twelve months of the balance sheet date. Marked-to-market gains or losses arising from changes in the fair value of trading financial assets are reported in the consolidated statements of income within Other income and expenses, net in the period in which they arise, when the transactions for such instruments occur within the Company s operating activities, as it is the case for trading derivatives that do not qualify as hedging instruments, as described in Note 2.24. Gains and losses arising

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from changes in the fair value of financial assets not related to operating activities are presented in the consolidated statements of income as a non-operating element within Gain (loss) on financial instruments, net in the period in which they arise.

Debt securities classified as available-for-sale financial assets

Debt securities are non-derivative financial assets that are either designated in this category or are not measured at fair value through earnings. They are included in current assets when they represent investments of funds available for current operations or when management intends to dispose of the securities within twelve months of the balance sheet date.

Changes in fair value, including declines determined to be temporary, of debt securities classified as available-for-sale are recognized as a component of Other comprehensive income (loss) in the consolidated statements of comprehensive income.

The Company assesses at each balance sheet date whether there is objective evidence that a debt security or group of debt securities classified as available-for-sale is impaired. If a credit loss exists, but the Company does not intend to sell the impaired security and is not more likely than not to be required to sell before recovery, the impairment is separated into the estimated amount relating to credit loss and the amount relating to all other factors of declines in fair value. Only the estimated credit loss amount is recognized immediately in earnings, with the remainder of the loss amount recognized in Accumulated other comprehensive income (loss) in the consolidated balance sheets. Impairment losses recognized in the consolidated statements of income are not reversed through earnings.

2.24 Derivative financial instruments and hedging activities

Derivative financial instruments are initially recognized on the date a derivative contract is entered into and are subsequently measured at fair value. The method of recognizing the gain or loss resulting from the derivative instrument depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the hedge transaction. The Company has designated certain derivatives as hedges of a particular risk associated with a highly probable forecasted transaction (cash flow hedge).

The Company documents, at inception of the transaction, the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedging transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in cash flows of hedged items. Derivative instruments that are not designated as hedges are classified as trading financial assets, as described in Note 2.23.

Derivative financial instruments classified as trading

The Company conducts its business on a global basis in various major international currencies. As a result, the Company is exposed to adverse movements in foreign currency exchange rates. The Company enters into foreign currency forward contracts and currency options 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 Company 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 and expenses, net in the consolidated statements of income, as described in Note 2.23.

Cash Flow Hedge

As part of its ongoing operating, investing and financing activities, the Company may enter into certain derivative transactions that may be designated and may qualify as hedging instruments. To reduce its exposure to U.S. dollar exchange rate fluctuations, the Company hedges certain Euro-denominated forecasted transactions that cover at the reporting date a large part of its research and development, and selling, general and administrative expenses as well as a portion of its front-end manufacturing costs of semi-finished goods within cost of sales through the use of currency forward contracts and currency options, including collars. The Company also hedges through the use of currency forward contracts certain Singapore dollar-denominated manufacturing forecasted transactions.

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The derivative instruments are designated and qualify for cash flow hedge at inception of the contract and on an ongoing basis over the duration of the hedge relationship. They are reflected at their fair value as Other current assets or Other payables and accrued liabilities in the consolidated balance sheets. The criteria for designating a derivative as a hedge include the instrument s effectiveness in risk reduction and a one-to-one matching of the derivative instrument to its underlying transaction with the critical terms of the hedging instrument matching the terms of the hedged forecasted transaction. This enables the Company to conclude that changes in cash flows attributable to the risk being hedged are expected to be completely offset by the hedging instruments.

For derivative instruments designated as cash flow hedge, the change in fair value for the effective portion of the hedge is reported as a component of Other comprehensive income (loss) in the consolidated statements of comprehensive income and is reclassified into earnings in the same period in which the hedged transaction affects earnings, and within the same consolidated statements of income line as the hedged transaction. For these derivatives, ineffectiveness appears if the cumulative gain or loss on the derivative hedging instrument exceeds the cumulative change in the expected future cash flows on the hedged transaction. Effectiveness on transactions hedged through purchased options is measured on the full fair value of the option, including time value.

When a forecasted transaction is no longer expected to occur, the cumulative gain or loss that was reported in Accumulated other comprehensive income (loss) in the consolidated statements of equity is immediately transferred to the consolidated statements of income within Other income and expenses, net if the de-designated derivative relates to operating activities. If upon de-designation, the derivative instrument is held in view to be sold with no direct relation with current operating activities, changes in the fair value of the derivative instrument following de-designation are reported as a non-operating element on the line Gain (loss) on financial instruments, net in the consolidated statements of income. If the derivative is still related to operating activities, the changes in fair value subsequent to the discontinuance is reported within Other income and expenses, net in the consolidated statements of income, as described in Note 2.23.

2.25 Recent accounting pronouncements

(a) Accounting pronouncements adopted in 2018

Pension costs

The Company adopted on January 1, 2018 the new guidance on the presentation of net periodic benefit cost in the consolidated statement of income. The guidance requires the service cost component of net periodic benefit cost to be presented in the same income statement line items as other employee compensation costs arising from services rendered during the period, and the other components of the net periodic benefit cost to be presented separately from the line items that include the service cost and outside of any subtotal of operating income. Only the service cost component is eligible for capitalization in assets. The other components of the net periodic benefit cost are presented separately from the line items that include the service cost and outside of any subtotal of operation income. The Company has elected to report those elements below operating income on the line Other components of pension benefit costs of the consolidated statement of income. The new guidance was applied retrospectively, except for the limitation on the capitalization in assets, which was applied prospectively. While the adoption of this standard did not impact Revenue, Net income, Earnings per share or Cash flows from operating activities, the following components on the Consolidated Statements of Income for the year ended December 31, 2017 and 2016 were impacted:

	Twelve months ended December 31, 2017		Twelve months ended December 31, 2016	
	Reported	**Restated**	**Reported**	**Restated**
Cost of sales	(5,079)	(5,075)	(4,518)	(4,514)
Gross profit	**3,268**	**3,272**	**2,455**	**2,459**
Selling, general and administrative	(983)	(981)	(911)	(907)
Research and development	(1,302)	(1,296)	(1,336)	(1,331)
Operating income	**993**	**1,005**	**214**	**227**
Other components of pension benefit costs		(12)		(13)

Revenue recognition

The Company adopted on January 1, 2018 the converged guidance on revenue from contracts with customers with no significant impact on its consolidated financial statements. The new guidance sets forth a single revenue accounting model for revenue from contracts with customers, which calls for more professional judgment and includes expanded disclosures. Revenue recognition depicts the transfer of promised goods and services to customers in an amount that reflects the consideration to which the entity expects to be entitled for these goods and services. Revenue is recognized when (or as) control of the goods and services is transferred to the customer. The following steps can be identified in order to apply the new revenue accounting model: (i) identification of the contracts with customers; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to performance obligations; and (v) revenue recognition for each performance obligation. As described in Note 2.18, following adoption there was no material impact on the Company s revenue recognition practices as substantially similar performance conditions exist under the new guidance and past practice.

Financial instruments

The Company adopted on January 1, 2018 the new guidance on the recognition and measurement of financial instruments. Changes to current practice primarily affect the accounting for investments in equity securities, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. All equity investments in unconsolidated entities other than those accounted for using the equity method of accounting are measured at fair value through earnings (the available-for-sale classification disappears for these financial assets). For equity investments without readily determinable fair values, the cost method is also eliminated even if the new guidance permits a measurement alternative. Additionally, when the fair value option has been elected for financial liabilities, changes in fair value due to instrument-specific credit risk will be recognized separately in other comprehensive income. The new guidance on financial liabilities has had no impact for the Company as the fair value option has not been elected on any existing debt. On the $11 million traded equity securities held as available-for-sale financial assets as at December 31, 2017, the Company applied the modified retrospective transition method and reclassified an immaterial amount to Retained Earnings corresponding to the cumulative effect upon adoption of the new guidance as the total amount of changes in fair value previously reported in Accumulated Other Comprehensive Income for these instruments. Concerning equity investments without readily determinable fair values, the Company has elected to apply the measurement alternative permitted by the new guidance consisting of reporting these investments at cost, less impairment, adjusted for subsequent observable price changes, on its cost-method investment portfolio, which amounted to $12 million as at December 31, 2018.

Cash flow

The Company adopted on January 1, 2018 amended guidance on clarifying the cash flow classification of certain topics, including settlement of zero-coupon and other deeply discounted debt instruments. The Company also adopted the new guidance addressing the presentation of restricted cash in the cash flow statements. The guidance was applied retrospectively and the impact on the Company s statements of cash flow for the period ended December 31, 2017 is described below.

In 2017, the Company settled $600 million in cash and approximately 13.0 million shares from treasury stock upon the exercise by bondholders of their conversion option on Tranche A net-share settled convertible debt issued on July 3, 2014. The consideration transferred in shares was a non-cash item and, as such, was not reported in the consolidated statement of cash flows for the period ended December 31, 2017. The $600 million amount paid to settle the bonds was reported as cash outflows used in financing activities. As a zero-coupon net-share settled financial instrument, Tranche A generated a debt discount on the liability component measured at fair value at initial recognition, which corresponded to a 2.40% effective interest rate. According to the new accounting guidance, upon settlement, a portion of the total amount paid is to be considered as accreted interest paid and be reported as cash outflows used in operating activities. Consequently, the Company reclassified on the consolidated statement of cash flows for the year ended December 31, 2017 a total amount of $30 million as interest paid from the line Repayment of issued debt of Net cash from (used in) financing activities to the line Interest paid on settled convertible debt of Net cash from operating activities. Total cash from operating activities decreased from $1,707 to $1,677 following this retrospective adjustment, while total cash used in financing activities decreased by $30 million, from $136 million to $106 million on the consolidated statement of cash flows for the year ended December 31, 2017. In the fourth quarter of 2017, the Company settled $400 million in cash and approximately 13.7 million shares from treasury stock upon the exercise by bondholders of their conversion option on Tranche B net-share settled convertible debt issued on July 3, 2014. Upon initial recognition, Tranche B generated a debt discount on the liability component measured at fair value at initial recognition, which corresponded to a 3.22% effective interest rate, including 1% per annum nominal interest. Upon adoption of the new cash flow presentation guidance in 2018, the Company assessed that Tranche B was not a deeply discounted debt instruments. Consequently, the $400 million amount paid to settle the bonds was reported as cash outflows used in financing activities in the consolidated cash flow statement for the year ended December 31, 2017 and was not adjusted upon adoption of the new guidance.

(b) Accounting pronouncements expected to impact the Company s operations that are not yet effective and have not been adopted early by the Company

In February 2016, the FASB issued new guidance on lease accounting. As a lessee, an entity will need to recognize almost all leases on the balance sheet as a right-of-use asset and a lease liability. Additionally, when applying the new guidance, lessees will have to identify leases embedded in a contract. For income statement purposes, the new guidance is still based on a dual model, requiring leases to be classified as either operating or finance leases. Classification criteria are largely similar to current lease accounting guidance, except that the new guidance does not contain explicit bright lines. Lessor accounting is similar to the current model, but updated to align with certain changes to the lessee model and the new revenue recognition guidance. Existing sale-leaseback guidance has been replaced with a new model applicable to both lessees and lessors. The new guidance is effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within those years. The guidance enables lessees to apply an optional simplified transition method with cumulative impact recorded in retained earnings as at January 1, 2019 and no restatement of previous periods. The Company has elected to apply this optional simplified transition method and elect the package of transition practical expedients, which allows the Company not to (1) reassess whether any expired or existing contracts are or contain leases, (2) reassess the lease classification for any expired or existing leases and (3) reassess initial direct costs for any existing leases. The Company did not report any material capital lease arrangement as at December 31, 2018 and 2017. The Company completed in 2018 the inventory of existing leasing contracts and implemented a software package to facilitate the accounting for leases. The impact expected upon adoption is estimated to be an increase by approximately $200 million of Total non-current assets of the consolidated balance sheet to reflect the right-of-use assets for the existing lease arrangements, with a corresponding increase in Total long-term liabilities of the consolidated balance sheet.

In June 2016, the FASB issued new guidance on measuring credit losses for financial instruments. The objective of the new guidance is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments, primarily financial assets measured at amortized cost and available-for-sale debt securities, and other commitments to extend credit held by a reporting entity at each reporting date. The amended guidance replaces the incurred loss impairment methodology applied in current practice with an approach that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit losses estimates. The new guidance is effective for public companies for fiscal years beginning after December 15, 2019, including interim periods within those years. The Company will adopt the new guidance when effective and is currently assessing its impact on its consolidated financial statements.

In January 2017, the FASB simplified the accounting for goodwill impairment by removing step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit s carrying value exceeds its fair value. The amended guidance is effective for public companies for annual and interim periods in fiscal years beginning after December 15, 2019, with early application permitted for goodwill impairment tests with measurement dates after January 1, 2017. The Company will adopt the new guidance when effective.

In August 2017, the FASB issued its expected improvements to hedge accounting. The changes to existing guidance are intended to align hedge accounting with companies risk management strategies by simplifying the application of hedge accounting and enlarging the scope and results of hedging programs. The amendments to the existing guidance include designation of hedged items, effectiveness measurement, presentation and disclosure. The amended guidance is effective for public companies for fiscal years beginning after December 15, 2018. The improvements to hedge accounting are not expected to have a material impact on the Company s consolidated financial statements.

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3. MARKETABLE SECURITIES

Changes in the value of marketable securities, as reported in current assets on the consolidated balance sheets as at December 31, 2018 and December 31, 2017 are detailed in the tables below:

	December 31, 2017	Purchase	Proceeds at maturity	Change in fair value included in OCI*	Change in fair value recognized in earnings	**December 31, 2018**
U.S. Treasury debt securities	431		(100)	(1)		330
Total	**431**		**(100)**	**(1)**		**330**

* Other Comprehensive Income

	December 31, 2016	Purchase	Proceeds at maturity	Change in fair value included in OCI*	Change in fair value recognized in earnings	**December 31, 2017**
U.S. Treasury debt securities	335	99		(3)		431
Total	**335**	**99**		**(3)**		**431**

* Other Comprehensive Income

As at December 31, 2018, the Company held $330 million of U.S. Treasury debt securities. An amount of $100 million corresponding to the principal amount of U.S. Treasury Bills, which were acquired in 2017 and transferred to a financial institution with high credit quality as part of a short-term securities lending transaction, matured in July 2018. The Company transferred at that date to the financial institution an equivalent amount of U.S. Treasury Bonds from its existing portfolio. In 2018, the Company transferred the remainder of its U.S. Treasury Bonds portfolio as part of additional short-term securities lending transactions.

These transactions were concluded in compliance with the Company s policy to optimize the return on its short-term interest rate investments, which requires placement with institutions with high credit rating. The Company, acting as the securities lender, does not hold any collateral on the unsecured securities lending transactions. The Company retains effective control on the transferred securities.

The debt securities had an average rating of Aaa/AA+/AAA from Moody s, S&P and Fitch, respectively, with a weighted average maturity of 1.3 years. The debt securities were reported as current assets on the line Marketable

Securities on the consolidated balance sheet as at December 31, 2018, since they represented investments of funds available for current operations. The bonds were classified as available-for-sale and recorded at fair value as at December 31, 2018. This fair value measurement corresponds to a Level 1 fair value hierarchy measurement. The aggregate amortized cost basis of these securities totaled $332 million as at December 31, 2018.

4. TRADE ACCOUNTS RECEIVABLE, NET

Trade accounts receivable, net consisted of the following:

	December 31, 2018	December 31, 2017
Trade accounts receivable	1,292	1,164
Allowance for doubtful accounts	(15)	(15)
Total	**1,277**	**1,149**

There was no material bad debt expense in 2018 and 2017, while in 2016 it was $3 million. In 2018 and 2017, the Company s largest customer, Apple represented 13.1% and 10.5% of consolidated net revenues, respectively, reported in the ADG, AMS and MDG segments, while no customers represented over 10% of consolidated net revenues in 2016.

As at December 31, 2018 and 2017, there were no trade accounts receivable sold without recourse.

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5. INVENTORIES

Inventories, net of reserve, consisted of the following:

	December 31, 2018	December 31, 2017
Raw materials	132	125
Work-in-process	1,005	787
Finished products	425	423
Total	**1,562**	**1,335**

Reserve for obsolescence is estimated for excess uncommitted inventories based on the previous quarter s sales, backlog of orders and production plans.

6. OTHER CURRENT ASSETS

Other current assets consisted of the following:

	December 31, 2018	December 31, 2017
Receivables from government agencies	114	161
Taxes and other government receivables	85	94
Advances	126	35
Prepayments	44	39
Loans and deposits	9	8
Interest receivable	7	6
Derivative instruments	5	41
Other current assets	29	41
Total	**419**	**425**

Derivative instruments are further described in Note 25.

7. GOODWILL

Goodwill allocated to reportable segments as of December 31, 2018 and 2017 and changes in the carrying amount of goodwill during the years ended December 31, 2018 and 2017 are as follows:

	Automotive and Discrete	Microcontrollers and Digital	Analog, MEMS &	Others	Total

	Group (ADG)	ICs Group (MDG)	Sensors Group (AMS)	
December 31, 2016		**114**	**2**	**116**
Foreign currency translation		7		7
December 31, 2017		**121**	**2**	**123**
Foreign currency translation		(2)		(2)
December 31, 2018		**119**	**2**	**121**

The segment reallocation as described in Note 17 did not impact goodwill.

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